

Harper tree consulting



28 Rodbourne Close, Lymington, Hampshire, SO41 0LW.
Tel: 077982 911104 Email: jonharper@harper-trees.co.uk

Arboricultural Report
BS5837:2021 (Trees in Relation to Design, Demolition & Construction)

Client: MAF Investments
Site: 20 Church Road, Uxbridge, UB8 3NA.
Date of survey: January 27th 2022
Date of report: February 04th 2022
Surveyor: Jon Harper cert.Arb (RFS)
Report reference: 2022010 v1.0

CONTENTS

	Page
1. INTRODUCTION.....	3
1.1. BS5839:2012	3
1.2. Terms and Definitions	3
1.2.1. Access Facilitation Pruning.....	3
1.2.2. Arboricultural Method Statement (AMS).....	3
1.2.3. Arboriculturist	3
1.2.4. Competent Person.....	3
1.2.5. Construction	3
1.2.6. Construction Exclusion Zone (CEZ)	3
1.2.7. Root Protection Area (RPA)	3
1.2.8. Services	3
1.2.9. Stem	3
1.2.10. Structure	4
1.2.11. Tree Protection Plan	4
1.2.12. Veteran Tree	4
1.3. The Proposal/Relevant History	4
1.4. Brief and Purpose	4
1.5. Scope.....	4
1.6. Documents Supplied/Used	5
1.7. Site Details.....	5
2. TREE SURVEY	6
2.1. Survey Summary.....	6
2.2. Survey Method.....	6
2.3. Tree Details	6
2.4. Legal Protection Status of Trees.....	7
3. ARBORICULTURAL IMPACT ASSESSMENT	8
3.1. Summary of Impact Assessment.....	8
3.2. Removal of trees	8

3.3.	Tree Works.....	8
3.4.	Incursions into RPAs	8
3.5.	Light and Proximity Issues.....	9
3.6.	Mitigation	9
3.7.	Conclusion.....	9
4.	ARBORICULTURAL METHOD STATEMENT	10
4.1.	Introduction	10
4.2.	Pre-commencement Meeting.....	10
4.3.	Sequencing and Supervision.....	10
4.4.	Site Precautions.....	11
4.5.	Carrying out tree works.....	11
4.6.	Protective Fencing and Ground Protection	11
4.7.	Site Access.....	13
4.8.	Demolition Work	13
4.9.	Underground Services	13
4.10.	Foundations and Construction	13
4.11.	Fencing and Landscaping.....	14
4.12.	Amendments	14
	TREE SURVEY SCHEDULE	15
	TREE CONSTRAINTS PLAN.....	16
	TREE DEMOLITION PLAN	17
	TREE PROTECTION PLAN	18

1. INTRODUCTION

1.1. BS5839:2012

The current British Standard for trees in relation to design, demolition, and construction is BS5837:2012. This became current in May 2012, and supersedes the old 2005 standard.

1.2. Terms and Definitions

1.2.1. Access Facilitation Pruning

One-off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site.

1.2.2. Arboricultural Method Statement (AMS)

Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in the loss of, or damage to a tree to be retained.

1.2.3. Arboriculturist

Person who has through relevant education training and experience, gained expertise in the field of trees in relation to design, demolition, and construction.

1.2.4. Competent Person

Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task which is being approached.

1.2.5. Construction

Site-based operations with the potential to affect existing trees.

1.2.6. Construction Exclusion Zone (CEZ)

Area based on the root protection area (2.7) from which access is prohibited for the duration of the project.

1.2.7. Root Protection Area (RPA)

Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain a tree's viability, and where the protection of roots and soil structure is treated as a priority.

1.2.8. Services

Any above or below-ground structure or apparatus required for utility provision.

1.2.9. Stem

Principal above-ground structural component(s) of a tree that supports its branches.

1.2.10. Structure

Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork.

1.2.11. Tree Protection Plan

Scale drawing, informed by descriptive text where necessary, based on the finalised proposals, showing trees for retention, and illustrating the tree and landscape protection measures.

1.2.12. Veteran Tree

Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

1.3. The Proposal/Relevant History

The proposal, in this instance, is to demolish the existing dwelling shown in red on the tree demolition plan, and to construct a new apartment block with a basement level and new parking facilities as shown using the purple colour on the tree constraints plan (2022010/TCP001) in this report.

1.4. Brief and Purpose

This report has been commissioned by MAF Investments to;

- Survey the trees on site in accordance with BS5837:2012.
- Detail the arboricultural implications of the proposed project.
- Present an effective tree protection strategy for the duration of the development.
- Provide the necessary arboricultural information to accompany a planning application to Hillingdon Borough Council.

1.5. Scope

The trees have been surveyed in accordance with the BS. Trees on and immediately adjacent to the site with a stem diameter over 75mm have been included.

A full hazard assessment of the trees (including the assessment of decay or defects and their implications), has not been undertaken as this is considered beyond the scope of this report. Any obvious hazards and defects have, however, been identified in the Tree Survey Schedule and appropriate works recommended for action.

1.6. Documents Supplied/Used

Document	Supplied by	Format/Reference
FL44-20 Church Road Proposals	F Line Design	DWG

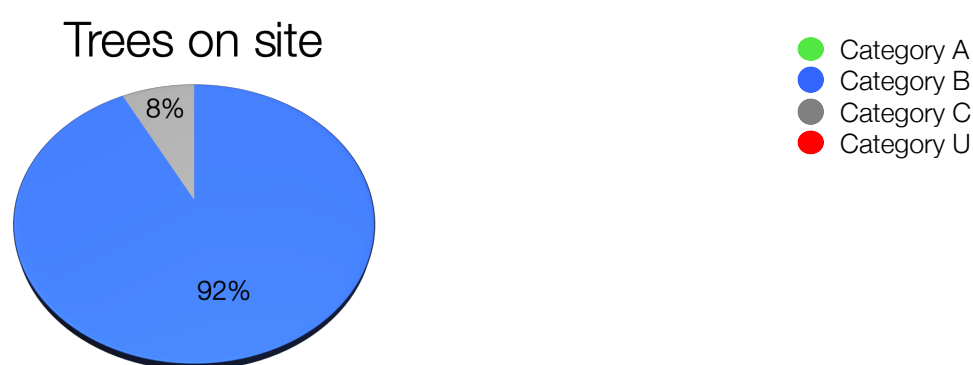
1.7. Site Details

The application site is a relatively large residential site with a detached dwelling near to the front of the site. There is a parking area to the front with a broken hard standing in it, and the rear garden is mainly laid to lawn. There are several trees in and around the site as shown on the tree constraints plan. The large leyland cypress at the front of the site (T3 on our survey) has become quite over bearing on the front of the property as well as the public footway outside, and hasn't reached its size potential yet. There is also a very nice Scots Pine at the front. There is a group of Lawsons' cypress trees along the southern boundary in the neighbouring garden and a nice sycamore within the site to the west. The topography of the site is generally flat.

2. TREE SURVEY

2.1. Survey Summary

Total number of trees	14
Category A	0
Category B	13
Category C	1
Category U	0



2.2. Survey Method

The trees were surveyed on January 27th 2022.

Locations of the trees were plotted using the site plan provided by F Line Design.

All trees were inspected from ground level only using widely accepted Visual Tree Assessment techniques, and no trees were climbed during the survey.

No trees were internally investigated. Should a more detailed inspection be required then this will be pointed out in the recommendations on the survey schedule.

2.3. Tree Details

With regard to their desirability for retention, the trees surveyed have been graded with their trunks colour coded on the tree constraints plan, and tree protection plan using the criteria contained in BS5837:2012. A summary of this grading is as follows.

A= **Light Green**. Trees of high quality and value, in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested in the British Standard). Usually worthy of consideration as a material constraint to any proposed development.

B= **Mid Blue**. Trees of moderate quality and value in such a condition as to make a significant contribution (a minimum period of 20 years is suggested in the British Standard). Usually worthy of consideration as a material constraint to any proposed development.

C= **Grey**. Trees of low quality and value, in adequate condition condition to remain until new planting could be established (a minimum of 10 years is recommended in the British Standard), or trees with a stem diameter below 150mm. Not usually worthy of consideration as a material constraint to any proposed development.

U= **Red**. Trees in such a condition that they cannot be realistically be retained as living specimens in the context of the current land use for longer than 10 years.

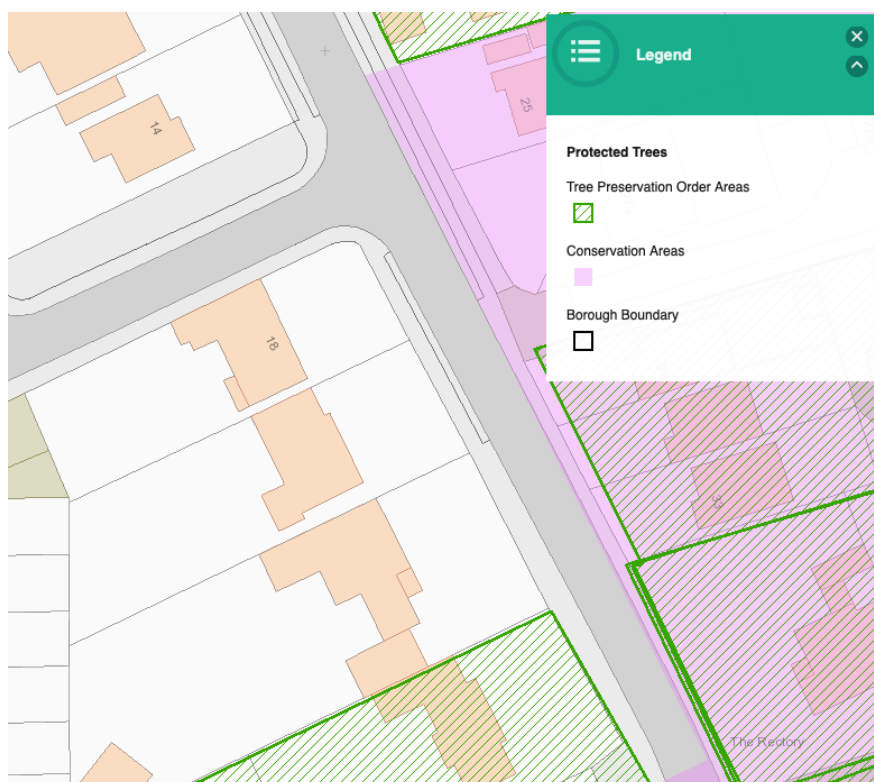
In our survey schedule, the RPA for each tree is indicated as the radius of a circle as well as in M². This is also plotted on the tree constraints plan and tree protection plan denoted by a heavy black line which merges the individual RPAs together where there is more than one tree.

Section 4.6 of BS5837:2012 provides for the shape of the RPA to be modified from the starting point of a circle to account for site features such as hard surface treatments where root growth may be restricted, as long as the total remains the same. In this case, no RPAs were modified.

Please Note: The facility for offsetting an RPA by 20% for open grown trees was withdrawn on May 01st 2012.

2.4. Legal Protection Status of Trees.

Type of Protection	Details/Reference
Conservation Area	No. There is a conservation area on the opposite side of the road though.
Tree Preservation Order	No
Planning conditions requiring tree retention	No



3. ARBORICULTURAL IMPACT ASSESSMENT

3.1. Summary of Impact Assessment

Total number of trees surveyed	14
Number of trees to be removed	1
Number of trees to be pruned	1
Number of trees with RPA incursions	2

3.2. Removal of trees

Category A Trees (High Grade)	Category B Trees (Moderate Grade)	Category C Trees (Low Grade)	Category U Trees (Unretainable)
N/A	T3	N/A	N/A

The trees in the table above will be felled to the ground and the stumps will be ground out to prevent damage to the roots of retained trees nearby. The reason for removal may be for either of the reasons below.

- A. There may be a direct conflict with the proposed development.
- B. The trees may not be in a condition that makes them desirable for retention.

Trees to be removed	Impact on the character of the local area.	Mitigation (if any)
T3	Low: Although quite prominent, this tree has become over bearing on the application site as well as the public footway outside.	Two new, more suitable trees will be planted in mitigation within 12 months of the construction completion.

3.3. Tree Works

The crown of T5 will be reduced by 1.5m within the site. This is as access facilitation for the installation of some sheet piling for a retaining wall in the proposed lightwell.

3.4. Incursions into RPAs

In many instances, a low degree of root disturbance can be deemed to be acceptable. Where incursions can be fully invasive, or low level invasion can sometimes be achieved by the use of specialist methods to limit the degree of disturbance. The table details the incursions and how they are to be dealt with.

Incursions into RPAs of retained trees		
Type of incursion	Tree number	Precautions to be taken
Excavation of light well for the basement level at the rear of the proposed building.	T5	The retaining wall for the proposed light well will be constructed using sheet piles vibrated into the ground to prevent the need for a battered excavation.

3.5. Light and Proximity Issues

There are no arboricultural light or proximity issues associated with the current proposal.

3.6. Mitigation

The removal of T3 will be mitigated by the planting of two *Acer campestre* "william caldwell" trees by the end of the next growing season following construction.

These are a more suitable tree for the site as they are fastigiate. The Hilliers Designer Guide states that they grow up to 7m in height and have a crown spread of 2m in each direction.

They will be planted by a competent contraction at a height of 3m and with a stem girth of 8 - 10 cms.

3.7. Conclusion

Assuming full compliance with the AMS in this report, the net arboricultural impact is acceptable.

4. ARBORICULTURAL METHOD STATEMENT

4.1. Introduction

During the development process, the tree protection measures set out in this method statement must be adhered to in order to safeguard the retained trees. The principles below are specifically designed to offer a significant degree of protection to both the root systems and aerial parts of the trees for the duration of the works.

A copy of this method statement must be made available on site at all times until the cessation of any demolition, construction, and landscaping work, and the site personnel will be made familiar with the key implications of this AMS.

It should be remembered that powers were granted to Local Planning Authorities in 2005, which allow them to serve Temporary Stop Notices if agreed protection measures are strayed away from before work is completed. This can be extremely costly and very time consuming.

4.2. Pre-commencement Meeting

If the Local Planning Authority deem it necessary, a pre-commencement meeting will be held, attended by the project Arboricultural Consultant, the Site Manager, and the LPA Tree Officer. During this meeting potential problems and protection sequencing can be discussed and it is expected that all aspects of the tree protection measures set out in this AMS will be understood and agreed. Following this meeting, all parties involved will receive an email from the Arboricultural Consultant containing a record of what was discussed and agreed.

4.3. Sequencing and Supervision

Sequencing of events and effective arboricultural supervision are important elements of the tree protection process.

There is no necessity for any direct arboricultural supervision in this instance.

Key Stages:

- AMS issued to Site Manager/Building Company
- AMS to be read by all site personnel to ensure a full understanding of implications. Any raised issues are to be addressed to the project Arboricultural Consultant
- Recommended and agreed tree works to be carried out
- Tree protective fencing and ground protection installed
- Existing buildings to be demolished where appropriate
- Tree protection reconfigured
- Construction work carried out
- Tree protective fencing and ground protection removed
- Landscaping (if any) carried out

Summary of Arboricultural Monitoring and Supervision

Activity	Level of monitoring/supervision required
Erection of tree protective fencing for demolition. (see the tree demolition plan)	Signing off of the approved tree protection measures by the project arboricultural consultant prior to any development work commencing
Reconfiguration of tree protective fencing and installation of ground protection. (see the tree protection plan)	

It is also imperative that telephone contact between the site manager and the Arboricultural Consultant is maintained with regard to any tree protection measure issues.

4.4. Site Precautions

- The following points will be observed at all times:
- No fires will be lit within 15m of any retained tree on or around the site
 - No access will be permitted inside the tree protection fences
 - No materials, equipment, or waste will be stored inside the tree protection fencing at all
 - Notice boards, telephone cables, or other services will not, under any circumstances, be attached to retained trees
 - Material which contaminate soil, such as concrete, diesel oil, vehicle washings and even builders sand, will not be allowed to enter the RPA of any retained tree

4.5. Carrying out tree works

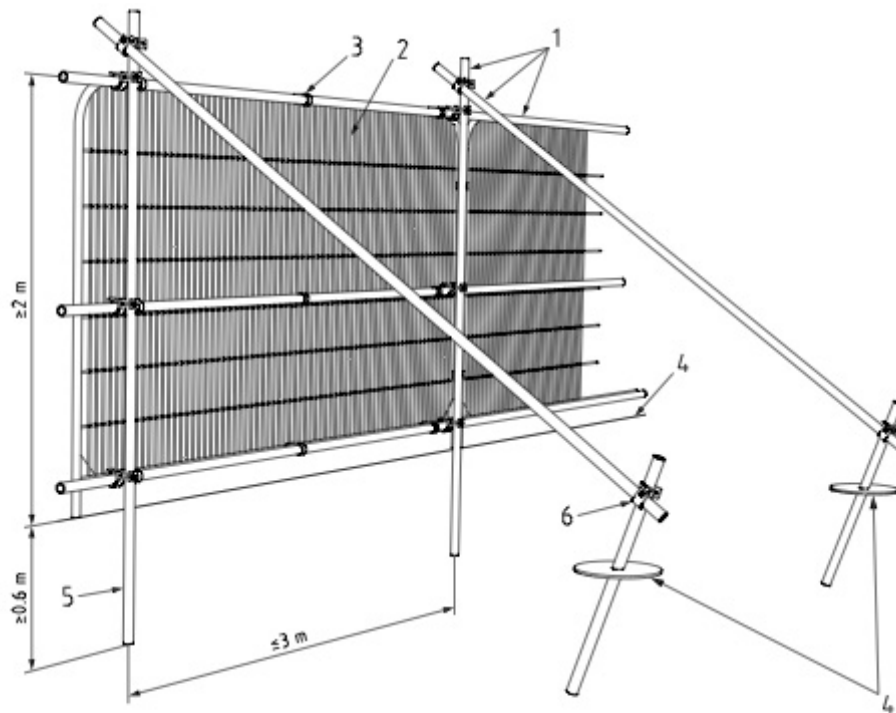
All tree works, where required, will be carried out in accordance with BS3998:2010 (Recommendations for Tree Works), and to the current arboricultural best practice. Tree works will be carried out by a suitably qualified and insured contractor. The contractor will be solely responsible for carrying out their own site risk assessment prior to the commencement of work.

If at any time during the development a need for additional tree works is highlighted to facilitate the proposed works or access for machinery/plant, the Arboricultural Consultant will be contacted to advise on appropriate works and liaise with the LPA as necessary.

4.6. Protective Fencing and Ground Protection

The required tree protective fencing should be installed to fence off the construction exclusion zone(s), or CEZ, shown on the tree protection plan (Figure 2). This must only be altered or moved as agreed in writing by the Local Planning Authority following advice from a competent Arboricultural Consultant.

The Tree Protective fencing will be 2.4m Heras fencing as specified in the BS. The fencing will be supported by a scaffold framework with supporting struts firmed into the ground on the side of the trees. The purpose of the supports is to prevent the fencing being moved during the development. Clear signs will be attached to the fencing (e.g. Tree Protective Fencing – Keep Out).



Key

- 1 Standard scaffold poles
- 2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6 m)
- 6 Standard scaffold clamps

The ground protection will be in two parts. The gold area on the tree protection plan will be of 150mm deep no dig cellular confinement installed without a finishing layer to act a ground protection for T4 on our survey.

The blue areas on the tree protection plan will be 18mm thick OSB on top of a 100mm deep compressible layer. This layer can be wood chip or sharp sand, but not builders sand due to its high salt content which is toxic to trees. The compressible layer must be maintained at 100mm through out the construction phase. Scaffolding can be erected on top of this as per the next image.

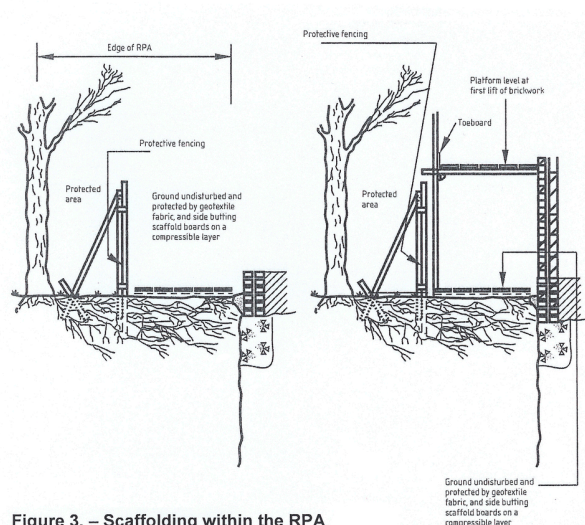


Figure 3. – Scaffolding within the RPA

4.7. Site Access

Site access will only be available via the existing site entrance on Church Road for construction purposes.

4.8. Demolition Work

Once the approved tree protection measures are in place, demolition will be carried out in the normal way. All waste from demolition will be stored away from the RPAs of all retained trees until it can be removed for disposal.

4.9. Underground Services

New underground services will be routed into the footprint of the new dwellings avoiding the RPAs of all retained trees.

Run off water will be routed into soak aways, the position of which will be agreed with the LPA before work commences.

4.10. Foundations and Construction

The proposed apartment block will contain a basement level with light wells at the rear as shown on the tree protection plan (2022010/TPP001).

A small section of one of the light wells causes an incursion into the RPA of T5, a moderately low grade cypress tree that has some value as screening. The crown of this tree will be reduced by 1.5m within the site for access facilitation. Then a sheet pile retaining wall will be vibrated into place before the light well is excavated behind it. The advantage of this method is that it will prevent the need for a battered excavation, keeping the incursion into the RPA to a bare minimum. The image below is indicative of the type of construction for the retaining wall.



Once construction is completed, the area of cellular confinement that was installed without a finishing layer at the front of the site (see section 4.6 of this report) will have a permeable finishing layer applied to it. This will provide a long term protective area for T4 on our survey.

Before the end of the next growing season after construction, two new Acer Campestre “William Caldwell” trees will be planted at the front of the site in mitigation of the loss of T3.

4.11. Fencing and Landscaping

During the landscaping phase of the development (if any landscaping takes place), the following precautions will be observed:

- No compaction of soil within the RPAs (or where new tree planting is to be carried out).
- No changes in ground levels.
- Unwanted vegetation to be removed manually or using contact herbicides that will not damage existing tree roots.
- No underground irrigation or drainage pipes to be installed
- If soil has been compacted in areas where planting is proposed, measures to improve soil structure (e.g. decompaction) may be necessary to facilitate successful plant establishment.

If any fence posts are installed within the RPAs of retained trees, excavation will be carried under direct arboricultural supervision using hand tools. Posts will be re-positioned if roots in excess of 25mm in diameter are encountered. Post holes will be lined with heavy gauge polythene where concrete is used to safeguard the rooting environment of the trees from the potentially toxic effects of leaching concrete.

4.12. Amendments

Issues may arise on development sites that require amendments to the previously agreed tree protection details. Any amendments to this AMS will be approved in writing by the LPA prior to being implemented. Copies of paperwork relating to any amendments will be communicated by the Arboricultural Consultant to the Client and LPA.

**This concludes the advice given in this report
Compiled and presented by
Jon Harper cert.Arb (RFS)**

TREE SURVEY SCHEDULE

Please note that the recommendations on the tree survey schedule have not been considered in relation to the design of any potential proposed development, but are derived from observations made on site.

Tree Survey Schedule

Date: January 27th 2022
Site: 20 Church Road
Surveyor: Jon Harper cert.Arb (RFS)

= Category A trees
 = Category B trees
 = Category C trees
 = Category U trees

Harper tree consulting



Type (Tag)	Name	Age	Category	Diameter (Stems)	Height (L/Hgt)	North	East	South	West	Condition	Life Exp	Comments	Recommendations	RPR	RPA
T1	Ilex aquifolium (Holly)	M	B3	200(1)	5(1.5)	3	3	2	3	Good	20	None at present.	None at present.	2.4	18.1
T2	Ilex aquifolium (Holly)	M	B3	173(3)	7(1)	2	2	1	2	Good	20	None at present.	None at present.	2.08	13.59
T3	Leyland cypress	M	B2	707(2)	12(3)	6	4	6	6	Good	20	Stem divides at ground level.	None at present.	8.48	225.94
T4	Pinus sylvestris (Scots Pine)	M	B1	420(1)	14(3)	3	3	3	3	Good	20	None at present.	None at present.	5.04	79.81
T5	Chamaecyparis lawsoniana (Lawson)	M	B2	283(2)	8(2.5)	4	4	4	4	Good	20	None at present.	None at present.	3.4	36.32
T6	Chamaecyparis lawsoniana (Lawson)	M	B2	335(5)	8(2.5)	3	3	3	3	Good	20	None at present.	None at present.	4.02	50.78
T7	Chamaecyparis lawsoniana (Lawson)	M	B2	200(1)	8(2.5)	3	3	3	3	Good	20	None at present.	None at present.	2.4	18.1
T8	Chamaecyparis lawsoniana (Lawson)	M	B2	170(1)	8(2.5)	3	3	3	3	Good	20	None at present.	None at present.	2.04	13.08
T9	Chamaecyparis lawsoniana (Lawson)	M	B2	240(1)	8(2.5)	3	3	3	3	Good	20	None at present.	None at present.	2.88	26.06
T10	Chamaecyparis lawsoniana (Lawson)	M	B2	220(1)	8(2.5)	3	3	3	3	Good	20	None at present.	None at present.	2.64	21.9
T11	Chamaecyparis lawsoniana (Lawson)	M	B2	350(1)	8(2.5)	3	3	3	3	Good	20	None at present.	None at present.	4.2	55.42
T12	Chamaecyparis lawsoniana (Lawson)	M	B2	200(1)	8(2.5)	3	3	3	3	Good	20	None at present.	None at present.	2.4	18.1
T13	Acer pseudoplatanus (Sycamore)	M	B1	530(1)	9(3)	4	4.5	5	4	Good	20	Some root girdling	None at present.	6.36	127.09
T14	Pyrus (Pear)	M	C1	250(1)	5(2)	2	3	2	2	Good	10	None at present.	None at present.	3	28.28

TREE CONSTRAINTS PLAN



Notes & Legend:

- Category A trees ● Category B trees ●
- Category C trees ● Category U trees ●
- RPA's Trees to be removed (red crowns and numbers) T2-B2
- BS5837 Specification Ground Protection
- No Dig Permeable Hard Surface Treatment
- Tree Protective Fencing —●—●—●—
- Proposed development —
- To be demolished —

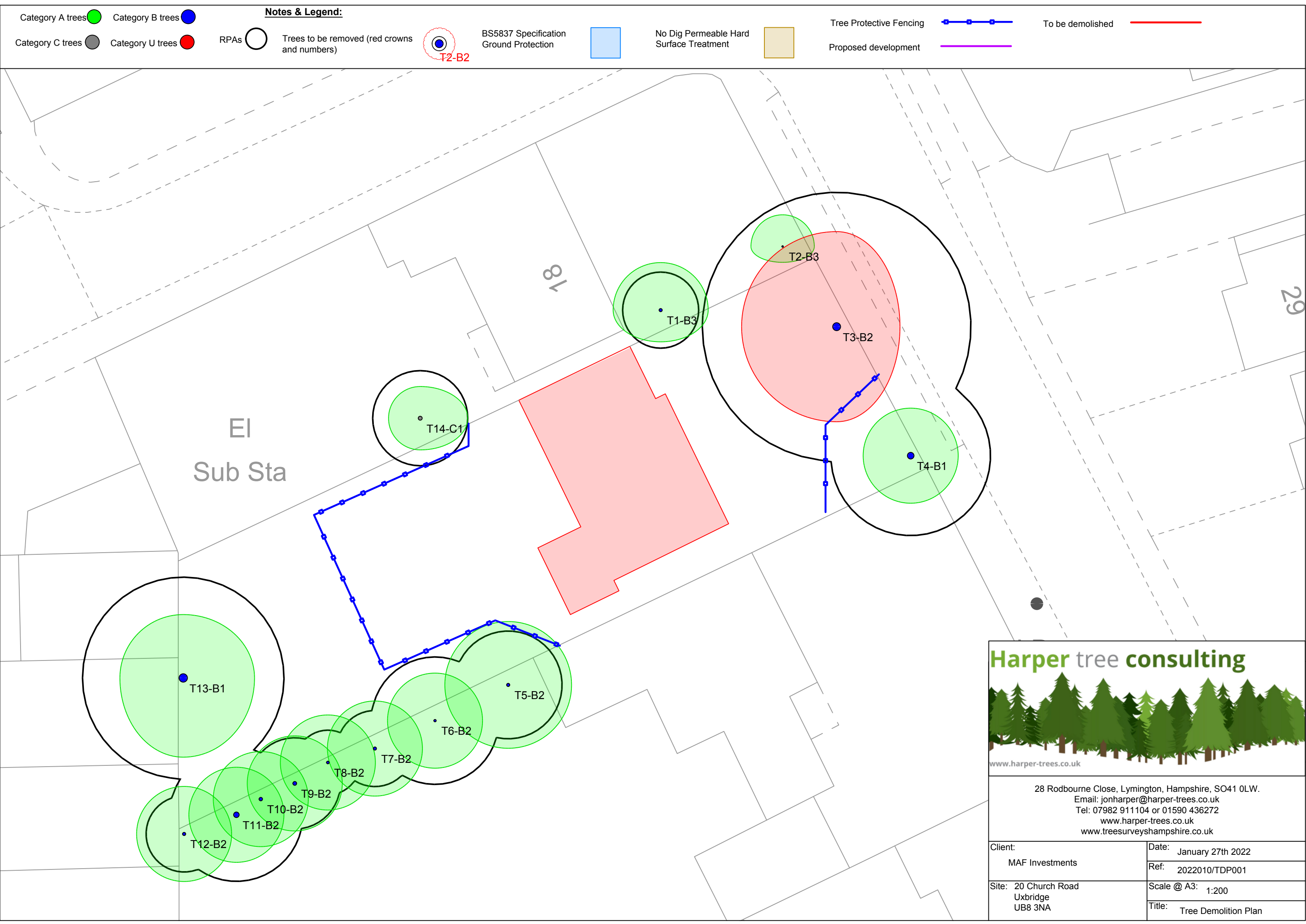
Harper tree consulting

www.harper-trees.co.uk

28 Rodbourne Close, Lymington, Hampshire, SO41 0LW.
Email: jonharper@harper-trees.co.uk
Tel: 07982 911104 or 01590 436272
www.harper-trees.co.uk
www.treesurveyshampshire.co.uk

Client:	MAF Investments	Date:	January 27th 2022
		Ref:	2022010/TCP001
Site:	20 Church Road Uxbridge UB8 3NA	Scale @ A3:	1:200
		Title:	Tree Constraints Plan

TREE DEMOLITION PLAN



Harper tree consulting

www.harper-trees.co.uk

28 Rodbourne Close, Lymington, Hampshire, SO41 0LW.
Email: jonharper@harper-trees.co.uk
Tel: 07982 911104 or 01590 436272
www.harper-trees.co.uk
www.treesurveyshampshire.co.uk

Client:	MAF Investments	Date:	January 27th 2022
		Ref:	2022010/TDP001
Site:	20 Church Road Uxbridge UB8 3NA	Scale @ A3:	1:200
		Title:	Tree Demolition Plan

TREE PROTECTION PLAN



Harper tree consulting

www.harper-trees.co.uk

28 Rodbourne Close, Lymington, Hampshire, SO41 0LW.
Email: jonharper@harper-trees.co.uk
Tel: 07982 911104 or 01590 436272
www.harper-trees.co.uk
www.treesurveyshampshire.co.uk

Client:	MAF Investments	Date:	January 27th 2022
		Ref:	2022010/TPP001
Site:	20 Church Road Uxbridge UB8 3NA	Scale @ A3:	1:200
		Title:	Tree Protection Plan