

## Arboricultural Impact Assessment

For proposed development at:

68 Maze Green Road Bishop's Stortford CM23 2PL

### Prepared by: Oisin Kelly, Arboricultural Consultant

Date: 15<sup>th</sup> January 2024

Project Ref: 806

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## 1 INTRODUCTION

#### 1.1 Instructions

- 1.1.1 I am instructed by the applicant to prepare an Arboricultural Impact Assessment (AIA) to form part of a planning application for proposed development at 68 Maze Green Road, Bishop's Stortford, CM23 2PL. This AIA is an amended version of the AIA submitted as part of an earlier application that was refused consent (3/22/1927/FUL). The current scheme results in the loss of fewer trees, and retains existing boundary hedging along the west boundary in order to minimise the visual impact of the proposals.
- 1.1.2 I have been provided with the following information in preparation of this report:

Existing Site Plan (AC Architects Drawing: 438-PL-102)

Proposed Site Plan (AC Architects Drawing: 438-PL-103B)

- 1.1.3 A professional profile outlining my qualifications and experience is contained at APPENDIX 1.
- 1.2 The Site
- 1.2.1 The application site is the residential property known as 68 Maze Green Road, CM23 2PL, and extends to approximately 1543m<sup>2</sup>. The site comprises a single, detached, residential dwelling, detached garage, hard and soft landscaping. There are two existing drives. A drive adjacent the western boundary is within the applicant's ownership, but shared with neighbours ('the shared drive'). There is an additional drive from Maze Green Road that only serves the property ('the private drive').
- 1.2.2 The site is not within a Conservation Area. The Council's online mapping system shows several trees covered by Tree Preservation Order No. 123 on the far side of the drive in the vicinity of trees T41 and T42 of this report. Specifically these are two limes and two sycamores (T9, T10, T11 and T25 of the TPO). These trees were not present on site and it is assumed that they were removed some time ago.

#### 1.3 The Proposal

- 1.3.1 The proposal is to demolish the extension to the existing house, and construct one new detached dwelling with a detached double garage and landscaping. The private drive will be closed-up. A new opening into the property shall be created form the shared drive.
- 1.4 The Tree Survey
- 1.4.1 I visited the site on 03/12/2021. Unless otherwise stated all observations were made from ground level and tree dimensions were measured. The survey was to assess trees in relation to proposed development and should not be relied upon as a tree safety survey.
- 1.4.2 Data from the survey is contained in the Tree Survey Schedule at APPENDIX 2. The Tree Survey Plan at APPENDIX 3 shows the location of the trees in relation to the existing site layout and

their quality, as categorised in accordance with "Trees in relation to design, demolition and construction – Recommendations" (BS:5837:2012). The categorisation is intended to assist in determining which trees should be removed or retained in the event of development. BS5837 is a standard reference document used by local planning authorities and the Planning Inspectorate when considering trees in the development context. The categories are summarised as follows:

Category U: trees not worthy of retention because of their condition Category A: trees of high quality Category B: trees of moderate quality Category C: trees of low quality

1.4.3 The numbers of trees, groups and hedges surveyed by category are detailed in Table 1 below.

Quality category	Trees	Groups	Hedges	Woods
A	0	0		
В	9	0	4	2
С	21	3	4	2
U	2	0		
TOTALS	32	3	4	2

1.4.4 It should be noted that hedge H2 of this report comprises H2, H3 and H4 of the previous Arboricultural report. They are practically a single hedge, i.e. plants of similar age, size, appearance and past management. In the earlier AIA the hedge had been recorded as three hedges to reflect three discreet sections of Leyland cypress, Lawson cypress and Western red cedar.

#### 1.5 Photographs from the tree survey

Photo 1. View from Maze Green Road, looking at ash T41, the shared drive (arrowed black) and the private drive (arrowed blue).



Photo 2. View from Maze Green Road. Trees as labelled.



Photo 3. View from site of southern boundary with Maze Green Road. These trees are not under threat from the development.



Photo 5. As photo 4, but from a vantage point closer to Norway spruce T8



Photo 7. Ash T42.



Photo 4. View along private drive with H5 on right hand side of picture. Other trees and shrubs as labelled.



Photo 6. Hedge around existing garage



Photo 8. Shared drive to west of H2. Leyland cypress T41 is left of picture.



## 2 IMPACT ASSESSMENT

#### 2.1 Drawings

2.1.1 The Tree Constraints Plan at APPENDIX 4 shows the trees in relation to the proposed site layout, along with the following information:

Trees proposed for removal or retention

Root Protection Areas (RPAs) - a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority;

The approximate daily shadow trace through the main part of the day, based on current height, and where a significant growth potential exists, the potential mature height; and,

Target notes in relation to the development proposals and arboricultural constraints.

#### 2.2 Trees to be removed

2.2.1 It is proposed to remove the following trees as part of the development.

Quality Category	Trees to be removed
А	
В	Norway spruce T8
С	Holly 'Argentea Marginata' T7
U	

2.2.2 The following hedges and shrubs are also proposed for removal:

Hedges	Cypress and Western Red Cedar H2
Shrubs	Elaeagnus 'Gilt Edge' S6
	Sycamore H15

- 2.2.3 Compared to the scheme refused under planning reference 3/22/1927/FUL, the current retains hedge H5 marking the western boundary and retains 2 trees (T9 and T10) within the front garden. Retention of the trees retains a densely vegetated belt along the Maze Green Road Boundary. Retention of H5 retained screening of the western boundary to views from Maze Green Road and the rear garden of no. 74 Maze Green Road. The removal of hedge H2 has limited visual impact to the surrounding area because that section of hedge is alongside and enclosed section of the adjacent drive with ash T42 and Leyland cypress T43 on the western side of the drive. Replacement hedge planting to extend H5 north to the edge of the entrance and alongside the western flank of the proposed garage will provide suitable mitigation and compensation.
- 2.2.4 Figures 1 and 2 overleaf show a comparison of tree removal and retention between the current scheme and that refused under planning reference 3/22/1927/FUL.



- 2.3 The relationship between the trees to be retained and the development
- 2.3.1 The trees to be retained provide good screening along the southern boundary and a mature landscape setting. They do not cause excessive shading of the dwellings or the garden area. No significant conflicts are anticipated between the trees to be retained and the proposed use if the site.
- 2.4 Mitigation and Compensation
- 2.4.1 A detailed landscape scheme shall be submitted separately.
- 2.5 Protection of trees to be retained
- 2.5.1 The main tree protection issue during development of the site will relate to ash T42 and Leyland cypress T43. These are situated on the far side of the shared drive. The existing compacted drive may act as a barrier or inhibitor to root growth in this direction, particularly given the more favourable rooting conditions in the rear gardens of nos. 13 and 14 Marshbarns.
- 2.5.2 However, for the purpose of this report it is assumed that the roots (and RPA) of these trees do extend east into the site.

- 2.5.3 Apart from the narrow verge in which hedge H2 is located, this area is currently hard surfaced. Overall the change in extent of hard surfacing within the RPAs of T42 and T43 is relatively low. During development, this area of soft ground vacated by removal of hedge H2 will need to be subject to ground protection. New hard surfaces in this area, should be porous and constructed using 'reduced-dig' methods to limit the extent of excavations within the RPA.
- 2.5.4 The footprint of the proposed dwelling extend into the RPA of T42, and the garage into the RPA of T42 and T43, but not excessively.
- 2.5.5 Overall it is anticipated that subject to appropriate protection during development, ash T42 and cypress T43 can be retained without significant harm to their health or appearance. The next section of this report provides a suitable Scheme of Tree Protection.
- 2.6 Summary of Impact Assessment
- 2.6.1 The development will result in the removal of:

Category A: 0 trees Category B: 1 tree Category C: 1 tree Category U: 0 trees 2 hedges and 1 shrub

- 2.6.2 The proposed removals do not affect the character of Maze Green Road. The removal of hedges H2 has limited visual impact to the surrounding area because that section of hedge is alongside and enclosed section of the adjacent drive with ash T42 and Leyland cypress T43 on the western side of the drive. Replacement hedge planting to extend H5 north to the edge of the entrance and alongside the western flank of the proposed garage will provide suitable mitigation and compensation.
- 2.6.3 The trees to be retained provide good screening along the southern boundary and a mature landscape setting. They do not cause excessive shading of the dwellings or the garden area. No significant conflicts are anticipated between the trees to be retained and the proposed use if the site.
- 2.6.4 A detailed landscape scheme shall be submitted separately.
- 2.6.5 Subject to appropriate protection during development, the trees can be retained without significant harm to their health or appearance. A Scheme of Tree Protection is provided.

## 3 METHOD STATEMENTS

#### 3.1 Arboricultural Site Supervision

- 3.1.1 An Arboricultural Clerk of Works (ACoW) shall be appointed to oversee protection of trees during the development.
- 3.1.2 The ACoW shall attend site:

Prior to commencement of demolition to brief the demolition contractor on tree protection requirements and ensure tree protective fencing and ground protection is in place.

Periodically during demolition and construction, and specifically during excavations within the RPAs of trees to be retained.

During construction of 'reduced-dig' hard surfaces within the RPAs of trees to be retained.

- 3.1.3 Following each attendance to site the ACoW shall produce a written record of the site inspection (a 'Site Inspection Report'), detailing the status of tree protection measures that are in place, with supporting photographs. The Site Inspection Report shall be issued to the Tree Officer, by email, within 5 working days of the site visit to which it relates. In the event that the Tree Officer raises concerns regarding tree protection issues, the ACoW shall seek to resolve issues to the satisfaction of the Tree Officer and the applicant.
- 3.2 Enabling Tree Works
- 3.2.1 The tree works detailed in the Schedule at APPENDIX 2 shall be undertaken as part of the development.
- 3.3 Tree Protective Fencing & Ground Protection
- 3.3.1 The layout of Tree Protective fencing and Ground Protection will change during the course of the development. The layout is presented herein as two phases, with phase 1 relating to demolition and phase 2 relating to construction. This phasing is however conceptual, and may not occur across the entire site in one operation. Regardless, all changes in the layout of Tree Protective Fencing and Ground Protection shall only occur with the approval of the ACoW.
- 3.3.2 Prior to the commencement the development, Tree Protective Fencing and Ground Protection shall be erected in accordance with "Phase 1 Tree Protection Plan" at APPENDIX 5.
- 3.3.3 After demolition, there will be a change from the phase 1 layout to the phase 2 layout shown at APPENDIX 6.
- 3.3.4 Tree Protective Fencing shall be fit for the purpose of excluding construction activity taking into account the type, intensity and proximity of work taking place around the retained trees. Fencing shall be maintained to ensure that it remains rigid and complete. Notices stating "Tree Protection Area No Access" shall be affixed to the fencing. A suitable specification is shown at APPENDIX 7.

- 3.3.5 Ground protection shall be fit for the purpose of preventing compaction or contamination of the Root Protection Area taking into account the type, intensity and proximity of work taking place around the retained trees. A suitable specification for Ground Protection is included at APPENDIX 8. It is specifically noted that the existing shared and private drives provide a suitable form of ground protection. Additional ground protection is only required in these areas when the existing surface is removed, or broken up.
- 3.4 Site Facilities
- 3.4.1 All site huts, parking, delivery and storage areas, welfare facilities, cement/plaster mixing areas etc., should be sited outside of the RPAs of trees to be retained.
- 3.5 Removal of existing hard surfaces within the RPAs of trees to be retained
- 3.5.1 Within the RPAs of trees to be retained removal of surfaces materials and sub-structures (including hard surfaces, foundations and sub-base materials) shall be carried out in the presence of the Arboricultural Clerk of Works.
- 3.5.2 For practical purposes it is assumed that machinery shall be used for the removal of substructures within the RPA of trees to be retained. However, at certain stages the use of hand tools may be considered appropriate. The judgement of whether to use machinery or hand tools shall be determined by the Arboricultural Clerk of Works and the developer (or agent), based on actual conditions encountered during works.
- 3.5.3 Machinery shall be restricted to operating from either:

outside of the RPAs of trees to be retained; or from existing hard surfaces that provide an effective from of ground protection; or from newly installed ground protection that is to the satisfaction of the Arboricultural Clerk of Works

- 3.5.4 In general, works should start close to the tree and work away such that works machinery and operatives are always working from intact, hard surfaces.
- 3.5.5 As far as reasonably practicable, foundations and similar sub-structures shall be pulled radially from the trees to be retained, taking care not to unnecessarily scrape, excavate or compact the ground outside of building footprint and within the RPA.
- 3.5.6 Non-rigid surface materials such as tarmac or aggregate sub-bases shall first be broken-up or loosened by manual or mechanical means (e.g. hydraulic jackhammer), taking care to minimise the disturbance of the underlying ground. The loosened material shall then be scraped in small incremental layers using a toothless bucket, again taking care to avoid disturbance of the underlying ground.
- 3.5.7 Rigid surfaces such as concrete and slab materials shall be removed in sections by lifting the edge closest to the tree with a toothless bucket and pulling away. Where this is not practicable,

the surface shall be first broken up by mechanical means (e.g. hydraulic jackhammer) and then as scraped away in small incremental layers by toothless bucket, as above.

- 3.5.8 Sections of kerbing etc. shall be dislodged and pulled away from the tree.
- 3.6 Reduced-dig surfaces
- 3.6.1 Proposed hard surfaces within the RPAs of trees to be retained should be permeable and constructed using 'Reduced-dig' techniques. Typically 'reduced-dig' utilises a cellular confinement system such as ProtectaWeb (www.wrekinproducts.com) to minimise the required depth of sub-base. An indicative design for a reduced-dig surface is included at APPENDIX 9. The final design should be approved for construction by an engineer or other suitably qualified person.
- 3.6.2 Finished levels and construction details should be agreed with the Local Authority prior to commencement of the development in order to avoid unacceptable impacts on trees to be retained.
- 3.6.3 Reduced-dig surfaces shall be constructed in accordance with the finished levels and crosssectional details that are to be agreed and under the supervision of the Arboricultural Clerk of Works (ACoW).
- 3.6.4 Tree Protective Fencing shall be realigned in order to provide access to the working area to the satisfaction of the ACoW. Subject to working conditions and methods, areas of the RPA outside of realigned fencing may require protection against compaction, e.g. using ground mats. Ground protection shall be installed as directed and to the satisfaction of the ACoW.
- 3.6.5 The 'reduced-dig' surface is then constructed in accordance with the manufacturer's and designer's instructions.
- 3.7 Foundations within the RPA of trees to be retained
- 3.7.1 Within the RPAs of trees, excavations for foundations shall be carried out under the watching brief of the Arboricultural Clerk of Works. The edge of the excavation closest to the tree shall be excavated manually up to 450mm depth. Any roots encountered shall be cut cleanly back to the face of the excavation using clean, sharp, pruning tools.
- 3.7.2 For health and safety reasons, below 450mm depth excavations may be undertaken mechanically, providing that machinery shall be restricted to operating from either:
  - outside of the RPAs of trees to be retained; or
  - from existing hard surfaces that provide an effective from of ground protection; or

from newly installed ground protection that is to the satisfaction of the Arboricultural Clerk of Works

3.7.3 Excavation shall proceed in small incremental layers. Where roots are encountered that in the opinion of the Arboricultural Clerk of Works are considered to be of significance, where safe

and practicable to do so, they shall be cut cleanly back to the face of the excavation using clean, sharp, pruning tools.

- 3.8 Services
- 3.8.1 Where practicable, underground utility services such as mains water, power, telecoms, surface and foul drainage etc., should be located outside of the RPAs of trees to be retained.
- 3.8.2 Where underground utility services are to pass through the RPAs of trees to be retained, they should be laid out and installed in accordance with "Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2)" (NJUG, 2007, www.njug.org.uk/publication/51/).

## 4 CONCLUSIONS

- 4.1.1 The application site is the residential property known as 68 maze Green Road, CM23 2PL, and extends to approximately 1543m<sup>2</sup>. The site comprises a single, detached, residential dwelling, detached garage, hard and soft landscaping. There are two existing drives. A drive adjacent the western boundary is within the applicant's ownership, but shared with neighbours ('the shared drive'). There is an additional drive from Maze Green Road that only serves the property ('the private drive'). The site is not within a Conservation Area. There are no Tree Preservation Orders that apply to the trees potentially affected by the development.
- 4.1.2 The proposal is to demolish the extension to the existing house, and construct one new detached dwelling with a detached double garage and landscaping. The private drive will be closed-up. A new opening into the property shall be created form the shared drive.
- 4.1.3 A survey was carried out of the trees potentially affected by the development. The trees were categorised for their quality / value in accordance with "Trees in relation to design, demolition and construction Recommendations" BS5837:2012, as summarised in the table below:

Quality category	Trees	Groups	Hedges	Woods
А	0	0		
В	9	0	Л	2
С	21	3	4	2
U	2	0		
TOTALS	32	3	4	2

4.1.4 The development will result in the removal of:

Category A: 0 trees Category B: 1 tree Category C: 1 tree Category U: 0 trees 2 hedges and 1 shrub

- 4.1.5 The proposed removals do not affect the character of Maze Green Road. The removal of hedges H2 has limited visual impact to the surrounding area because that section of hedge is alongside and enclosed section of the adjacent drive with ash T42 and Leyland cypress T43 on the western side of the drive. Replacement hedge planting to extend H5 north to the edge of the entrance and alongside the western flank of the proposed garage will provide suitable mitigation and compensation.
- 4.1.6 The trees to be retained provide good screening along the southern boundary and a mature landscape setting. They do not cause excessive shading of the dwellings or the garden area. No significant conflicts are anticipated between the trees to be retained and the proposed use if the site.
- 4.1.7 A detailed landscape scheme shall be submitted separately.



# Appendices to the Arboricultural Impact Assessment

# APPENDIX 1 Professional Profile for Oisin Kelly

#### PROFESSIONAL PROFILE FOR OISIN KELLY

Oisin is an Arboricultural Consultant with 29 years' experience across planning, subsidence, tree-risk management, aviation and utility sectors. He acts as an Expert Witness in relation to planning appeals, tree-related subsidence, tree-related property damage and personal injury, and alleged contraventions of tree preservation orders and felling licenses. Oisin has appeared in Magistrates Court, County Court and High Court (including the Technology and Construction Court). He has provided written representations on planning appeals and has appeared at Hearings. He also provides arboricultural services to planners, developers, local authorities, architects and their agents.

#### ACADEMIC QUALIFICATIONS

BSc Forestry (hons) Diploma in Management Studies

#### MEMBERSHIPS

Member of the Arboricultural Association Member of the Academy of Experts Associate Member of the Institute of Chartered Foresters

#### **EXAMPLE** Projects

BPT Limited v Patterson & Patterson [2016] Central London County Court (TCC) Brown v Harlow Council [2011] Central London County Court Lovett, Newman and Barton v Epping Forest District Council [2011] Harlow Magistrates Court Berent v Family Mosaic Housing [2011] EWHC 1353 (TCC) Lamb & Lamb v Hampshire County Council [2010] Central London County Court Loftus-Brigham v Ealing LBC [2003] EWCA Civ 1490, Eiles v Southwark LBC [2006] EWHC 1411 (TCC)

University of Essex: Tree risk management and arboricultural consultancy at their Colchester, Loughton and Southend Campuses, which contain around 3000 individual trees, and many more in groups and woodlands, of which around 100 are veteran trees. Design of Tree Management Database.

Lawford House is a development of 10 residential units within a parkland setting containing veteran trees. The initial Arboricultural Survey identified the relevant constraints allowing appropriate impact avoidance and mitigation to be 'designed-in'. The consultation phase included representations on a new and existing TPO, which were subsequently revoked and a new TPO re-made in accordance with Oisin's recommendations.

Bolingbroke Park is a major development of 231 residential units and involved detailed consultation with planners at pre-application, application and during construction. Other inputs included Arboricultural Impact Assessments, Arboricultural Method Statements, Veteran Tree Management Plans and appointment as the Arboricultural Clerk of Works.

Bell School Development Site is a residential development of 270 dwellings, comprising houses and apartments, including affordable housing and 100-bed student living accommodation for the Bell Language School. The site is in the Southern Fringe Growth Area of Cambridge. I supported the scheme from design through to planning consent, including consultation meetings with the local planning authority.

Support of various Councils in the redevelopment and infill development of sites on the Housing Revenue Account for affordable housing, including surveys, reports, preliminary advice and public consultations.

#### CAREER HISTORY

#### Arborterra Ltd

[	2019 to	Co-owner,	Expert Witness and Arboricultural Consultant providing clients with advice
	present	Arboricultural	relating to trees and development, tree preservation, tree risk management
		Consultant	and tree-related subsidence damage.

#### Self-employed Sole Trader

2015 -	Arboricultural	Expert Witness and Arboricultural Consultant providing clients with advice
2019	Consultant	relating to trees and development, tree preservation, tree risk management
		and tree-related subsidence damage.

#### Landscape Planning Group Limited

2013 - 2015	Principal Consultant	Arboricultural Consultant. To line manage and lead the Planning Team of Arboriculturists, Ecologists and Landscape Architects to meet sales and revenue targets. To manage projects within agreed deadlines, making maximum use of potential revenue opportunities, whilst maintaining client satisfaction.
2008 - 2013	Principal Consultant	Arboricultural Consultant. As above for delivery of Tree Risk Management Services.
2006 - 2008	Regional Manager	Regional Manager of Colchester Officer providing Arboriculture, Ecology and Landscape Services across planning, local government and risk management sectors. Arboricultural Consultant
2004- 2006	Director of Technical Services	To provide a focus for commercial innovation in technical skills, system evolution, equipment, software, hardware and R&D. Arboricultural Consultant
2002 – 2004	Head of Insurance of Services	Main client contact and technical authority for provision of tree-related subsidence services to loss adjusters, engineers and insurers across the UK. Line Management of Arboricultural Consulting Staff and administrative support. Arboricultural Consultant
1997 – 2002	Consulting Arboriculturalist	Fee earner specialising in tree-related subsidence.

#### London Borough of Hounslow

1994 -	Senior	Team leader with responsibility for budgetary control and staff. Maintaining
1997	Arboricultural	Council owned trees. Providing arboricultural advice to the Planning
	Officer	Department in respect of development control, enforcement and tree
		preservation

#### London Borough of Redbridge

1991 -	Assistant	Maintaining Council owned trees. Providing arboricultural advice to the
1994	Arboricultural	Planning Department in respect of development control and tree
	Officer	preservation

# APPENDIX 2 Tree Survey Schedule

## Tree Survey at 68 Maze Green Road, Bishop's Stortford, CM23 2PL



Tree No.	Species	Stem Diam @ 1.5m (mm)	Height (m)	С	rown	Sprea	d	Age Range	<sup>o</sup> hysiological Condition	st main branch	own Clearance	Comments	Recommendations	Remaining ntribution (Yrs)	Amenity	RPA Radius	RPA Area
T1	Bay Jaurol	150 x1	4	<b>N</b>	<b>S</b>	E	<b>W</b>	EM	-	Fir	C	Topped and trimmed		<b>8</b>	<u>C1</u>	1.8	10.2
H2	Leyland cypress, Lawson cypress, Western Red Cedar	260 x1	5	1.5	0	0	0	EM	F			Topped and trimmed as hedge	Fell for development	20+	x	3.1	30.6
H5	Leyland cypress	70 x1	3	1	0	0	0	SM				Topped and trimmed		20+	х	0.8	0
S6	Elaeagnus 'Gilt Edge'	80 x1	3.5	1	0	0	0	EM	G			Topped	Fell for development	20+	х	1	2.9
Τ7	Holly 'Argentea Marginata'	90 x1 60 x1	5	2	2	2	2	SM	G			Shaded by spruce.	Fell for development	40+	C1	1.3	5.3
Т8	Norway spruce	330 x1	15	3	3	3	3	EM	G		4		Fell for development	40+	B1	4	49.3
Т9	Field maple	120 x1	6	2	2	2	2	SM	G			Part of tree/shrub border to drive.		40+	C2	1.4	6.5
T10	Holly 'Argentea Marginata'	70 x5	5.5	2.5	2.5	2.5	2.5	SM	G			Part of tree/shrub border to drive.		40+	C2	1.9	11.1
S11	Privet	30 x1	2	1	0	0	0	SM	G			Part of tree/shrub border.		20+	Х	0.4	0.4
T12	Field maple	170 x1	7	3.5	2.5	2	3.5	EM	F		3.5	Part of tree/shrub border. Shaded by ash.		40+	C2	2	13.1
T13	Ash	410 x1	9	4	3	3.5	3.5	EM	F			Dense ivy over stem. Topped at 4.5m.		20+	C2	4.9	76
T14	Yew	90 x1* 70 x6*	5	2.5	2.5	2.5	2.5	SM	G			On ground mounding up from drive.		40+	C1	2.3	17
H15	Sycamore	50 x5	3	0.5	0	0	0	SM	F			Topped at 3m, regrowth to 4.5m. lower crown, and 'body' of hedge dominated by ivy.	Fell for development	40+	х	1.3	5.7

## Tree Survey at 68 Maze Green Road, Bishop's Stortford, CM23 2PL



Tree No.	Species	Stem Diam @ 1.5m (mm)	Height (m)	С	rown	Sprea	d	Age Range	Physiological Condition	rst main branch	rown Clearance	Comments	Recommendations	Remaining Intribution (Yrs)	Amenity	<b>RPA Radius</b>	RPA Area
				N	S	E	W			Ë	Ū			о С			
G16	Dwarf cypress	40 x5	3	1	0	0	0	MA	G					10+	C2	1.1	3.6
G17	Leyland cypress	200 x1	9	2	0	0	0	EM	F					20+	C2	2.4	18.1
T18	Ash	90 x1	6	3	0	1.5	1.5	YO	Р			Sparse crown		<10	U	1.1	3.7
T19	European black pine	660 x1	17	3	7	5	5	FM	F			Sparse crown		40+	B1	7.9	197
G20	Portuguese laurel	190 x1	5	2.5	0	0	0	MA	F					40+	C2	2.3	16.3
H21	Leyland cypress	120 x1	4.5	1	0	0	0	EM	F			.5m spread to N, 1.5 to south. Topped and trimmed		20+	х	1.4	6.5
T22	Tree cotoneaster	60 x1	5	3	0	0	3	SM	F					10+	C1	0.7	1.6
T23	Leyland cypress	200 x1	5	1.5	1.5	1.5	1.5	EM	Ρ			Topiaried. Foliage dead on south and east sides.		<10	U	2.4	18.1
T24	Ash	460 x1 430 x1	16	5	5	6	4	EM	G			Topped at 5m. Stems in contact at base creating wound.		20+	B1	7.6	179
T25	Holly	150 x1	5.5	2	2	2	2	EM	G					40+	C2	1.8	10.2
T26	Portuguese laurel	150 x1	3.5	2	1	1	3.5	EM	G					40+	C2	1.8	10.2
T27	Sycamore	140 x1	9	3.5	2	1	4	SM	G					40+	C2	1.7	8.9
T28	Juniper	60 x5	4.5	1.5	0.5	1	1	EM	F			Topiaried. Sparse foliage.		10+	C2	1.6	8.1
T29	Leyland cypress	250 x1	8	2.5	2.5	2.5	2.5	EM	G					40+	B1	3	28.3
T30	Norway spruce	160 x1	9	2.5	2.5	2.5	2.5	EM	G					40+	B1	1.9	11.6
T31	Laburnum	80 x2 60 x3	4.5	2	0.5	0.5	2	EM	G					40+	C2	1.8	10.7
T32	Field maple	130 x1	7	1.5	1	1.5	0.5	EM	F					40+	C1	1.6	7.6
T33	Ash	70 x5	7	2	2	2	2	EM	F					40+	C1	1.9	11.1

## Tree Survey at 68 Maze Green Road, Bishop's Stortford, CM23 2PL



Tree No.	Species	tem Diam @ 1.5m (mm)	Height (m)	С	rown	Sprea	d	Age Range	'hysiological Condition	st main branch	own Clearance	Comments	Recommendations	Remaining Itribution (Yrs)	Amenity	RPA Radius	RPA Area
		S		Ν	S	Е	W		<u>а</u>	Firs	Cro			cor		_	
T34	Leyland cypress	200 x1	4.5	1	1	1	1	EM	F			Topiaried		40+	C1	2.4	18.1
T35	Leyland cypress	200 x1	4.5	1	1	1	1	EM	F					40+	C1	2.4	18.1
T36	Leyland cypress	200 x1	4.5	1	1	1	1	EM	F					40+	C1	2.4	18.1
T37	Leyland cypress	200 x1	4.5	1	1	1	1	EM	F					40+	C1	2.4	18.1
T38	Monterey cypress 'Aurea'	170 x1	4.5	1.5	1.5	1.5	1.5	EM	G			Topiaried		20+	C1	2	13.1
T39	Pear	350 x1	0	2	3.5	2.5	2.5	FM	G					40+	B1	4.2	55.4
T40	Field maple	140 x2	5	0.5	3.5	2	2	SM	G			Low branches over efge of drive at 2.5m.	Cut back overhanging branches to edge of drive.	40+	C1	2.4	17.7
T41	Ash	500 x2	13	5	5	5	5	MA	G			Stem diameter estimated. Obstructed by fence and ivy. Topped at 8m.		40+	B1	8.5	226
T42	Ash	900 x1*	14	6	6	6	4	FM	G			Stem diameter estimated due to dense ivy. Ivy dominates low to mid crown.		20+	B1	10.8	366
T43	Leyland cypress	310 x2	11	3	3	5	3	MA	G					40+	B1	5.3	86.9

# APPENDIX 3 Tree Survey Plan (ref: 806-101A)



# APPENDIX 4 Tree Constraints Plan (ref: 806-201B)



# APPENDIX 5 Phase 1 Tree Protection Plan (ref: 806-301B)



# APPENDIX 6 Phase 2 Tree Protection Plan (ref: 806-302B)



Hedge In 98.65 98.65 98.65 98.65 98.42 98.65 98.42 98.45 741			T14 T19 G17		G20 T23 T27 T27 T27 T24 H21	T26 T25
98.4	<b>T40 9</b> + 4840 + 8840 + 8840 + 8840 + 8840 + 1000 + 1000 − − − − − − − − − − − − − − − − − − −			<u>OHL</u>	Grass +97.74 +97.72	
98.67 MH CL 98.48	Existing drive provid	es s Fei	uitable	+ <u>-7.89</u> – DEE		97.54
wo	along either side	of d	rive.	Maze	Green Road	
DRAWING TITLE:	DRAWING NUMBER:	REV.:	COMMENT:	DATE:	NOTES:	PREPARED BY:
Phase 2 Tree Protection Plan	806-302	-	Original issue	14/12/2022		
CLIENT:	ISSUE:	А	Revised Scheme fo A C Architects	29/06/2023		C Arbortorra I td
R Abeywardana	For Planning	В	Revised Scheme fo A C Architects	15/01/2024		12 ADDITETTA LU
LOCATION:	SCALE:					
68 Maze Green Road, CM23 2PL	1:200 @ A3					

# APPENDIX 7 Tree Protective Fencing

## Tree Protective Fencing

#### Alternative Specification

Taken from Figure 3 of BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations"



# **Tree Protection Area**

# **No Access**

Contact: Oisin Kelly, Arboricultural Consultant Tel: 07570 977449 Email: oisin@arborterra.co.uk

## APPENDIX 8 Ground Protection



TU FFTR A K <sup>®</sup> ST STANDARD HEAVY DUTY ROAD MAT







TuffTrak<sup>®</sup> ST is the ultimate standard heavy duty road mat ideal for use as temporary roadways, work areas for heavy plant and machinery, drilling rigs, depot or storage areas.

Incorporating a dual grip design featuring our chevron traction<sup>®</sup> surface, and a low profile surface on the reverse both incorporating micro traction<sup>™</sup> to further increase grip. This substantially improves mud dispersal and forward motion of vehicles. TuffTrak<sup>®</sup> ST's low profile surface reduces the risks of slips, trips, and falls.

TuffT rak<sup>®</sup> ST has a range of connector options available for use with different ground conditions and projects, with 4 connector points at each corner allows mats to be seamlessly connected together.

- 100% recycled High Density Polyethylene or Ultra High Molecular Weight Polyethylene
- Chevron traction<sup>®</sup> surface nub design for maximum grip
- One piece solid construction provides superior strength

- Various connector options available
- 4 connector points, allowing seamless connection
- Low profile surface on the reverse ideal for pedestrian applications

## **PRODUCT OVERVIEW**

TuffTrak \* ST is a standard heavy duty ground protection solution specially designed for use as a trackway or workpad providing superior strength and a load bearing capacity of up to 150 tons.\*

Material: High Density or Ultra High Molecular Weight Polyethylene

- 3000 mm x 2500 mm x 38 mm ٠
- Usable surface area 7.5 m<sup>2</sup>
- Weight 295 kg
- Pure compressive load capacity 150 tons\*
- 80 mats per truck / 40 ft container
- Chevron traction<sup>®</sup> surface design



- **APPLICATIONS**

#### **ACCESSORIES**

#### 2-WAY CONNECTOR

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	市業の

#### **4-WAY CONNECTOR**



Model	Description	Length	Width	Depth	Weight
TTMSST01BL	TuffTrak® ST PE1000	3000 mm (9'8")	2500 mm (8'2")	38 mm (1.5")	295 kg (650.4 lbs)
TTMSST05BL	TuffTrak <sup>®</sup> ST PE500	3000 mm (9'8")	2500 mm (8'2")	38 mm (1.5")	295 kg (650.4 lbs)
TTMSST03BL	TuffTrak® ST PE300	3000 mm (9'8")	2500 mm (8'2")	38 mm (1.5")	295 kg (650.4 lbs)
TTASE M2WBL	2-Way Polyurethane Connector	180 mm (7")	50 mm (1.9")	-	0.1 kg (0.22 lbs)
TTASE M4WBL	4-Way Polyurethane Connector	180 mm (7")	180 mm (7")	-	0.3 kg (0.66 lbs)

\*Load bearing capacity is dependent on ground conditions. Sizing is subject to a manufacturing variance of +/- 5%.

TuffTrak<sup>®</sup> offers a full range of market leading composite ground protection mats delivering a safer work environment for temporary access roadways, trackways, working platforms, and turf protection.

E-mail: sales@tufftrak-safety.com Tel: +44 (0) 1279 647 021



www.tufftrak-safety.com

#### A PRODUCT OF:



CHECKERS' FAMILY OF BRANDS:





Checkers Safety Group is committed to providing revolutionary product designs and visionary safety solutions that protect people, assets, and the environment.

# APPENDIX 9 Reduced dig construction



DRAWING TITLE:	DRAWING NUMBER:	REV.:	NOTES:		F	REVISIONS	
Reduced-dig detail: Paving with metal edge	-	-	For planning.	No	Descrip	otion	By
CLIENT:	ISSUE:	SCALE:	Not for construction.				
-	Illustrative only	NTS	Do not scale from this drawing				
LOCATION:	DATE:						
-	October 2020						

E3 - METAL EDGE: 'ExcelEdge Contour' 150mm profile height Top Edge 6mm. By Kinley or similar approved Attached to bed using concrete fixings

P4 - CONCRETE PAVING SLAB: Andover Textured Flag Paving 400x400x65

Bedding layer (30mm), e.g. Modified Mortar Steintec Bedding or similar

Geotextile sparator fabric (puncture resistant) e.g. Root-tex 30, or similar

Date	Chkd	Δ	1.4.4
		Arborterra	Lta
		oisin@arborterra.co.uk	
		07570 977449	





Nominally 40mm open graded tarmacadam with 6mm to 10mm aggregate

Binder course. To engineer's specification. Nominally 60mm of porous bituminous macadam containing 20mm open graded aggregate

ProtectaWeb. 150mm cell depth, over-filled by 25mm with 4/20 clean angular stone to BS EN 13242 / EN 12620

-Root-tex geotextile separation layer

-Existing Ground

Date	Chkd



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