ARBORICULTURAL METHOD STATEMENT
to BS 5837:2012
at
Clough Hey
Manchester Road
Marsden
West Yorkshire
HD7 6DW

Client:
S B Homes

Client Address:
4 Brougham Road
Marsden
Huddersfield
West Yorkshire
HD7 6BN

Client Telephone:
01484 844311

JCA Ref:
14371-A/AJB

JCA Limited
Arboricultural & Ecological Consultants

Contents

1. Introduction

1.1 Purpose of the Method Statement

1.1.1 This Arboricultural Method Statement has been prepared to ensure good practice in the protection of retained trees during the development at **Clough Hey**, **Manchester Road**, **Marsden**.

1.2 Terms of Reference

1.2.1 JCA Limited is instructed by **S B Homes** to prepare an Arboricultural Method Statement for the proposed development, based on our arboricultural report dated 16th October (JCA Ref: **14371/AJB**). The arboricultural survey and report conforms to the most recent specifications outlined in BS 5837: 2012 *Trees in relation to design, demolition and construction - Recommendations*.

1.2.2 It is proposed to construct a detached, two-storey dwelling with associated access driveway and areas of hard and soft landscaping.

1.2.3 The following drawings have been provided and these are the basis of the Arboricultural Method Statement and the Tree Protection Plan at **Appendix 5**:

- Topographical Survey (Drawing Ref. **CLOUGH HEY 01A**).
- Development Layout (Drawing Ref. **CLOUGH HEY 02D**).

1.3 Status of the Method Statement

1.3.1 This Arboricultural Method Statement should be included as part of the specification and schedule of works issued to the building contractor, and can form part of the contract.

1.3.2 This Arboricultural Method Statement should be available on site for inspection by the local authority, contractors and other relevant persons.

2. Tree Works Prior, During and Post Construction

2.1 Tree Works Prior to Construction

2.1.1 Prior to any construction activity, the first operation on site will be the undertaking of the necessary arboricultural works, as described at **Appendix 1**.

2.1.2 The tree works include the removal of **T2, T4** and **T5**, to facilitate the proposed development.

2.2 Tree Works During/Post Construction

2.2.1 In this case, no tree works are envisaged to be required during or after the construction phase.

2.2.2 Damage to trees during the construction phase will be entirely prevented by the installation of the temporary protective barrier (fencing and ground protection), to create a Construction Exclusion Zone (CEZ). All persons on site must be aware of limitations that apply within the CEZ (please refer to **Section 3.1.3**).

2.2.3 If any trees on site are damaged, this must be immediately reported to JCA to agree on appropriate remedial action. Contact numbers for all parties can be found at **Section 7**.

2.3 Recommendations For Tree Works

2.4.1 All work must be undertaken to BS 3998: 2010 - *Recommendations for tree work* and carried out by qualified, experienced and, ideally, Arboricultural Association approved contractors who must be adequately insured.

2.4.2 Any defects seen by a contractor or the client that were not apparent to the consultant must be brought to the attention of JCA immediately.

2.4.3 No liability can be accepted by JCA in respect of the trees unless the recommendations of this Method Statement are carried out under our supervision.

3. The Protective Barrier Prior, During and Post Construction

3.1 Protective Barrier Prior to Construction

3.1.1 The installation of the temporary protective barrier will be the very first job to be undertaken on site following the completion of the tree works (**Section 2.1**). This barrier may comprise of protective fencing, ground protection, or a combination of both, as detailed below and in **Section 3.2**.

3.1.2 The protective fencing must be constructed in accordance with BS 5837: 2012 *Trees in relation to design, demolition and construction - Recommendations* and will be located as shown in a purple line on the Tree Protection Plan at **Appendix 5**. Where possible, the protective barrier will enclose the entire Root Protection Area (RPA) of the trees to make a Construction Exclusion Zone (CEZ); **this area is to be considered a restricted area; no pedestrians, vehicles, equipment or machinery are allowed within the CEZ and the storage of materials is not permitted, unless specified within this Method Statement**.

3.1.3 The protective fencing will be installed in accordance with BS 5837: 2012 and will comprise of a vertical and horizontal scaffold framework, well braced to resist impacts. The vertical tubes should be spaced at a maximum interval of 3m and driven securely into the ground, taking care to avoid underground services and structural roots. Finally, weld mesh panels are to be securely fixed on the scaffold framework. Please refer to **Appendix 2 (Fig 1)** for protective fencing details.

3.1.4 Once the fencing is installed, waterproof signs with the sentence '*Protected tree zone, no storage or operations within this are*a' are to be placed at 3m intervals to ensure that all personnel are aware of the restrictions that apply to the cordoned off area. A prepared sign is available at **Appendix 2**.

3.1.5 Once installed, the appointed arboriculturalist will be invited on site to inspect the protective fencing and ground protection, ensuring that it is located in the correct position and that it has been constructed in accordance with this Method Statement. No other work, including soil stripping, excavation, or the bringing onto site of materials or machinery, shall commence until the barrier is installed and confirmed to be acceptable by the appointed arboriculturalist.

3.1.6 It is important that the protective fencing be checked by the LPA or an arboricultural consultant prior to any construction works being carried out on site. **If the protective fencing is not correctly installed or if it does not comply with BS 5837: 2012, this could result in damage being caused to trees and consequently, a stop notice may be served by the LPA.**

3.2 Ground Protection

3.2.1 Where it is not possible to enclose the entire RPA of a tree with protective fencing, it will be necessary to lay appropriate ground protection in the location shown in brown shade on the plan at **Appendix 5**, which, in combination with the fencing described in **Section 3.1**, will comprise the protective barrier.

3.2.2 The ground protection will be installed prior to construction and retained until the material completion of development. The purpose of the ground protection is to enable site traffic to pass over the RPAs of trees, whilst minimizing compaction and disturbance of the underlying soil which can lead to root asphyxiation and damage.

3.2.3 As only pedestrian traffic and light machinery is required to pass over the RPA (no more than 2 tonnes in weight), a porous, thin geotextile membrane will be laid over the exposed area. A layer of sharp sand or woodchip, no less than 150mm in depth will be evenly spread over the geotextile and **must not** be compacted by mechanical means. Scaffold boards will then placed on top of this. This is relevant to **T1**and **T3**. This construction detail will provide adequate ground protection for pedestrian traffic and the use of light machinery.

3.2.4 In order to afford ground protection to the area shown in blue shade on the plan at **Appendix 5** during the construction phase, the no-dig hard standing which is detailed in **Section 4.3** must be installed prior to the onset of the erection of the proposed building.

3.3 Protective Barrier During Construction

3.3.1 No operations shall take place which require the removal of part of the protective barrier without prior agreement with the Local Planning Authority or JCA.

3.3.2 The protective barrier must be inspected for faults or damage by the site manager or other responsible named person on a regular basis and a written record kept. Any faults or defects must be repaired or replaced as soon as is reasonably practicable. Details of the site manager and relevant contact details can be found at **Section 7**.

3.4 Removal of the Protective Barrier

3.4.1 When the development phase is complete and the main site machinery has been removed, the Local Planning Authority should be invited to inspect the site to give approval for the removal of the protective barrier.

3.4.2 When this approval has been given the protective barrier may be dismantled and removed from site.

3.4.3 It should be noted the same restrictions apply to all RPAs as the CEZ (please refer to **Section 3.1.3**).

4. Construction Phase

4.1 Demolition Works

4.1.1 No demolition works are required adjacent to retained trees.

4.2 Ground Level Changes

4.2.1 No ground level changes are required within the RPA of any tree to be retained on this site. As such no mitigation actions are considered necessary.

4.3 Construction of Hard Surfaces

4.3.1 A hard surface, in the form of an access driveway, is proposed within the RPA of **T1** and **T3** within the area shown in blue shade on the plan at **Appendix 5**. A no-dig method of construction will therefore be implemented at the initial phase of the construction phase, prior to the erection of the proposed building, in order to prevent damage to tree roots.

4.3.2 First, any minor undulations in ground levels (e.g. pot holes) will be filled-in using suitable top soil or sharp sand, to create a level surface. No excavation will be utilised to achieve a level surface.

4.3.3 Following this, a thin geotextile membrane will be placed on the soil and pegged/pinned into position. A three dimensional, cellular confinement system will be installed over the geotextile membrane and filled with no-fines, washed angular stone, no less than 4mm in diameter and to a minimum depth of 100mm. This may then be compacted using a plate compactor (wacker-plate) and utilised as ground protection for the retained trees.

4.3.4 In order to retain the surfacing in place, edging supports may be required. Such supporting systems will minimize disturbance to the underlying soil and will not utilise continual trenching within the RPA. Acceptable methods include peg and board edging, gabions or sleepers which may be pinned in place if required.

4.3.5 The final surface treatment must be porous to enable the percolation of water through the surfacing to the tree roots beneath. This method is considered to be appropriate in terms of minimising damage to retained trees. However, a structural engineer should be consulted to ensure that the mechanical needs of the chosen design are adequately met.

4.4 Construction of New Building

4.4.1 The proposed building is located at a sufficient distance from retained trees that no specialist foundation methods are required for arboricultural purposes.

4.5 Excavations and Services

4.5.1 Details on service routes are not available at this time. As such, no provision for the routing of utilities within the RPAs is made within the scope of this report. All utilities must therefore be located outside the RPA of retained trees. If, for whatever reason, incursions into the RPAs are considered unavoidable, the consulting arboriculturalist and/or the LPA must be consulted immediately, to prevent a breach of planning conditions and/or damage to retained trees.

4.5.2 Guidance and methodologies on the installation of underground services whilst minimising damage to tree roots is provided at **Appendix 3**.

4.6 Location of the Site Compound

4.6.1 The site compound, typically including the site office, mess facilities, toilets, storage of materials and parking, must be located away from, and outside the RPA of retained trees. Areas designated for the storage and/or mixing of chemicals, including petrol, diesel and oils must also be located away from, and outside the RPA of retained trees. Such areas should be constructed with consideration to, and contingencies for, the occurrence of spillages, preventing the leaching of chemicals into unprotected, open ground.

5. Post Construction Phase

5.1 Completion Meeting

5.1.1 Upon completion of the works as specified in **Section 4**, a JCA consultant will invite the Local Planning Authority representative to meet with them on site to agree on any remedial works which may be required.

5.1.2 Any necessary remedial works will be confirmed in writing and must be carried out in accordance with BS 3998: 2010 - *Recommendations for tree work.*

5.1.3 Due to the large potential penalties for illegally carrying out work to protected trees, JCA recommend that a further check is carried out prior to any works being undertaken post development.

5.2 Post Construction Landscaping

5.2.1 Following completion of the main construction phase, the protective fencing and ground protection may be removed and the landscaping phase can commence.

5.2.2 The retained trees on site may be subject to some form of landscaping or seeding beneath their canopies after the development phase. At this stage the protective barrier will have been removed and the property may be occupied.

5.2.3 Landscaping works must be carried out in such a way as to avoid ground level changes or deep digging within RPAs. Tractor mounted rotovation or other mechanised cultivation methods must not be used within the RPAs of retained trees.

5.2.4 Heavy machinery is not permitted in the vicinity of retained trees, unless otherwise stated in this method statement.

5.2.5 Herbicides should be appropriate for the purpose and should not be used in such a way as to damage any retained trees or vegetation.

5.2.6 If in doubt, regarding the impact of proposed landscape operations, please contact the appointed arboriculturalist.

6. Timescale of Works

6.1.1 The timescale for arboricultural requirements are summarised below:

Timescale	Action	✓	Initial
Stage 1	All requirements listed in the planning consent are approved by the Local Authority planning office.		
Stage 2	Undertake the tree works (as detailed at **Appendix 1)**.		
Stage 3	Install the temporary protective fencing around the trees (as detailed at **Appendix 2** and as shown on the Tree Protection Plan at **Appendix 5**).		
Stage 4	Install ground protection within the RPAs of those trees which are not fully protected by the fencing (as detailed in **Section 4**).		
Stage 5	Have the Local Planning Authority inspect the fencing and ground protection measures prior to any on site construction. Once inspected, the protective fencing and ground protection must not to be moved or breached.		
Stage 6	Construction Phase: Install permanent the driveway using the no-dig method of construction prior to the erection of the building (as detailed in **Section 4** and at **Appendix 4**). Undertake the construction of the new building.		
Stage 7	Following the completion of the construction phase and when all site traffic and machinery has left, the protective fencing and ground protection can be removed.		
Stage 8	Post construction remedial tree works to be undertaken (if required).		
Stage 9	Undertake the landscaping scheme.		

7. Relevant Contact Details

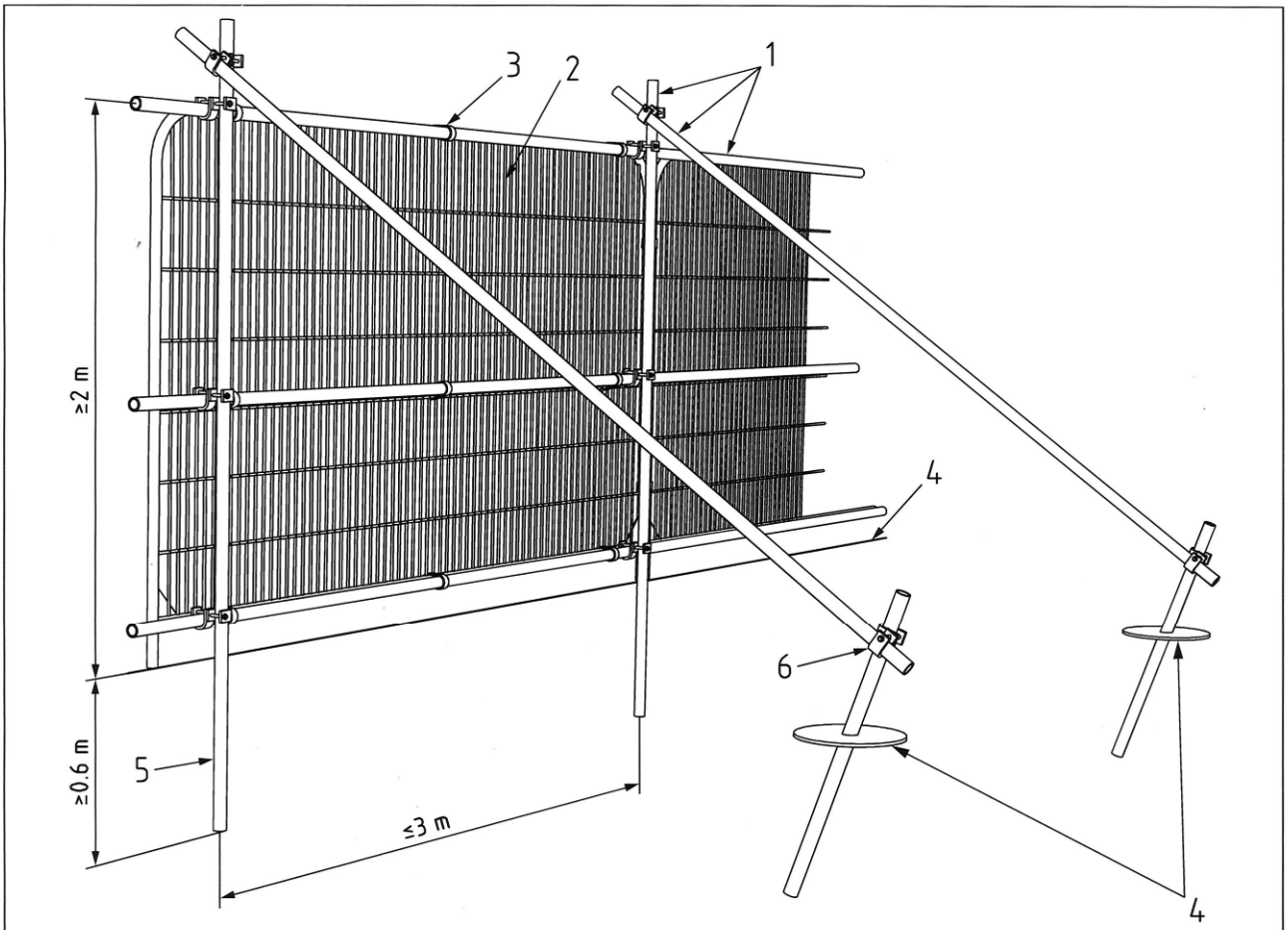
Contact Name	Organisation/Detail	Contact Number
Andrew Bussey Arboricultural Consultant	JCA Limited	01422 376335
Joe Robertson Tree Officer	Kirklees Metropolitan Borough Council	01484 221589
TBC Site Manager	TBC	TBC
Steve Mitchell	S B Homes	01484 803312

Appendices

Tree Ref.	Age Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 1	Mature Sweet Chestnut *Castanea sativa*	17	1	3 n/a	118	9# 6 8# 9	Situated on adjacent land overhanging the footpath and the road. Twin-stemmed at 2m with a balanced crown. Occasional pruning wounds. Minor decay to the main stem at 1.5m. Minor deadwood noted.	No action required.	GOOD	GOOD	MOD	MOD	40+	1 A 2
T 2	Young Elder *Sambucus nigra*	3	0	0 n/a	13	2.5 1 2 1.5	Growing close to the base of T3. Single-stemmed and leaning with an unbalanced crown. Occasional pruning wounds. Minor decay at 1.5m on main stem.	Remove to facilitate the proposed landscaping.	GOOD	GOOD	LOW	LOW	20+	C 2
T 3	Early-mature Sycamore *Acer pseudoplatanus*	18	5	5 n/a	61	7 3.6 5 8	Overhanging the footpath, road and streetlight. Twin-stemmed at 5m with a balanced crown. Occasional pruning wounds. No major visible defects. Epicormic growth to 4m.	No action required.	GOOD	GOOD	MOD	MOD	40+	1 B 2
T 4	Semi-mature Goat Willow *Salix caprea*	12	1	1.5 n/a	35	4.5 4.5 4.5 4.5	Twin-stemmed at 1.5m with a balanced crown. Occasional pruning wounds. No major visible defects.	Remove to facilitate the proposed building.	GOOD	GOOD	LOW	HIGH	40+	C 2
T 5	Young Goat Willow *Salix caprea*	4.5	0	0 n/a	To 7	3 3 3 3	Multi-stemmed at ground level with a balanced crown. Coppice on a stump.	Remove to facilitate the proposed landscaping.	GOOD	GOOD	LOW	HIGH	10+	C 2
G 6	Semi-mature to mature Mixed species *Details in observations*	To 20	0+	0+ n/a	To 70#	See plan	Situated on adjacent land. A reasonably good woodland group consisting of Lime sp. and Goat Willow. Not fully inspected under the remit of this report.	No action required.	GOOD	GOOD	MOD	MOD TO HIGH	40+	1 A 2

Appendix 2: Protective Barrier

A2.1 The protective barrier will be installed in accordance with BS5837: 2012. The default specification of BS 5837: 2012 (pictured below for reference) recommends a vertical and horizontal, scaffold framework, well braced to resist impacts, with vertical tubes at no more than 3m intervals. These should be driven into the ground. Weld mesh panels should be affixed to this framework with scaffold clamps.



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

Protective Barrier to BS 5837: 2012.

TREE PROTECTION ZONE

KEEP OUT!

TREES ENCLOSED BY THIS FENCE ARE PROTECTED
BY STRICT PLANNING CONDITIONS

ANY DAMAGE CAUSED TO THESE TREES MAY
RESULT IN **CRIMINAL PROSECUTION**

RESTRICTED AREA:

- THE PROTECTIVE FENCE MUST NOT BE MOVED OR BREACHED
- NO PERSON, MACHINERY, VEHICLE OR PLANT IS PERMITTED WITHIN THE TREE PROTECTION ZONE
- NO MATERIALS SHALL BE STORED WITHIN THE TREE PROTECTION ZONE
- NO EXCAVATIONS ARE PERMITTED WITHIN THE TREE PROTECTION ZONE
- NO SPOIL IS TO BE DEPOSITED WITHIN THE TREE PROTECTION ZONE
- NO FIRES ARE TO BE LIT WITHIN THE TREE PROTECTION ZONE

REPORT TREE DAMAGE TO JCA LIMITED ON
01422 376 335

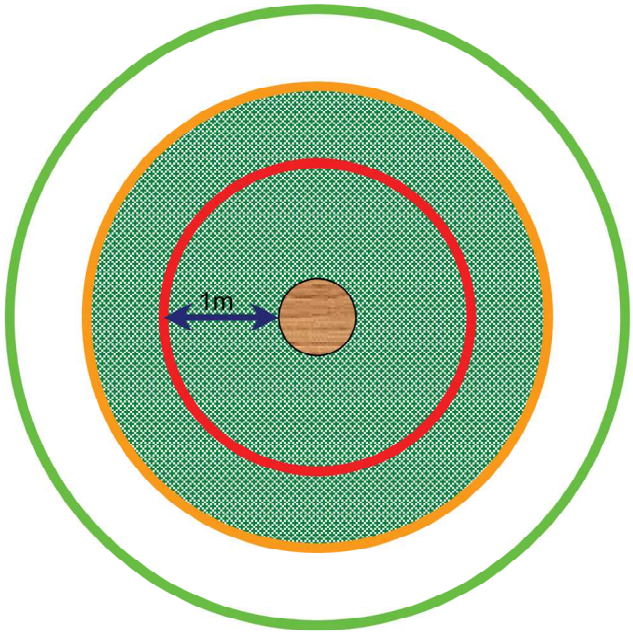
Appendix 3: Utilities and Drainage

A3.1 Over-ground services should be routed away from areas where they are likely to interfere with the crowns of trees. Similarly any landscaping should take account of over-ground services and mature tree size.

A3.2 Underground services must be routed outside the RPA of retained trees, unless otherwise specified within this report. NJUG Volume 4 Issue 2 (on the next page) is a set of accepted guidelines for installing services in the proximity of trees. Please note that this is not a substitute for site-specific advice by an arboriculturalist and consultation should be made wherever incursions of RPAs are envisaged. The contents of this report, specifically **Section 4.5**, supersede the set of guidelines on the next page, which are only included for reference.

The National Joint Utilities Group

NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2



TREE PROTECTION ZONE

Key to Diagram

Trunk of Tree

Spread of canopy or branches

PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.

PRECAUTIONARY ZONE – 4 x tree circumference. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with Local Authority Tree Officer if in any doubt.

PERMITTED ZONE – outside of precautionary zone. Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

Appendix 4: Permanent Hard Surfaces

A4.1 This Appendix outlines the options available for constructing No-Dig hard surfaces within the RPA of a tree. The design of such a construction needs to be sensitive to the requirements of tree roots, substantial enough to withstand the expected levels of traffic and practicable in terms of ease of fabrication (See **Section 4.3** for details)

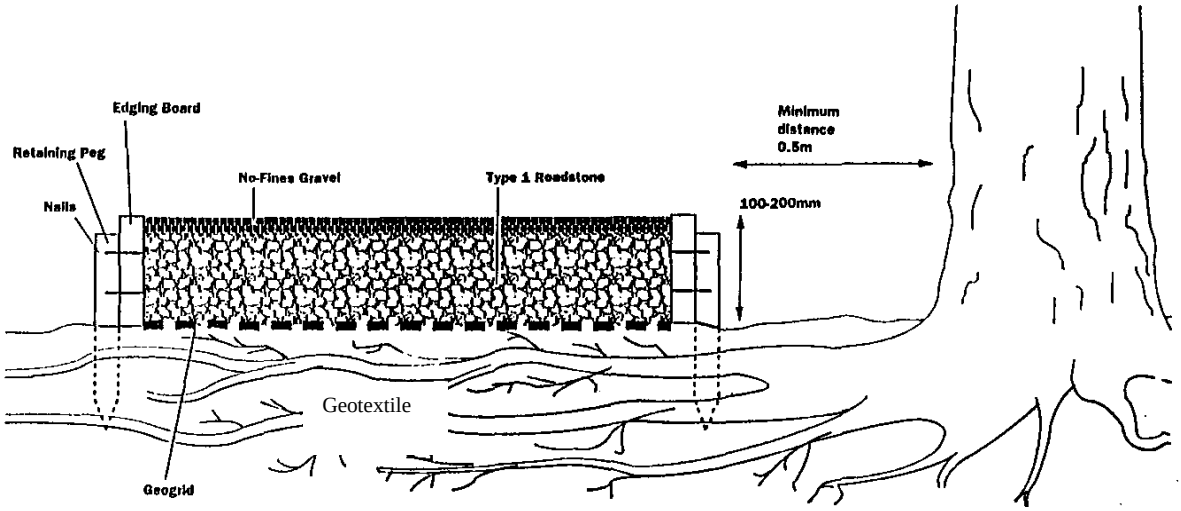
A4.2 We are not qualified to recommend any particular construction method in terms of durability or structural integrity and any proposed construction should be approved by a qualified structural engineer prior to implementation. However, with regards to trees, we make the following comments:

- Severance of roots and soil compaction should be avoided. However, if it is necessary to sever roots or if they are severed accidentally we must be informed so that we are able to assess and recommend accordingly.

- Air and water must be able to diffuse into the soil beneath the engineered surface. Toxic substances which could leach into the ground must be avoided, as should substances which affect the pH value of the soil, for example limestone.

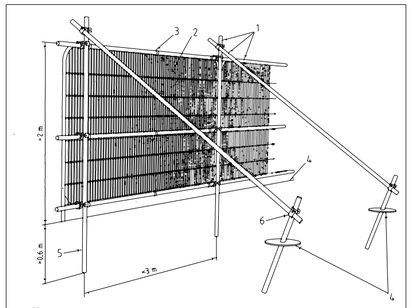
A4.3 **The No-Dig Method:** This involves construction of a surface with no excavation, soil stripping or site grading. All construction takes place above ground level. Preparation is as follows:

A4.4 Ground vegetation is killed using a suitable herbicide. Care must be taken to select a herbicide which does not damage the tree roots within the treated area. Once the vegetation has died, the dead organic matter should be removed. This helps prevent the future build up of anaerobic conditions or settlement due to decomposition.



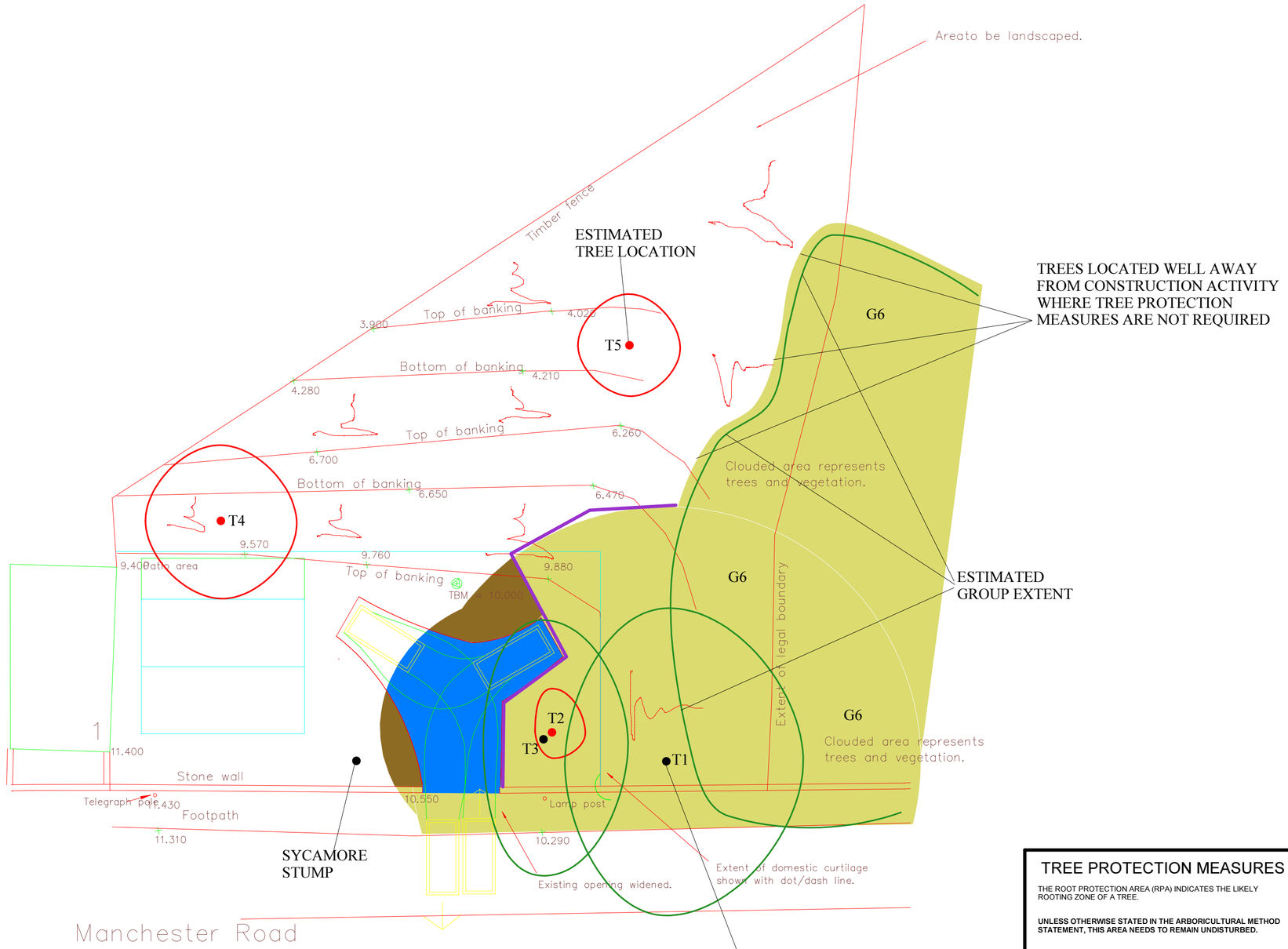
A light duty drive constructed using the ***No Dig Method.***

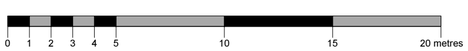
Default specification for a protective barrier



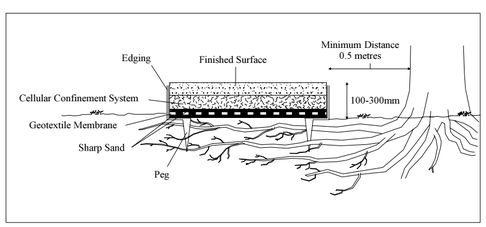
Key

1. Standard scaffold poles
2. Heavy gauge 2m 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 0.6m)
6. Standard scaffold clamps





An example of a 'no dig' road construction



TREE PROTECTION MEASURES

THE ROOT PROTECTION AREA (RPA) INDICATES THE LIKELY ROOTING ZONE OF A TREE.

UNLESS OTHERWISE STATED IN THE ARBORICULTURAL METHOD STATEMENT, THIS AREA NEEDS TO REMAIN UNDISTURBED.

TO ACHIEVE THIS, PROTECTIVE FENCING WILL BE INSTALLED TO ENCLOSE THE RPA TO MAKE A CONSTRUCTION EXCLUSION ZONE (CEZ);

THIS AREA IS TO BE CONSIDERED A RESTRICTED AREA; NO PEDESTRIANS, VEHICLES, THE STORAGE OF MATERIALS, EQUIPMENT OR MACHINERY ARE ALLOWED WITHIN THE CEZ, UNLESS SPECIFIED WITHIN THE ARBORICULTURAL METHOD STATEMENT.

WHERE IT IS NOT POSSIBLE TO ENCLOSE THE RPA WITH THE PROTECTIVE FENCING, GROUND PROTECTION MEASURES WILL NEED TO BE LAID TO MINIMIZE ANY GROUND COMPACTION AND ANY DISTURBANCE TO THE UNDERLYING SOIL.

THE PROTECTIVE BARRIER WILL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES TAKING PLACE AND WILL BE RETAINED IN PLACE UNTIL THE MATERIAL COMPLETION OF DEVELOPEMNT.

IT IS IMPORTANT THAT THE PROTECTIVE BARRIER IS CHECKED BY THE LPA OR THE ARBORICULTURAL CONSULTANT PRIOR TO ANY CONSTRUCTION WORKS BEING CARRIED OUT. IF THE TREE PROTECTION MEASURES ARE NOT CORRECTLY INSTALLED OR IF THEY DO NOT COMPLY WITH BS 5837: 2012, THIS COULD RESULT IN DAMAGE BEING CAUSED TO TREES AND CONSEQUENTLY A STOP NOTICE MAY BE SERVED BY THE LPA.

THIS PLAN MUST BE PRINTED IN COLOUR AND READ IN CONJUNCTION WITH THE JCA REPORT (JCA REF: 14371-A/AJB).

Appendix 5: Tree Protection Plan

ADDRESS: Clough Hey, Manchester Road, Marsden, West Yorkshire, HD7 6DW.
JCA REF: 14371-A/AJB.

SCALE: 1:200	PAPER SIZE : A2

SURVEYED BY: AJB	DRAWN BY: AJB	APPROVED BY: ME

	TREE TO BE RETAINED
	TREE TO BE REMOVED
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA (RPA)
	AREA OF RPA ENCROACHED BY PROPOSED HARD STANDING WHERE THE NO-DIG METHOD OF DRIVEWAY CONSTRUCTION MUST BE UTILISED
	PROTECTIVE FENCE LINE (CEZ)
	ROOT PROTECTION AREA NOT ECLOSED BY FENCING WHERE GROUND PROTECTION MEASURES MUST BE LOCATED

JCA Limited
Arboricultural & Forestry Consultants

I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed

.....

Andrew Bussey.

16th October 2018

For and on behalf of ***JCA Ltd***

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Professional Tree and Ecology Advice nationwide

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- Tree Root Identification

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- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)

HEAD QUARTERS:

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