

Arboricultural Method Statement

Mr & Mrs Keen

2 Beckmeadow Way
Mundesley
Norwich
NR11 8LP

31 January 2024

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Table of Contents

- Introduction 1
- Executive Summary 1
- 1. General Information 5
- 2. Tree Survey 6
- 3. Arboricultural Impact Assessment 7
- 4. Arboricultural Method Statement 9
 - Tree Works 10
 - Protected Species (general informative for tree works)..... 12
 - Sequencing of works 14
 - Protective Measures 15
 - Construction 21
 - Prohibition 26
 - Site Management 27
 - Services 28
 - Landscaping 30
 - Monitoring and Supervision 31
- Appendix 1: Tree Survey Schedule 33
- Appendix 2: Tree Protection Notice 37
- 5. Appendix 3: Contact Details 39
- 6. Document Production Record 40

Introduction

Arbtech Consulting Limited (Arbtech) received written instruction on 10 February 2023 from Ian Blaney (Ian Blaney Architect) to attend 2 Beckmeadow Way, Mundesley, Norwich, NR11 8LP; grid reference, TG 31312 36260 (site) to undertake an arboricultural survey a to BS5837:2012 guidance to assess trees, hedges and major shrub groups growing on and within influencing distance of the site and to produce a Schedule of Trees, Tree Constraints Plan, Arboricultural Impact Assessment, Arboricultural Method Statement and a Tree Protection Plan.

Executive Summary

This report describes the extent and effect of the proposed development on individual trees and groups of trees within and adjacent to the site.

Trees within the site were surveyed using a methodology guided by British Standard 5837:2012 'Trees in relation to design, demolition and construction – Recommendations' ("BS5837").

Subsequently, this report has been produced, balancing the proposed development's layout against the trees' competing needs. This report comprises the requisite elements of an arboricultural implications assessment, method statement and supporting plans.

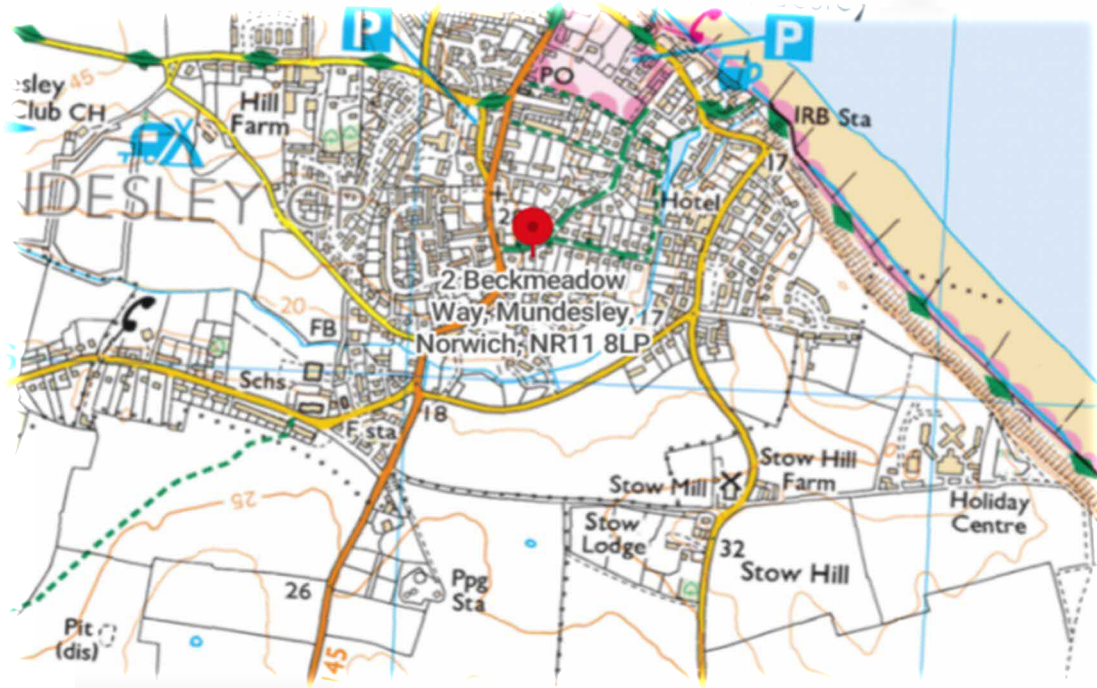


Figure 1: OS Map (Bing Maps)



Figure 2: Aerial Image of site with approximate red line boundary (Google Earth)

Proposed scheme

The proposed scheme for the site is the remodelling of the bungalow to form a two-storey house with attic rooms.

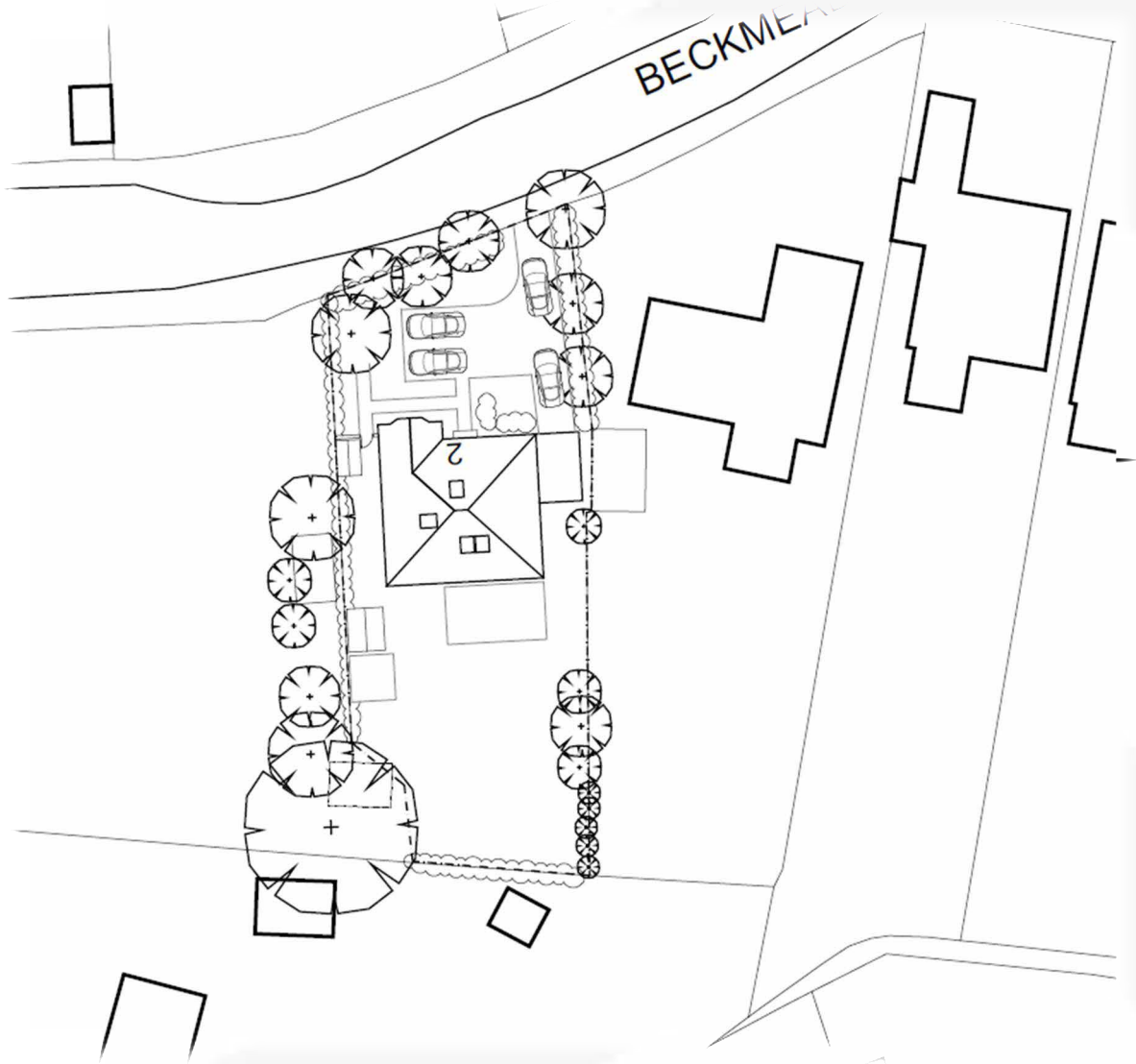


Figure 3: Proposed scheme drawing number: SK01 (Ian Blaney Architect)

Checklist for Submission to Local Planning Authority

Tree survey	✓
Tree constraints plan	✓
Arboricultural impact assessment	✓
Arboricultural method statement	✓
Tree protection plan	✓

This report and its appendices precisely follow the strategy for arboricultural appraisal intended to provide local planning authorities with evidence that trees have been adequately considered throughout the development process.

This report concludes that the overall quality and longevity of the amenity contribution provided for by the trees and groups of trees within and adjacent to the site will not be adversely affected due to the local planning authority consenting to the proposed development. It is considered that any issues raised in this report, or beyond the scope of it, can be dealt with by planning conditions.

1. General Information

Client: Mr & Mrs Keen

Site: 2 Beckmeadow Way, Mundesley, Norwich, NR11 8LP

Brief proposal description: remodelling of the bungalow to form a two-storey house with attic rooms.

Table 1: Documents referred to.

Document	Reference No.
Site survey drawing	SK01
Proposed layout drawing	SK01
Landscape master plan drawing	N/A
LPA pre-app comments	N/A
British Standard 5837:2012	“BS5837”
Arboricultural Impact Assessment	Arbtech AIA 01
Tree Protection Plan	Arbtech TPP 01

2. Tree Survey

Survey: An arboricultural survey to BS5837 of all trees within impacting distance of the site was undertaken by Dean Meadows on 20 March 2023.

A total of No. 14 individual trees, No. 1 group of trees and No. 6 hedges were surveyed. Details for each of the trees surveyed are provided in the Schedule of Trees (see Appendix 1).

Table 2: Documents upon which this tree survey has been based.

Document	Originator	Reference Number	Title
Survey base drawing	Ian Blaney Architect	SK01	Planning Drawings

Limitations: The survey was made at ground level using visual observation only. Detailed examinations, such as climbing inspections and decay detection equipment, were not employed, though they may form part of the survey's management recommendations. Measurements were taken using specialist tapes, lasers, and GPS devices. Where this was not possible, measurements are estimated.

Scope: Pre-development tree surveys make arboricultural management recommendations based exclusively upon the individual tree or group of trees condition relative to their present context (*i.e. not in relation to the proposed development*).

Legal Status: No statutory protection check has been performed. BS5837 does not draw any distinction between trees subject to statutory protection, such as a Tree Preservation Order ("TPO"), and those trees without, as stated in Annex B:

*The potential effect of development on trees, **whether statutorily protected** (e.g. by a tree preservation order or by their inclusion within a conservation area), is a material consideration in planning applications.*

Consequently, we do not seek to compare or infer any difference in the quality or importance of TPO trees and other trees.

For more information on the surveyed trees, please see Arbtech Consulting Ltd, Tree Survey Schedule (**Appendix 1**), Tree Survey Report and Tree Constraints Plan.

3. Arboricultural Impact Assessment

Table 3: Documents upon which this assessment has been based.

Document	Originator	Reference Number	Title
Survey base drawing	Ian Blaney Architect	SK01	Planning Drawings
Proposed site Plan	Ian Blaney Architect	SK01	Planning Drawings

Several issues may need to be addressed in an arboricultural impact assessment between the trees and the proposed development. These are as follows:

- The effect and extent of the proposed development within the root protection areas (RPAs) of retained trees;
- The potential conflicts of the proposed development with canopies of retained trees and;
- The likelihood of any future remedial works to retained trees beyond which would have been scheduled as a part of usual management.

Table 4: Impacts upon the RPAs of retained trees.

Tree Number	Species	Structure	RPA (m ²)	Incursion	
				(m ²)	(%)
1	Corkscrew willow	57.36	4	7.0	1
3	Rowan	14.66	5.8	39.6	3
4	Rowan	19.95	7.7	38.6	4
6	Sycamore	26.06	2.5	9.6	6

These impacts can be seen on the Arboricultural Impact Assessment drawing number Arbtech AIA 01.

Trees to be removed

The partial removal of H1 and the removal of H6 is required for the proposed scheme.

A breakdown of all pruning works can be seen in Table 8: Summary of Tree Works

Table 5: Number of individual trees to be removed.

U	A	B	C
0	0	0	0

Table 6: Number of groups to be removed.

U	A	B	C
0 (0)	0 (0)	0 (0)	1 (1)

() = partial removal of a group

4. Arboricultural Method Statement

This method statement aims to demonstrate how any aspect of the development that has the potential to result in loss or damage to a tree may be implemented and provide an adequate level of protection for those trees that are to be retained during the proposed works.

Details of key site personnel, including the site/project manager, will be submitted to the Council's Tree Officer before the commencement of site works.

This method statement is to be approved and agreed to in writing by all key personnel before the commencement of site works.

No site personnel are to be present, and no demolition, site clearance, building work or delivery of materials is to occur until the protective measures are in accordance with this method statement and the Tree Protection Plan drawing number Arbtech TPP 01.

Protective measures will be in accordance with this method statement and the Tree Protection Plan; drawing number Arbtech TPP 01 will remain unaltered and in situ, unless otherwise specified, for the entire duration of the construction.

Table 7: Documents upon which this assessment has been based.

Document	Originator	Reference Number	Title
Survey base drawing	Ian Blaney Architect	SK01	Planning Drawings
Proposed site Plan	Ian Blaney Architect	SK01	Planning Drawings

Tree Works

All tree work referred to herein must be carried out before any site personnel commencing works or building materials are delivered.

Table 8: Summary of Tree Works.

No.	Species	Works	Category
H1	Various	Fell: partially remove group and dig out/grind stumps to allow for resurfacing work	C2
H6	Various	Fell: remove entire group and dig out/grind stumps	C2

Notes

All tree work is to be undertaken in accordance with British Standard BS 3998:2010, Recommendations for tree work. All arisings will be removed, leaving the site as found. Care should be taken of the ground around retained trees to ensure it does not become compacted due to tree surgery operations. No equipment or vehicles such as timber Lorries, tractors, excavators, or cranes shall be parked or driven beneath the crowns of any retained trees to prevent subsequent compaction and root death.

Tree removal

A tree should be felled in one piece only when there is no significant risk of damage to people, property, or protected species (see Annex A).

Where restrictions (e.g. lack of space, buildings, other features, land ownership or use, or other trees to be retained) cannot be overcome, trees should be dismantled in sections.

This also applies where a tall stump is being retained but where branches are to be removed/pruned.

Extensively decayed trees can be unpredictable when they are being felled, and special precautions should, therefore, be taken, such as using a winch to guide the direction of the fall.

Stump removal –stump grinding

Stump grinding will be at least 300 mm deep or extend through the base of the stump, leaving the significant roots disconnected if the intention is to reduce the potential for the spread of Honey fungus.

The grinding residue will be treated as arisings and removed from the site.

NOTE: Mechanical destruction of a stump by stump grinding is less disruptive to the site than digging out.

The hole left by stump removal will be filled with soil or other material. The filling should be appropriate for future site usage and installation of any surface treatment.

Where future plant growth is desired, the back-fill material will be firmed in 150 mm layers by treading, avoiding excessive compaction and destruction of the soil structure.

Stump removal - digging

Stump removal by digging out will include disposal/utilisation of woody material (see Clause 13).

NOTE: Mechanical destruction of a stump by stump grinding is less disruptive to the site than digging out.

When winching out a stump, a ground or other type of anchor will be used rather than a tree to be retained if there is no alternative to using such a tree as an anchor, appropriate protective measures will be adopted.

After stump removal

The hole left by stump removal, whether digging out or grinding, will be filled with soil or other material. The filling will be appropriate for future site usage and installing any surface treatment.

Where future plant growth is desired, the back-fill material will be firmed in 150 mm layers by treading, avoiding excessive compaction and destruction of the soil structure.

Protected Species (general informative for tree works)

Conservation Status of British Bats

The consensus in Britain and Europe is that virtually all bat species are declining and vulnerable. Our understanding of population status is poor as most bat species have very little historical data. Certain species, such as horseshoe bats, are better understood and have well-documented range and population size contractions.

Given this general picture of decline in the UK Government, the UK Biodiversity Action Plan has designated five species of bats as priority species (greater and lesser horseshoe bats, barbastelle, Bechstein's and pipistrelle). These plans provide an action pathway whereby the maintenance and restoration of the former populations' levels are investigated.

Legal Status of British Bats

Given the above position, all British bats and their breeding sites and resting places enjoy national and international protection.

All bat species in the UK are fully protected under the Wildlife and Countryside Act 1981 (as amended) through inclusion in Schedule 5. All bats are also listed in Annex IV (and some in Annex II) of the EC Habitats Directive, giving further European protection. Taken together, the Act and Conservation of Habitats and Species Regulations 2012 (as amended)* make it an offence to intentionally or deliberately kill, injure or capture (take) bats;

- Deliberately disturb bats (whether in a roost or not);
- Damage, destroy or obstruct access to bat roosts;
- Possess or transport a bat or any part of a bat unless acquired legally;
- Sell, barter or exchange bats or parts of bats

Although not strictly affording protection to foraging grounds, the legislation protects roost sites. Bat roosts are protected at all times of the year whether or not bats are present. Any disturbance of a roost due to development must be licenced.

**The regulations delivered by the UK's commitments to the Habitats Directive.*

Breeding birds

All nesting birds are protected under the Wildlife and Countryside Act (as amended) 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. Furthermore, several birds enjoy further protection under that Act and are listed on Schedule 1 of the Act. These further protected birds are also protected from disturbance, and it may be necessary to operate "no-go" buffer zones around such nests –typically out to 100m.

Planning policy guidance on the treatment of species identified as priorities under the biodiversity action programme suggests that local authorities should take measures to protect the habitats of these species from further decline through policies in local development documents and should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations. The conservation of these species should be promoted by incorporating beneficial biodiversity designs within developments.

Sequencing of works

A logical sequence of events will be observed and phased as follows.

Table 9: Sequence of Events

Stage	Event
Stage 1	Carry out tree works as specified within the summary of t works
Stage 2	Installation of protective measures in accordance wi approved tree protection plan
Stage 3	Pre-commencement site meeting
Stage 4	Construction site set up
Stage 5	Undertake and complete construction works
Stage 6	Removal of all machinery and materials from the site
Stage 7	Dismantle and remove protective measures
Stage 8	Undertake external landscaping works within the constructic exclusion zones
Stage 9	Sign off from Project Arboriculturist

Protective Measures

Protective measures are to be installed immediately after the tree works are completed. They are to be sited and aligned in accordance with the tree protection plan (Arbtech TPP 01) before the commencement of any works or the introduction of any machinery or material to the Site.

Upon installation of the protective measures around the retained trees, the Project Arboriculturist will visit the site to inspect and document the position and specifications of the protective measures.

If the protective measures and their positions do not comply with this arboricultural method statement document number Arbtech AMS 01 (31 January 2024) and tree protection plan drawing number Arbtech TPP 01, the Project Arboriculturist shall inform the client and fencing contractor so adjustments can be made.

When the protective measures comply with document number Arbtech AMS 01 (31 January 2024) and tree protection plan drawing number Arbtech TPP 01, the Project Arboriculturist will sign off the protective measures in writing to the client and will send a copy to the client (or site agent) and the local authority tree officer.

If the protective measures become damaged or any accident or emergency involving trees, these areas will be cordoned off immediately with high visibility plastic mesh fencing. The client (or site agent) is to photograph and document the damage and inform the Project Arboriculturist immediately after the incident. All work within this area will cease until the Project Arboriculturist has visited the site. Any damaged sections of protective measures shall be replaced within 48 hours of the initial incident.

The protected area must not be used for storing materials, mixing concrete or other products, accessing machinery, equipment, or pedestrians or in any other way disturbed by construction activity.

The protective measures will remain in place until the completion of stage 6 (see Sequencing of Works). Thereafter, they will be carefully dismantled only with the agreement of the Project Arboriculturist and the local authority tree officer.

The existing site boundary measures are to be retained for the duration of the development. If, for any reason, the existing boundary measures are not to be used, protective barrier fencing is to be installed along the line of the boundaries. It is only to be removed upon the Project Arboriculturist's written permission upon the development's completion or immediately before the installation of the permanent boundary measures.

The proposed hard surfacing is to be installed immediately to act as ground protection. Where it is decided that this is not a viable option, these areas are to be covered by ground boarding as designed by the project engineer to cope with any likely loading.

No equipment, vehicles or plant shall operate beyond the tree protection fencing. Booms, hoists, and rigs should always be kept as far away from the canopies of retained trees. Where it is necessary to operate within 5 m of a tree canopy, it will be done with the utmost caution and under the control of a banks man. Damage to trees will be considered a breach of this tree protection plan, which could be a breach of planning permission.

Construction Exclusion Zone

A construction exclusion zone (CEZ), designated by the protective barrier fencing, is an area where there will be no construction activity. Access to the area for construction personnel or machinery is strictly prohibited unless detailed in the tree protection plan, and there is no scope for materials or waste storage, welfare facilities, etc. There may be some construction activities planned for these areas (e.g. the installation of service trenches). These activities will be undertaken under direct, on-site arboricultural supervision.

Protective Barrier Fencing

Protective barrier fencing should be appropriate for the intensity and proximity of the development to protect trees where development activity is nearby.

Default specification: To comprise either a 2.4 m wooden site hoarding or a 2.3 m high scaffold framework, well braced to resist impacts, with uprights to be spaced at a maximum of 3 m intervals and driven into the ground by a minimum of 600 mm. Standard anti-climb welded mesh panels are to be securely fixed to each other with at least two scaffold clamps and to the scaffold framework with wire.

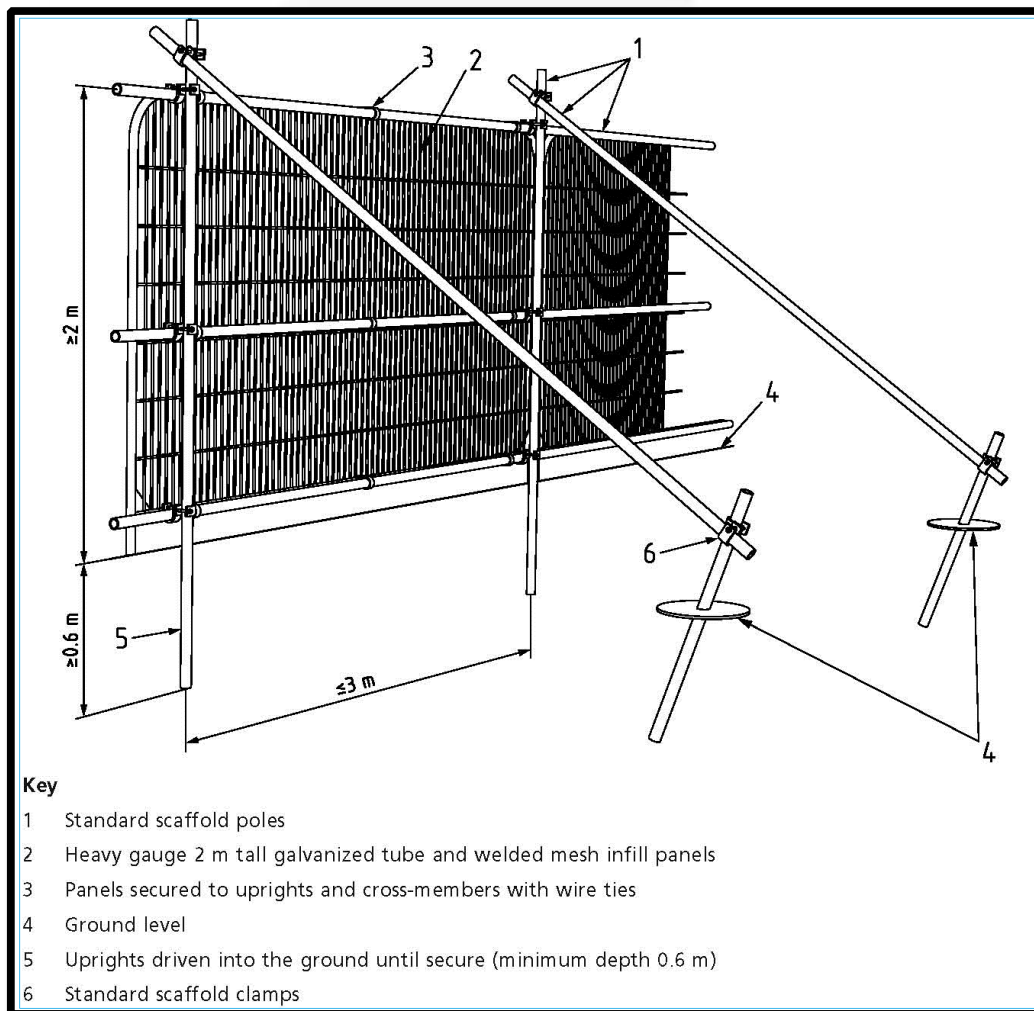


Figure 3: Default specification for protective barrier fencing (BS5837).

Secondary specification: To comprise 2 m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers installed so that they can only be removed from inside the fence. The panels

will be supported on the inner side by stabiliser struts, which will be attached to a base plate and secured with ground pins.

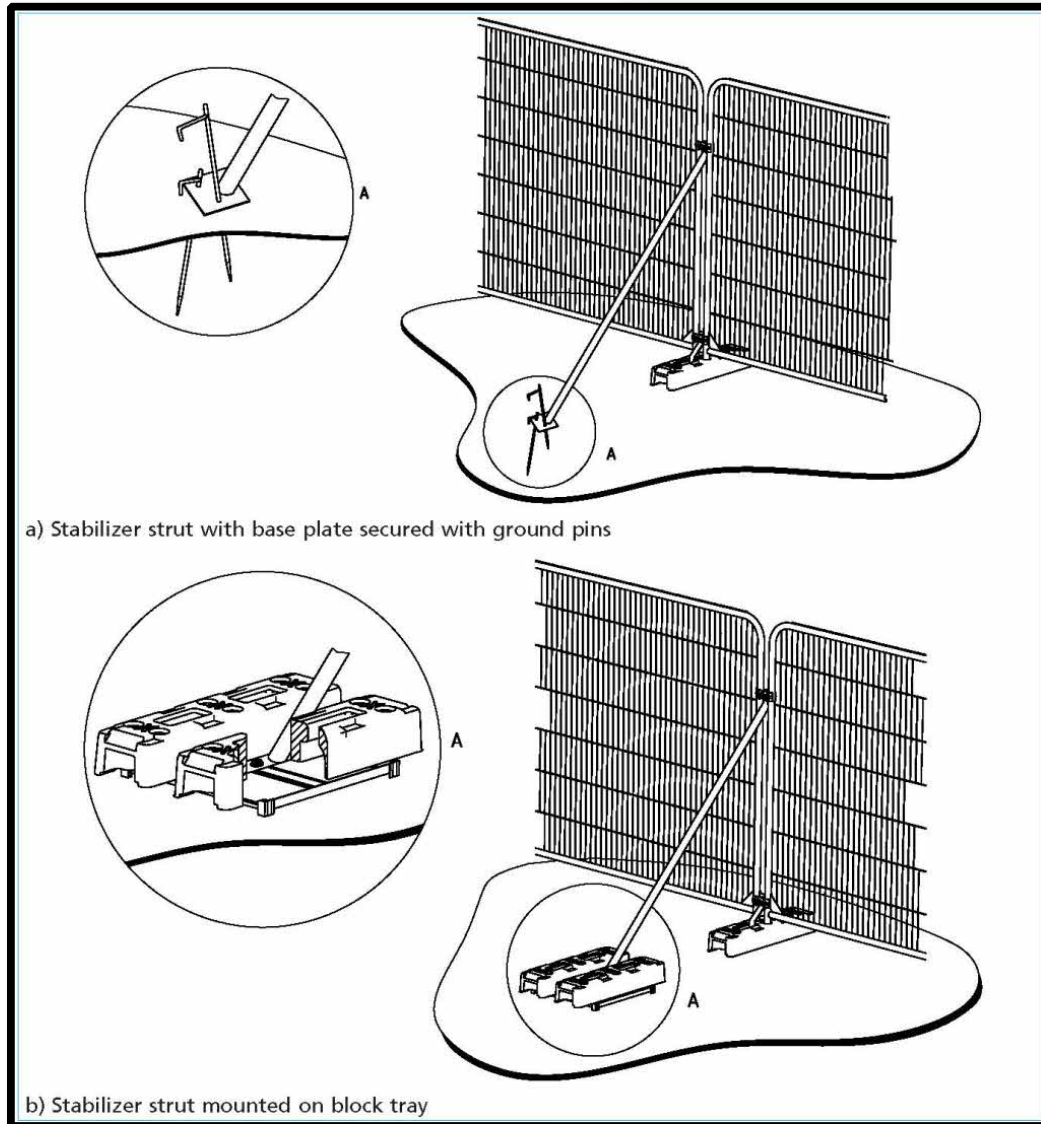


Figure 4: Examples of protective barrier fencing with above-ground stabilising systems (BS5837).

Signage denoting "*tree protection area*" at 5 m intervals will be fixed to the protective barrier fencing (See Appendix 2).

Protective Barrier Fencing (Pedestrian)

To comprise 1.1 m to 1.2 m tall welded mesh or plastic interlocking panels on fixed legs or a flat base plate. Panels are to be joined together using integral couplers.

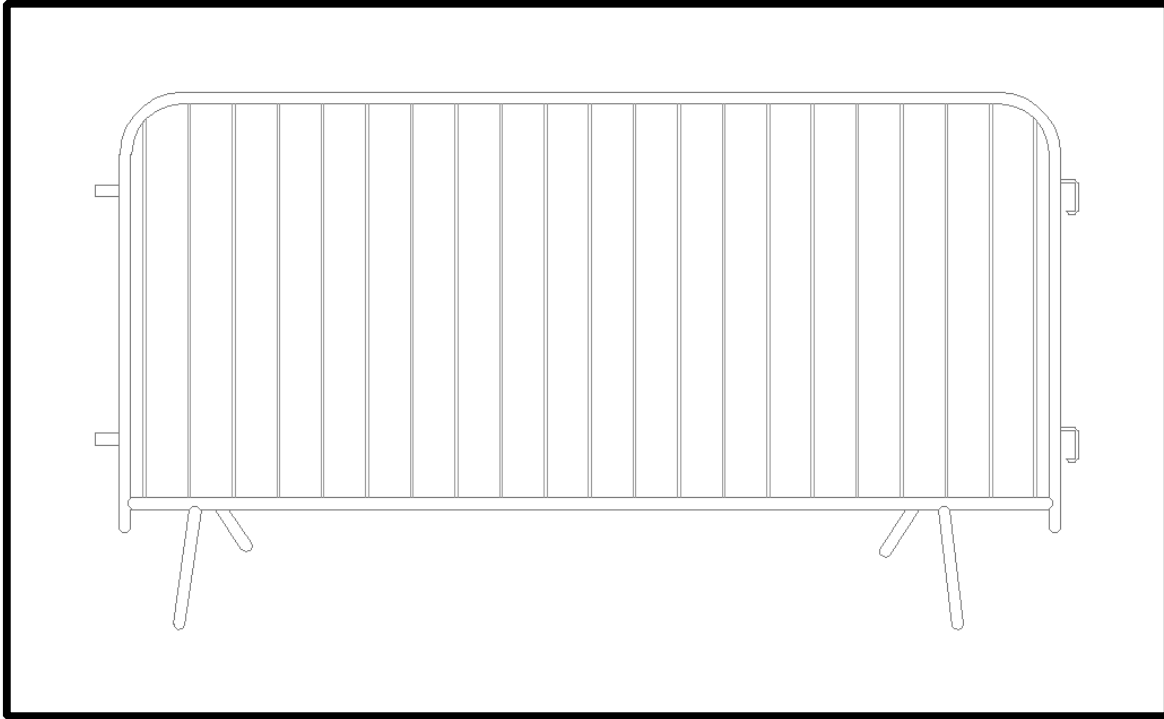


Figure 5: Heras pedestrian barriers

Protective fencing is to be removed **ONLY** with the written permission of the Project Arboriculturist.

Ground boarding

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

Where it is determined by the project engineer that any hard surfacing is not adequate protection from any expected loading, ground boarding is to be installed to the engineer's specification on top of the hard surfacing within the root protection areas of retained trees.

Where machinery will be stored or used from the ground boarding within the RPAs of the retained trees, an impervious barrier and bunding to prevent oils, fuel, or chemicals is to be installed to prevent leaching into the soil within or adjacent to the RPAs.

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, 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 system 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.

For any situations other than those described in a) or b) (as above), the ground boarding is to be designed by a suitably qualified person to an engineering specification in conjunction with arboricultural advice to be suitable for supporting the expected loading to be placed upon it.

In all cases, the objective of the ground boarding is to avoid compaction of the soil beneath so that tree root functions remain unimpaired.

No contractors have been approached, so knowing exactly what equipment they have available and will use is impossible.

Due to the various sizes of demolition and construction plant available and the potential requirements for material storage within the site, the final specifications for the ground boarding is to be designed and supplied to the Project Arboriculturist for their approval by the project engineer a minimum of ten working days before its installation.

Construction

Before the construction of the proposed development, a copy of the construction method statement will have been submitted and approved by the Project Arboriculturist to ensure no conflict with this method statement.

All excavations and construction work within or immediately adjacent to RPAs or canopies of retained trees is to be undertaken under the direct on-site supervision of an arboriculturist.

Hard Surfacing

New hard surfacing within the RPAs of retained trees must be designed in conjunction with arboricultural advice to accommodate the likely loading. The design will not require excavation; however, removing the turf layer or other surface vegetation may be acceptable if necessary, but ideally, the construction will be situated entirely above the existing ground level.

Appropriate options for the sub-base of hard surfacing situated within the RPAs of retained trees include multi-dimensional confinement systems (CellWeb™ or similar). Alternatively, piles, pads or elevated beams can be used to bridge over the RPAs or, following exploratory investigations to determine location, to provide support within the RPAs while allowing retention of roots of 25 mm or greater in diameter.

An exploratory investigation will be undertaken manually under arboricultural supervision using hand tools (See Manual excavation).

Before installing the hard surfacing within the RPAs, vegetation may be removed using hand tools or sprayed with an approved non-residual herbicide such as 'Glyphosate'.

NB: Using a multi-dimensional confinement system will affect the finished level of the hard surfacing by raising the levels and needs to be considered when designing foundations and setting the finished floor level of adjacent buildings.

Multi-dimensional confinement system

If a multi-dimensional confinement system (such as CellWeb™ or similar) is to be used, it is to be laid entirely above the existing soil surface over a geotextile membrane and or a bi-axel geo-grid (such as Tensar TriAx). Before this, any small hollows on the surface may be filled with clean, sharp sand (not builders' sand) to a maximum depth of 150 mm. The 'CellWeb' will be back-filled by hand with a no-fines aggregate of 20 mm –30 mm. Using an excavator/machinery to fill the confinement system may be possible at the discretion of the Project Arboriculturist.

The area of 'CellWeb' shall be covered with permeable geotextile fabric, and the finished wearing course will be laid on top. The wearing course shall be permeable to water and air to comply with 'SUDS' regulations.

Edge supports of an appropriate size and strength will be set above ground level and secured with either haunching or steel pins driven into the ground. The outer edge of the supports may be banked up with clean topsoil.

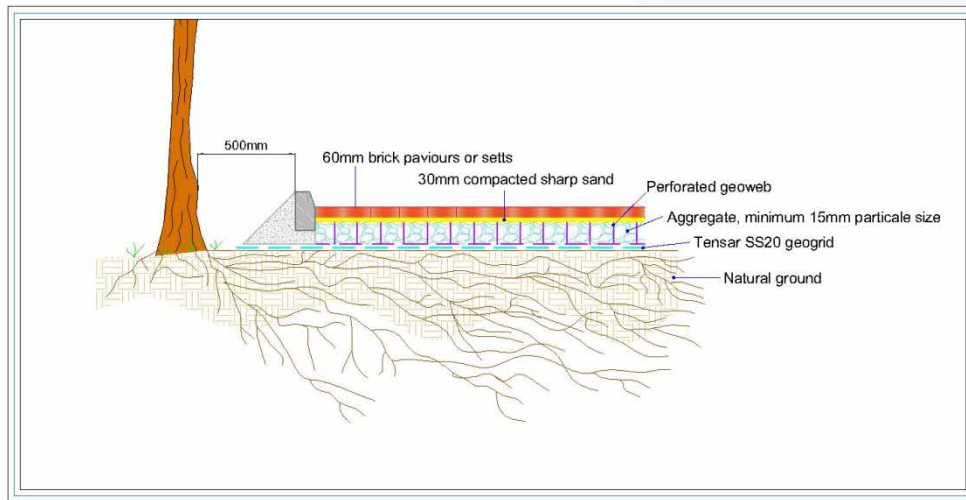


Figure 6: Typical cross-section for multi-dimensional confinement system using kerb edging

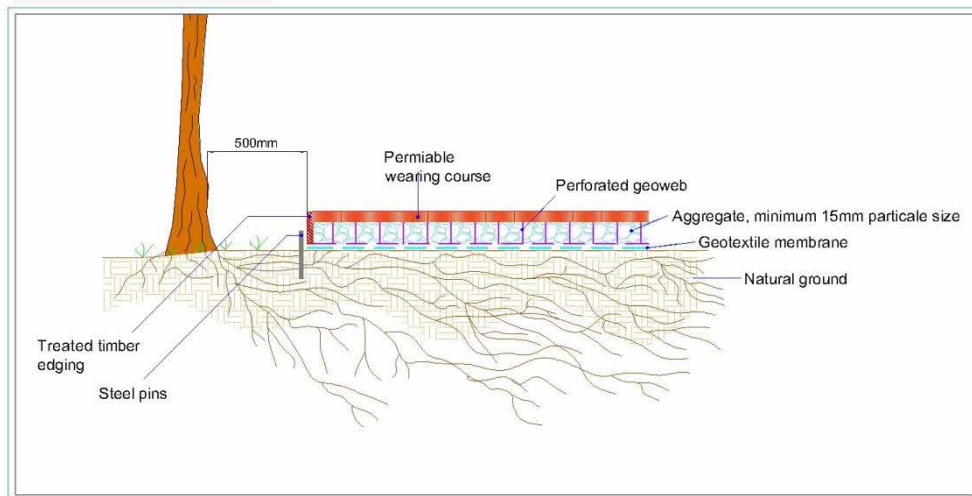


Figure 7: Typical cross-section for multi-dimensional confinement system using timber edging

Multi-dimensional confinement system

If a multi-dimensional confinement system (such as CellWeb™ or similar) is to be used, it is to be laid entirely above the existing soil surface over a geotextile membrane and or a bi-axel geo-grid (such as Tensar TriAx).

Based on the use of the design the hard surfacing, the proposed use is for a footpath (pedestrian access) and a road (vehicular access); Geosynthetics Limited recommends

within the product data sheet CellWeb® TRP weight capabilities' that a cell depth of 75 mm (pedestrian use) to 200 mm (vehicular access to include emergency access vehicles and HGVs) of their product CellWeb® TRP would be possibly suitable for the proposed use.

As a part of the design process and to allow Geosynthetics Limited to be able to calculate the correct depth of CellWeb® TRP, please get in touch with the Geosynthetics engineers.

Installation of a multi-dimensional confinement system

a) Prepare the surface

Remove any surface rocks and debris;

Create a level surface by filling in any hollows with clean angular stone or sharp sand;

Do not level off any high spots or compact the soil through rolling.

b) Layout Geotextile membrane

Layout the permeable Geotextile membrane, overlaying edges of the required area by 300 mm;

Overlap any joints by 300 mm or more.

c) Layout multi-dimensional confinement system (MDC)

Layout the collapsed MDC system on-top of the Geotextile membrane;

Place one steel pin into the centre cell at one end of the panel and secure it into the ground;

Pull out the MDC to its full length (see manufacturers specifications), place a steel pin in the centre at the opposite end and secure it into the ground;

Pull out the MDC to its full width (see manufacturers specifications), and secure each corner into the ground with steel pins;

Create a panel to the correct size using the required number of steel pins (as per the manufacture specifications);

Makes sure all cells are fully extended (as per manufactures specifications);

Staple adjacent panels together (as per manufacturers specifications);

If a curved shape is required, the panels are to be cut down to the required size and shape once the MDC is pinned out. Do not curve or bend panels into place.

d) Infill with clean angular stone

The infill material must be a clean (no fines) angular stone (as per manufactures specifications)

Do not use MOT type 1 or crushed stone with fines within or adjacent to RPAs; Infill the MDC cells with clean angular stone, working towards the tree using the infilled panels as a platform;

No compaction is required of the infill. Do not use a whacker plate, roller, or any other means of compaction.

e) Edge restraints

All kerb edging will be situated on top of the MDC within RPAs, do not excavate within RPAs to install kerb edging;

Where edging is required for light structures, a peg and treated timber board edging is normally acceptable;

Other options include wooden sleepers, plastic, or metal edging;

The outer edges of the supports may be banked up with clean topsoil and or mulch.

f) Wearing course

Install a permeable geotextile membrane, overlapping any joints by 300mm before laying the wearing course;

Surfaces can include block paving, asphalt, loose gravel, resin-bound gravel, concrete etc.;

Within RPAs the wearing course shall be permeable to both water and air.

Manual excavation

Excavation within RPAs will be undertaken by hand under direct on-site arboricultural supervision of the required depth of the foundation Or to a minimum of 600mm deep of any excavation, whether for proposed foundations, hard surfacing, or underground services. The arboriculturist will determine the total depth of the manual excavation whilst on site.

The soil will be loosened with a fork or pickaxe and cleared with an air spade, air vac, and shovel. The Project Arboriculturist will cleanly sever any roots found with a hand saw or secateurs.

The Project Arboriculturist shall cleanly sever any roots found with a diameter of less than 25 mm. Any 25 mm and above roots shall be excavated without damaging them; the Project Arboriculturist shall decide if retaining the root is feasible or necessary. If not, it shall be severed.

The edge of the excavation closest to the trees will be covered with damp hessian to prevent soil collapse or contamination by concrete.

The soil beneath the depth may be sheet piled, regular piled or excavated deeper. Machinery may be used for this, provided it is situated outside of the RPA or has appropriate ground protection to move around and work upon.

Prohibition

Mechanical digging or scraping is prohibited within a defined root protection area or areas cordoned off by protective barrier fencing.

No access will be permitted within the protected areas;

No materials, equipment or debris will be stored within any of the fenced areas or against the fencing;

Fires are not permitted within 10 m of any vegetation.

Leaning objects against or attaching objects to a tree is not permitted.

Machinery, plant, and vehicles cannot be washed down within 10 m of vegetation.

Chemicals and materials should not be transported, stored, used, or mixed within a root protection area or areas cordoned off by protective barrier fencing.

Cement silos and mixing sites are to be situated within a bunded area to prevent spillage/leaking of chemicals harmful to trees. These areas are to be sited well clear of protected trees.

Refuelling of plant or machinery is prohibited within 10 m of the construction exclusion zones.

Allowance must be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.

Where machinery is to be used within 5m of retained tree canopies, a banks man will be required at all times whilst setting up, moving, or operating within this distance of retained tree canopies.

Storage of all caustic material and chemicals is to be situated well clear of protected areas, preferably on lower ground if slopes are present, or within a bonded area to prevent any spills or leaks entering the ground.

Site Management

The site manager will be responsible for briefing and inducting all personnel who will be working on any stage of this development, especially those who will be working within or adjacent to the canopies or RPAs of retained trees, and will make them aware of and provide a copy of this method statement and tree protection plan drawing number Arbtech TPP 01; this is to include but not exclusively the movement and or operation of plant, excavations, unloading deliveries, mixing and or pouring of cement and concrete.

The site manager will be responsible for the day-to-day running and protection of all retained trees and for liaising with the project arborist about any tree-related matters and before any works that may or will affect the RPAs or canopies of retained trees; this is to include but not exclusively the movement and or operation of plant, excavations, unloading deliveries, mixing, pouring and storage of all caustic materials that may cause harm to retained trees.

Any incidents of damage to retained trees or tree protection measures will be documented by the site manager, who will then report these incidents to the Project Arboriculturist immediately and make sure that works within this area cease until the project arborist has had an opportunity to inspect the damage and where appropriate, agree on a mitigation plan with the local planning authority tree officer.

The site manager may designate another person to take charge of the briefing and inducting process of new site personnel or visitors in his absence.

If the site manager is replaced or is absent from the site for more than three consecutive working days, the project arborist will be informed, and a prestart meeting will be held with the new or acting site manager.

The site manager is responsible for ensuring that the planning conditions attached to the planning consent are always adhered to and that a monitoring regime and supervision of any works within or adjacent to the RPAs are adopted.

If pruning works are required other than those previously approved, permission must be sought from the LPA tree officer. Once permission is granted, they are to be carried out by a suitably qualified person in accordance with BS3998:2010 Tree work – Recommendations.

Services

Existing services within the site will be retained wherever possible. Where existing services within RPAs require upgrading, the utmost care must be taken to minimise disturbance, and where feasible, trenchless techniques are to be employed, and only where necessary should open excavations be considered.

Where new services are to be introduced into the site, they will be located outside RPAs, where they will not interfere with tree roots. If any excavations are required within the RPAs, all trenches are to be excavated by hand and radially to the tree trunks under direct on-site arboricultural supervision and are to be carried out under NJUG guidelines.

The final positions of any proposed services will be verified and approved by the Project Arboriculturist and local authority tree officer before implementation.

New Underground services

Trenching for the installation of underground services and drainage routes could sever any roots that may be present and adversely affect the tree's health. For this reason, particular care will be taken in routing and installation methods of all underground services. All underground services and drainage routes will be located so that no excavations are required within RPAs.

Where it has been impossible to keep underground services from passing through RPAs or within proximity to trees, these sections are to be installed in one of three ways in accordance with the guidance set out in National Joint Utilities Group guidelines (NJUG 4), under on-site arboricultural supervision.

Trenchless Techniques

There are three main types of trenchless techniques. These include guided and unguided boring and pipe replacement by lining or bursting. These allow for the installation, maintenance, or renewal of underground services without soil disturbance in which roots are likely to grow. Starting and receiving pits for the boring machinery are to be located outside the RPAs of any retained trees, with the bore depth being maintained at a minimum depth of 600mm below the existing ground level.

Techniques involving external equipment lubrication shall use no material other than water as other lubricants could contaminate the soil (e.g. oil, bentonite, etc.).

Manual Excavation

Excavation within RPAs will be undertaken by hand under direct on-site arboricultural supervision of the required depth of the foundation Or to a minimum of 600 mm deep of any excavation, whether for proposed foundations, hard surfacing, or underground

services. The arboriculturist will determine the total depth of the manual excavation whilst on site.

The soil will be loosened with a fork or pickaxe and cleared with an air spade, air vac, and shovel. The Project Arboriculturist will cleanly sever any roots found with a hand saw or secateurs.

The Project Arboriculturist shall cleanly sever any roots found with a diameter of less than 25 mm. Any 25 mm and above roots shall be excavated without damaging them; the Project Arboriculturist shall decide if it is feasible or necessary to retain the root. If not, it shall be severed.

The edge of the excavation closest to the trees will be covered with damp hessian to prevent soil collapse or contamination by concrete.

The soil beneath the depth may be sheet piled, regular piled or excavated deeper. Machinery may be used for this, provided that it is situated outside of the RPA or has appropriate ground protection in place to move around and work upon.

Broken Trench –Hand Dug

This technique combines trenchless techniques and manual excavation, where excavation is unavoidable. Excavations will be limited to where there is clear access around and below the roots. All trenches shall be excavated by hand with the same precautions for manual excavation. The open section of the trench will only be large enough to allow access for linking to the next section.

Landscaping

Landscaping around retained trees may only be carried out once all tree protection measures have been removed (planting, turfing, fencing, etc.).

All excavations within the Root Protection Areas shall be undertaken by hand and without reducing current ground levels unless agreed in writing with the LPA. At no time is a rotavator permitted within the RPAs of retained trees.

Any tree roots discovered will be left in situ and shall not be cut or damaged. Where possible, the soil structure within the Root Protection area shall be preserved.

No works will be carried out within the RPAs of any trees if the soil moisture is of such a level that soil compaction may be likely. Should the soil become compacted or have a poor structure, which would hinder the development of the existing trees and plants or any new plantings, the arboriculturist will be consulted about soil decompaction techniques.

Monitoring and Supervision

Where trees have been identified within this method statement and tree protection plan drawing number Arbtech TPP 01 for retention, there will be an auditable system of arboricultural monitoring. This extends to arboricultural supervision whenever demolition or construction activity occurs within or adjacent to any canopy or RPA.

The development's tree protection measures are to be monitored, and all demolition and construction works undertaken within or adjacent to the RPAs of retained trees are to be supervised by Project Arboriculturist, who will be retained to record and report observations to the council at appropriate intervals.

Pre-commencement site meeting

Before the commencement of any works or machinery and materials arriving on site, a pre-commencement site meeting involving the project arborist, landowner or agent, site manager, contractors and engineer (as appropriate) and the relevant LPA officers will be held to ensure that all aspects of the arboricultural method statement and tree protection are understood and for all parties to swap contact details (see Appendix 3).

Monitoring and supervision schedule

The initial monitoring visit will be to check that the tree protection measures are in the correct location and as specified within the approved method statement and, if so, to sign off on their installation.

Thereafter, monitoring visits are to occur at regular intervals to ensure that tree protection measures are in place and functioning as designed or whenever necessary to undertake works to be carried out under arboricultural supervision. The frequency of the monitoring visits is agreed upon with the LPA tree officer at the pre-commencement site meeting.

A record of all arboricultural monitoring and supervision visits will be kept, and any faults will be logged. This will then be copied to the site agent, developer, and local planning authority digitally.

If the development areas must be re-designed to require changes to the approved arboricultural method statement or tree protection plan and so affecting retained trees, the project arborist and LPA tree officer will be invited to attend a site meeting with all relevant parties. Before any changes are implemented, the LPA tree officer must have approved these in writing.

Supervision

The Project Arboriculturist will be required to attend the site to directly supervise all demolition and construction works that are to be undertaken within or adjacent to the RPAs of all retained trees and will be advised a minimum of 72 hours before the commencement of any works that require his attendance. These will include:

1. Pre-commencement site meeting.
2. Location of protective measures.
3. Supervised demolition of existing concrete hard surfacing and application of broken material and replacement gravel within RPAs of tree nos. 3, 4 and 6.
4. Installation of 'No Dig' sub-base within the RPA of tree no. 1.
5. Any demolition and or excavations within or adjacent to RPAs, including foundations, hard surfacing or underground services (a non-exhaustive list).
6. Arboricultural sign-off and removal of protective measures.

Completion meeting

Once all construction works have been completed and all materials and machinery have been removed from the site, the project arborist shall be informed and will invite the LPA tree officer to meet on-site to discuss the process and any final remedial works that may be required and sign the development off so that the protective measures may be removed.

Appendix 1: Tree Survey Schedule

Tree No.	Species	Height (m)	Trunk Diameter (mm)	Canopy Spread (m)	Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	Comments	Category
1	Corkscrew willow	4m	280mm 220mm	N2m E1m S1.5m W2m	1.5m	Early-mature	Average	Moderate	Recently pollarded; twin-stemmed from 0.5 m; growing within hedge.	C (2)
2	Himalayan tree-cotoneaster	2.5m	100mm	N1.5m E2m S1m W1.5m	1.5m	Early-mature	Average	Moderate	Strapped to gate post; stem angle oriented eastward over garden footpath.	C (2)
3	Rowan	3.5m	180mm	N2m E3m S2m W3m	1.5m	Mature	Average	Moderate	Growing on boundary next to concrete driveway.	C (1)
4	Rowan	4.5m	210mm	N2.5m E3m S2m W3m	1.5m	Mature	Average	Moderate	Growing on boundary next to concrete driveway.	C (1)
5	Norway spruce	3.5m	2 stems @ 100mm#	2m	0.5m	Semi-mature	Average	Moderate	Ownership unclear; twin-stemmed from 0.5 m.	C (1)
6	Sycamore	6.5m	240mm ivy	4m	2m	Semi-mature	Average	Moderate	Growing on boundary next to concrete driveway; previously pruned to clear overhead cables.	C (1)

Tree No.	Species	Height (m)	Trunk Diameter (mm)	Canopy Spread (m)	Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	Comments	Category
7	Common Hawthorn	4m	80mm	N2m E1m S0m W2m	2m	Semi-mature	Average	Moderate	Growing close to boundary within gravel bed near garden shed; imbalanced crown.	C (1)
8	Common Hawthorn	4.5m	80mm 130mm	N1m E3m S1.5m W1m	1.5m	Semi-mature	Average	Moderate	Growing close to boundary within gravel bed near garden shed; imbalanced crown.	C (1)
9	Elder	5m	150mm#	3m	2m	Mature	Average	Moderate	Heavily ivy covered; off-site tree; dimensions estimated.	C (2)
10	Wild cherry	2.5m	150mm	3m	1.5m	Mature	Average	Moderate	Heavily ivy covered; off-site tree; dimensions estimated.	C (2)
11	Yew	2m	100mm#	NE1m SE2m SW1m NW2m	0m	Semi-mature	Average	Moderate	Dimensions estimated; topiarised to box shape.	C (2)
12	Sycamore	11m	350mm#	6m	2m	Early-mature	Average	Moderate	Off-site tree; dimensions estimated.	B (12)
13	Apple	5m	270mm	3.5m	1.5m	Mature	Average	Moderate	Growing within lawn near boundary.	B (12)
14	Apple	5m	290mm	4m	2m	Mature	Average	Moderate	Growing within raised planting bed near boundary and pond.	B (12)

Tree No.	Species	Height (m)	Trunk Diameter (mm)	Canopy Spread (m)	Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	Comments	Category
G1	Elder	4.5m	Max 130mm	N1m E3m S1.5m W1m	1.5m	Semi-mature	Average	Moderate	Growing close to boundary within gravel bed near garden shed; imbalanced crown.	C (1)
H1	Various	5m	Max 150mm	1m	0m	Young to early-mature	Average	Moderate	Mixed species hedge; species include holly, plum, yew and sycamore.	C (2)
H2	Various	2m	Max 30mm	1m	0m	Young to early-mature	Average	Moderate	Mixed shrub species hedge.	C (2)
H3	Various	3m	Max 30mm	1m	0m	Young to early-mature	Average	Moderate	Mixed shrub species hedge.	C (2)
H4	Leyland cypress	4m	Max 150mm#	1m	0m	Semi-mature	Average	Moderate	Off-site Leyland cypress hedge.	C (2)
H5	Lawson cypress Ellwoodii	2m	Max 100mm	1m	0m	Semi-mature	Average	Moderate	Linear group of cypress.	C (2)
H6	Various	2.5m	Max 100mm	1m	0m	Early-mature	Average	Moderate	Mixed species shrub hedge.	C (2)

Appendix 2: Tree Protection Notice

(To be printed at A3 or larger)

Tree Protection Area

KEEP OUT

Do not move this fence

(TOWN & COUNTRY PLANNING ACT 1990)

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR
ARE THE SUBJECT OF A TREE PRESERVATION ORDER.


CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL
PROSECUTION

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION
OF THE LOCAL PLANNING AUTHORITY



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5. Appendix 3: Contact Details

Name	Position	Company	Contact
	Client		
	Agent / Project Manager		
	Tree Officer		
	Project Arboriculturist	Arbtech Consulting Ltd.	
	Site Manager		
	Main contractor		

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6. Document Production Record

Document number	Editor	Signature	Position	Issue number	Date
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