BRANCHING OUT TWO LIMITED
Sunrise House Hulley Road Macclesfield Cheshire SK10 2LP

Tree Survey, Arboricultural Impact Assessment and Tree Protection Scheme to BS 5837:2012

Regarding trees at the front of 91/93 Palatine Road, Didsbury Manchester M20 3JG

Client: Mrs. Marie Wronko

Author: Tim Broster, Director, Branching Out Two Ltd

Date: 8th October 2015



Remotely sensed aerial photograph of the site. Please note this image is not scale and for illustration purposes only, all copyrights remain with Google Maps 2015. Figure A.

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PART 1 - EXECUTIVE SUMMARY

1.1 This report has been commissioned in support of a planning application for the conversion of the existing property into four apartments and construction of an extension to the car parking provision as shown on the proposed site plan.

Tree Survey

1.2 Site visits were carried out by the author on 24th September & 8th October 2015. The weather was calm and sunny. A total of two trees were recorded. The site is the land at the front of 91 Palatine Road and is currently a driveway and garden. The two trees are located on the boundary of land owned by the client [T2] and 93 Palatine Road, the attached neighbouring property [T1].

1.3 The two trees are mature specimens and have both been assigned category B.



Street view photograph of existing site showing trees. Please note this image is not scale and for Illustration purposes only, all copyrights remain with Google Maps 2015. Figure B.

Arboricultural Impact Assessment

1.4 It will not be necessary to remove any trees to facilitate the proposed development.

1.5 New surfaces of the car parking spaces partly encroach onto Root Protection Areas (RPAs) of the trees shown on the proposed plan, *see page 8*. These trees must be protected during development by arboricultural methodology, barriers and ground protection.

Tree Protection Scheme

1.6 Specifications for tree protection barriers and ground protection are provided, along with general advice on tree retention and an arboricultural method statement for tree works. Tree protection and methodology shall be deployed where indicated on the Tree Protection plan, *see pages 20 & 21*. It is suggested that the scheme uses the Cellweb tree root protection system.

Conclusion

1.7 The arboricultural impact is relatively low as demonstrated in the arboricultural impact assessment. Accordingly the impact can be satisfactorily mitigated as proposed in the tree protection scheme, which must be strictly adhered to, throughout the scheme.

PART 2 - GENERAL INFORMATION

The Author / Surveyor

2.1 My name is Tim Broster I have worked in arboriculture for five years for a Local Authority and in landscaping and estate management for thirty years. I have the following qualifications in horticulture; RHS, NCH, OND. I have been a director of Branching Out Two Ltd for fourteen years.

Brief From Client

2.2 To carry out a tree survey to BS 5837 in order to produce a BS 5837 report incorporating Arboricultural Impact Assessment, Tree Protection and Arboricultural Method Statement.

Description of the Proposed Development

2.3 To create four parking spaces for the proposed development.

Documents Referred To

2.4 The British Standard Institute publication BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' is referred to throughout this report. This is a nationally recognized standard typically used by Local Planning Authorities (LPAs) to assess planning applications. It is frequently referred to in planning conditions to enforce protection or control of works that may be harmful to trees both on and off the site.

2.5 List of documents received from client or a representative of the client prior to the tree survey:

- Existing Site Plan *see page 7*
- Proposed layout annotated by us with RPA's *see page 8*

2.6 The property is within a conservation area under the control of Manchester City Council. neither tree has a Tree Preservation Order (TPO).

Limitations

2.7 This report was prepared for use by our client in accordance with the terms of the contract and for planning purposes only. It is not a substitute for a tree condition, insurance, or mortgage service. Information provided by third parties used in the preparation of this report is assumed to be correct. The contents are copyright and may not be duplicated or used by third parties without the written consent of Branching Out Two Ltd.

Printing

2.8 This report is compiled into a single pdf file designed for electronic release. If printing this document, please note that the plan drawings may be a different size or orientation to the standard A4 / portrait of the rest of the report. It is necessary to print plans at the full size for scaling.

Terms and Definitions

2.9 Arboricultural Method Statement – guidelines for specified working operations near trees to avoid any harmful impact as defined within BS 5837:2012. This can cover a range of works from tree work to operating cranes, installing foundations or services and guidelines for how special engineering must perform to function as a tree protection measure.

2.10 Compression Fork – a weak branch formation resulting from an acute angle between forking branches. This creates pressure between the limbs as they grow and push each other apart at the union creating an increased risk of branch failure. Some species are more prone to compression forks than others.

2.11 Conservation Area – an area of land designated through planning legislation, within which no tree above 7.5 centimetres stem diameter (at 1.3m above ground level) can be lopped, topped or removed without following a process of notifying the LPA. There are certain notable exceptions in the cases of dead or dangerous trees.

2.12 Coppice - A traditional management technique in which broadleaved trees are cut to just above ground level and the resulting shoots are then harvested on a cycle and used for a wide variety of purposes such as wood fuel and hurdle making. Most coniferous / evergreen trees do not coppice.

2.13 Ground Protection – in this context the term refers to a method for preventing the ground from being disturbed, usually within the Root Protection Areas of retained trees. Other uses include protection areas to be planted. The way ground protection should be designed to perform is typically described within an Arboricultural Method Statement.

2.14 Local Planning Authority – Typically a department of the local council that manages planning and protected tree issues.

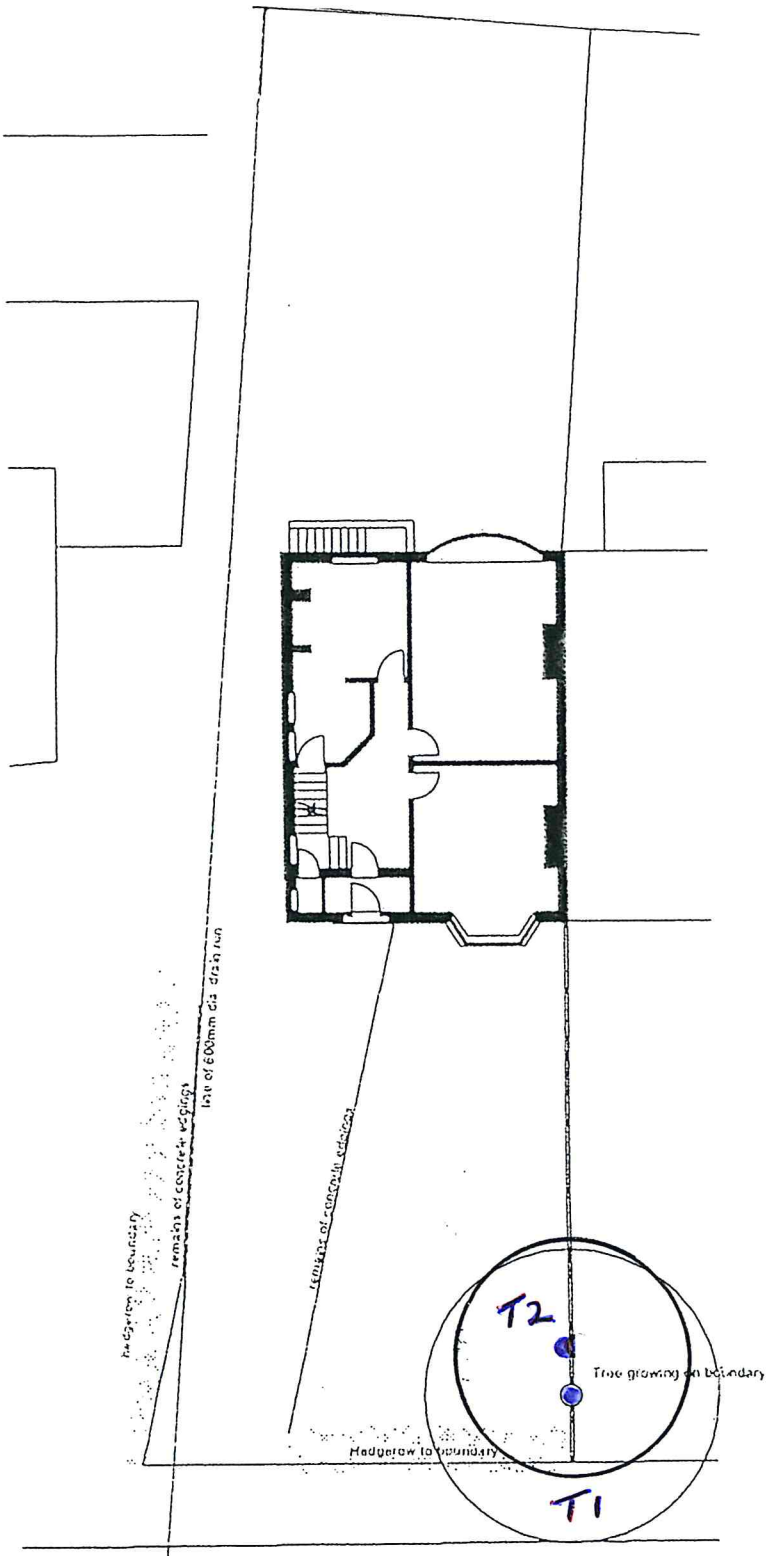
2.15 Root Protection Area (RPA) – a minimum recommended area for tree protection in 'BS 5837:2012 Tree in Relation to Construction'. In these areas works should be avoided where possible. Where work in these areas cannot be avoided, it should be carried out in accordance with a Tree Protection Plan and / or Arboricultural Method Statement.

2.16 Tree Constraints Plan – as defined within BS 5837:2012. This plan shows above and below ground constraints that may impact on a planning proposal such as the tree branch spread and Root Protection Area.

2.17 Tree Preservation Order (TPO) – a type of land charge which specifies certain trees for protection under the Town and Country Planning Act (1990). It makes it necessary to make an application to the LPA to work on them (with notable exceptions). And a criminal offence to otherwise damage or destroy them.

2.18 Tree Protection Plan – as defined within BS 5837:2012. This shows the layout of protective measures for retained trees in, typically including tree protective fencing and / or ground protection. And in some cases, shows where special working methods recommended in the Arboricultural Method Statement in this report will be adopted. This is intended to be used for planning purposes and also as a reference on-site.

TREE REPORT
EXISTING EXTERIOR PLAN
PAGE 7



1:200 Site Plan

REVISION	Date	Drawn	Checked	Description

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MCIAT
Chartered Institute of Architectural Technologists
•Architectural Consultations• •Space Planning• •Photo Realistic Visualisations•
33 Dark Lane Kinver Staffordshire DY7 6JB
Tel 01384 886136 email design@anthony-hope.com

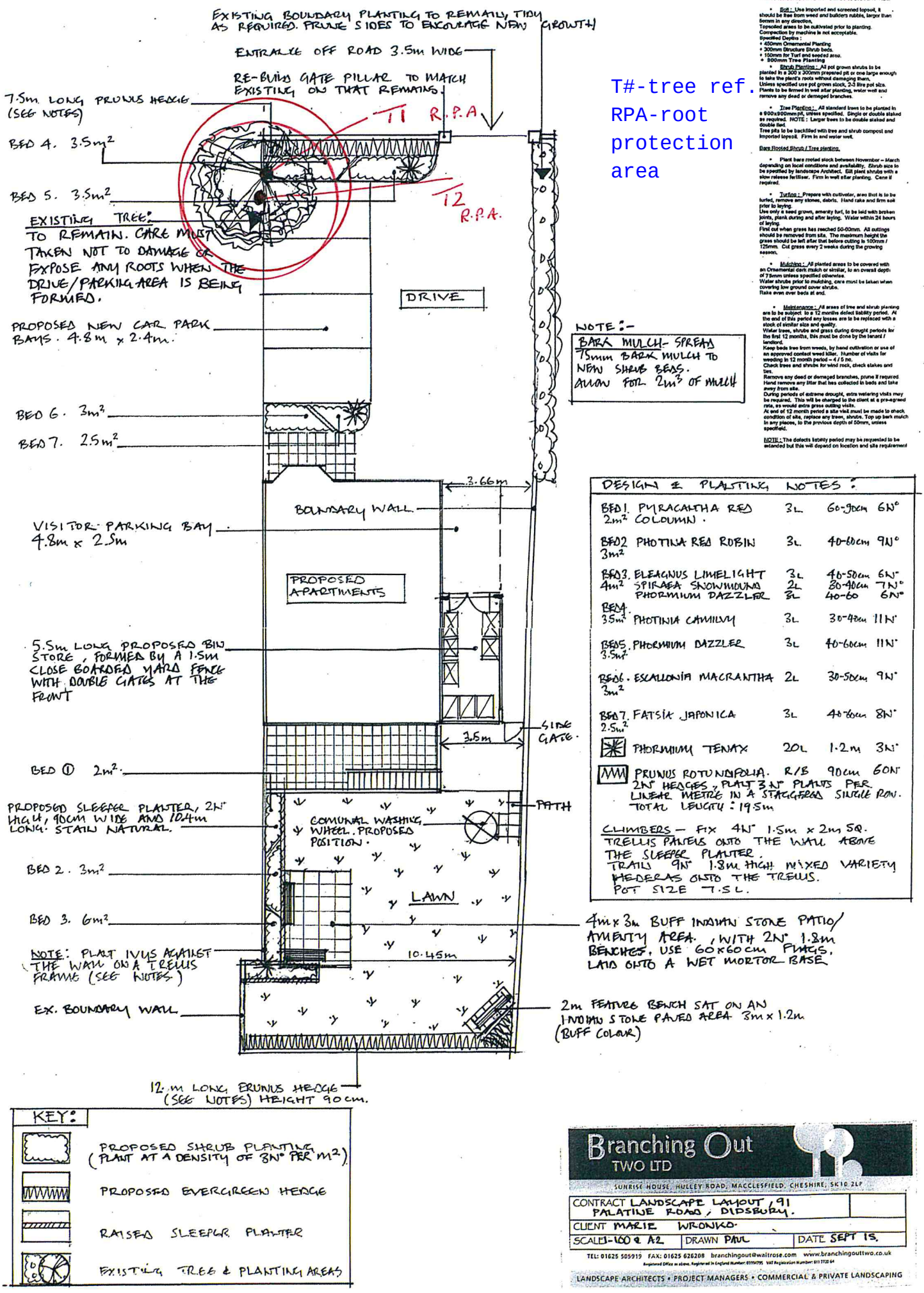
Client
Marie Wronko

Project
91 Palatine Road, Didsbury

Drawing Title
Proposed Floor Plans

Drawn	Checked	Date	Scale	Drwg Number	Rev.
ABH	ABH	Aug 2015	1:50 @ A1	4.15.106	

All dimensions to be checked on site and not scaled from this drawing



T#-tree ref.
RPA-root protection area

NOTE:-
BARK MULCH- SPREAD 75mm BARK MULCH TO NEW SHRUB BEDS. ALLOW FOR 2m³ OF MULCH

DESIGN & PLANTING NOTES:

BED 1. 2m²	PYRACANTHA RED COLOUMN.	3L	60-90cm	6N°
BED 2 3m²	PHOTINA RED ROBIN	3L	40-60cm	9N°
BED 3. 4m²	ELEAGNUS LIMELIGHT	3L	40-50cm	6N°
	SPIRAEA SNOWMOUND	2L	30-40cm	7N°
	PHORMIUM DAZZLER	3L	40-60	6N°
BED 4. 3.5m²	PHOTINIA CAMILLY	3L	30-40cm	11N°
BED 5. 3.5m²	PHORMIUM DAZZLER	3L	40-60cm	11N°
BED 6. 3m²	ESCALLONIA MACRANTHA	2L	30-50cm	9N°
BED 7. 2.5m²	FATSIA JAPONICA	3L	40-60cm	8N°
	PHORMIUM TENAX	20L	1.2m	3N°
	PRUNUS ROTUNDIFOLIA. R/B 2N° HEDGES, PLANT 3N° PLANTS PER LINEAR METRE IN A STAGGERED SINGLE ROW. TOTAL LENGTH: 19.5m		90cm	60N°

CLIMBERS – FIX 4N° 1.5m x 2m SQ. TRELLIS PANELS ONTO THE WALL ABOVE THE SLEEPER PLANTER. TRAIN 9N° 1.8m HIGH MIXED VARIETY HEDERAS ONTO THE TRELLIS. POT SIZE 7.5L.

DETAILED PLANTING NOTES.
PREPARED BY BRANCHING OUT TWO LTD.

- All tree, shrub planting and turfing to be carried out in accordance with British Standards 3030 and 4428.
- Soil: Use imported and screened topsoil, it should be free from weed and builders rubbis, larger than 5cmm in any direction. Topsoiled areas to be cultivated prior to planting. Compaction by machine is not acceptable. Specified Depths: + 450mm Ornamental Planting + 300mm Structure Shrub beds. + 150mm for Turf and seeded area. + 900mm Tree Planting
- Shrub Planting: All pot grown shrubs to be planted in a 300 x 300mm prepared pit or one large enough to take the plant's roots without damaging them. Unless specified use pot grown stock, 2-3 litre pot size. Plants to be firmed in well after planting, water well and remove any dead or damaged branches.
- Tree Planting: All standard trees to be planted in a 900x900mm pit, unless specified. Single or double staked as required. NOTE: Larger trees to be double staked and double tied. Tree pits to be backfilled with tree and shrub compost and imported topsoil. Firm in and water well.

Bare Rooted Shrub / Tree planting.

- Plant bare rooted stock between November – March depending on local conditions and availability. Shrub size to be specified by landscape Architect. Bill plant shrubs with a slow release fertiliser. Firm in well after planting. Cane if required.
- Turfing: Prepare with cultivator, area that is to be turfed, remove any stones, debris. Hand rake and firm soil prior to laying. Use only a seed grown, amenity turf, to be laid with broken joints, plank during and after laying. Water within 24 hours of laying. First cut when grass has reached 50-60mm. All cuttings should be removed from site. The maximum height the grass should be left after that before cutting is 100mm / 125mm. Cut grass every 2 weeks during the growing season.
- Mulching: All planted areas to be covered with an Ornamental dark mulch or similar, to an overall depth of 75mm unless specified otherwise. Water shrubs prior to mulching, care must be taken when covering low ground cover shrubs. Rake even over beds at end.
- Maintenance: All areas of tree and shrub planting are to be subject to a 12 months defect liability period. At the end of this period any losses are to be replaced with a stock of similar size and quality. Water trees, shrubs and grass during drought periods for the first 12 months, this must be done by the tenant / landlord. Keep beds free from weeds, by hand cultivation or use of an approved contact weed killer. Number of visits for weeding in 12 month period – 4 / 5 no. Check trees and shrubs for wind rock, check stakes and ties. Remove any dead or damaged branches, prune if required. Hand remove any litter that has collected in beds and take away from site. During periods of extreme drought, extra watering visits may be required. This will be charged to the client at a pre-agreed rate, as would extra grass cutting visits. At end of 12 month period a site visit must be made to check condition of site, replace any trees, shrubs. Top up bark mulch in any places, to the previous depth of 50mm, unless specified.

NOTE: The defects liability period may be requested to be extended but this will depend on location and site requirement

KEY:

- PROPOSED SHRUB PLANTING (PLANT AT A DENSITY OF 8N° PER m²)
- PROPOSED EVERGREEN HEDGE
- RAISED SLEEPER PLANTER
- EXISTING TREE & PLANTING AREAS

Branching Out TWO LTD
SUNRISE HOUSE, HULLEY ROAD, MACCLESFIELD, CHESHIRE, SK10 2LP
CONTRACT LANDSCAPE LAYOUT, 91 PALATINE ROAD, DIDSBURY.
CLIENT MARIE WRONKO.
SCALE1-100 @ A2. DRAWN PAUL DATE SEPT 15.
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LANDSCAPE ARCHITECTS • PROJECT MANAGERS • COMMERCIAL & PRIVATE LANDSCAPING

PART 3 – TREE SURVEY

3.1 METHODOLOGY

3.1.1 Data was collected in accordance with the requirements of British Standard 5837:2012. All observations were from ground level without detailed or invasive investigations. Measurements were taken using a diameter tape, digital clinometer and laser measure. Where this was not possible or reasonably practical, measurements have been estimated by eye.

3.1.2 The trees were surveyed and assessed impartially and irrespective of the proposed development. Management recommendations should be implemented regardless of any proposed development for reasons of sound arboricultural management or safety.

3.1.3 BS 5837:2012 requires retention of better quality (category A and B trees) where possible. Planning permission overrides a Tree Preservation Order and Conservation Area. Furthermore, trees are a material consideration in the UK planning system irrespective of their legal status. It is therefore not considered necessary to highlight or give additional merit to trees that have legal protection. Trees in land adjacent to the site are considered where they may be impacted by development. For example when roots or branches encroach onto the site.

3.1.4 Trees may be recorded as group or woodland where

i) The canopies touch.
ii) The trees have more group value than individual merit.
iii) They are part of a formal landscape feature like an avenue.
iv) It is impractical to record them individually.

3.1.5 Trees within groups or woodlands etc. are recorded individually where it is necessary to distinguish them from others.

3.2 ANALYSIS

Species

3.2.1 The scientific names for the species recorded only in common names are as follows:

Common Name	***Scientific Name***
Copper beech	*Fagus sylvatica*
Norway maple	*Acer platanoides*

Categories

3.2.2 The distribution of categories of individual trees and groups is as follows:

BS 5836 Category	Number of Trees	% of Trees
A	0	**0**
B	2	**100%**
C	0	**0**
R	0	**0**
	2	**100.0%**

Life stage

3.2.3 The life stages recorded for individual trees are summarised as follows:

Life Stage	
Young	
Early-mature	
Middle-aged	
Mature	2
Over-mature	
Veteran / ancient	

3.3 KEY TO TREE SURVEY AND PLANS

Ref:

3.3.1 The reference number assigned to that item with a code to help identify the type or structure such as:

T#	Tree

Hgt (m):

3.3.2 Height of the tree in metres rounded up to the nearest half metre.

DBH

3.3.3 'Diameter at Breast Height' – the stem diameter measured in millimetres at 1.5m above ground level. Where the ground around the base of the tree is not level this is taken 1.5m above the upper side of the slope.

Root Protection Area (RPA)

3.3.4 This appears on the survey plan and is calculated by multiplying the stem diameter using one of three methods specified in BS 5837:2010 depending on the number of stems the tree has. This should be considered an indication only as various factors may influence the size and shape of the RPA, such as below ground constraints. In the first instance, development should not be located inside an RPA where it can be avoided. Where it cannot be avoided the LPA will usually expect further advice such as an Arboricultural Impact Assessment.

Crown Spread

3.3.5 The crown spread is given to four cardinal points, rounded up to the nearest half metre.

Clr

3.3.6 The height of crown clearance of the lowest branch above ground level, with the general direction it is growing to a cardinal point.

Life Stage

3.3.7 Recorded with codes as follows, and relative to the species of the tree:

Y	Young
EM	Early-mature
MA	Middle-aged
M	Mature
OM	Over-mature
V	Veteran

General observations

3.3.8 Will include notes on structural defects, physiological problems, special features, decay and management recommendations. Please note that management recommendations do not constitute a specification for any required works.

ERC

3.3.9 Means ‘estimated remaining contribution’, recorded in a range of years. It is the amount of time the tree can realistically be retained for.

<10	Unsuitable for retention
10 - 20	Can be retained in the short term
20 – 40	Will continue to offer benefits for the foreseeable future
40+	Good longevity potential

Cat.

3.3.10 Means ‘category grading’, a full explanation of the categories is given in an excerpt from BS 5837:2012 before the Tree Survey Schedule section.

TREES FOR REMOVAL

Category and definition	Criteria	
Category R - Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)	
	• Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline	
	• Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality NOTE Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree).	

TREES TO BE CONSIDERED FOR RETENTION

Category and definition	Criteria —			
	1 Mainly arboricultural values	2 Mainly landscape values	3 Mainly cultural values, including conservation	
Category A - Those 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)	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	
Category B - Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	
Category C - Those of low quality and value: currently in adequate condition to remain until new planting could be established (a min of 10 years is suggested) or young trees with a stem diam. < 150mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	

NOTE: Whilst 'C' category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation.

TREE SURVEY SCHEDULE TO BS 5837

Client: Mrs Marie Wronko

Site: 91 Palatine Road, Didsbury, Manchester M20 3JQ

Date of Survey: 24/9/15 & 8/10/15

Arboricultural Consultant / Surveyor : Mr T J Broster

Tagged: No

Weather Sunny Periods

Tree reference number	Tree Species	Height m	Stem dia mm	Branch spread m	Height of crown clearance m	Age class	Physiological condition	Structural condition	Comments/Preliminary management recommendations	Estimated remaining contribution years	Category rating
1	Fagus Sylvatica Beech	15	595	N 8.8 E 6.8 S 6.5 W 1.5	2.5	M	Good	Good	On neighbouring property [Requires dead wooding]	40+	B
2	Acer Platnoides var Maple	18	522	N 6.5 E 2.5 S 6.8 W 8.0	2.5	M	Fair	Good	One sided growth Requires dead wooding	40+	B

PART 4 – ARBORICULTURAL IMPACT ASSESSMENT

4.1 INTRODUCTION

4.1.1 BS 5837:2012 provides a methodology for determining the above and below ground constraints presented by trees on and adjacent to the site. These have been recorded and presented visually on the plans in this report and the appended tree survey table.

Development Background

4.1.2 The site is situated at 91 Palatine Road on a residential street opposite a small bus station. The site consists of a semi-detached property with driveway and garden at the front. It is proposed to convert the property into four apartments with provision for residents' car parking.

4.2 OBSERVATIONS

Root Protection Areas (RPAs)

4.2.1 RPAs have been calculated for trees T1 and T2. See plan with RPA's marked *page 8*.

Tree No.	Calculation of RPA				
	Diam			rectangle	Circle
	mm		RPA m2	side m	radius m
1	595	12	**160.2**	**12.7**	**7.1**
2	522	12	**123.3**	**11.1**	**6.3**

It is likely that proposed new surfaces will encroach into these RPAs. These trees will require ground protection to maintain their long term health and longevity. Arboricultural methodology must be adopted before proceeding with the proposed development. The new parking area will use the Cellweb tree root protection system to reduce the risk of subsoil compaction, oxygen depletion and impermeability. Area is shown on plan *see page 21*.

Above ground constraints

4.2.2 In order to protect the canopies of the trees listed in 4.2.1 during construction and following completion of the car park it is recommended that they should be crown lifted to 3.5 metres on the car park side only.

4.3 CONCLUSIONS

4.3.1 The arboricultural impact is relatively low, and can be mitigated with tree works, landscaping, protective barriers, ground protection and arboricultural methodology as set out in Part 5, and must be strictly adhered to.

PART 5 – TREE PROTECTION SCHEME

5.1 GENERAL

Distribution

5.1.1 It is important to ensure everyone involved in the planning and design of the proposed development is aware of this report and has access to a copy as soon as it is released.

Responsibilities

5.1.2 Successful implementation of tree protection measures and long term tree retention depends on co-ordination between the client and key personnel involved in the development.

5.1.3 The client and agent shall ensure that:

- the site manager and all other personnel are provided with this document;
- all planning conditions relating to underground works, services, trees and landscaping are cleared before development commences;
- all requirements of this Tree Protection Scheme are adhered to;
- the site manager is updated of any approved changes or variations to this document.

5.1.4 The client and site manager shall ensure that:

- a copy of this document with the plans on pages 20 & 21 are easily accessible for site personnel to refer to before and during the time construction activity is taking place;
- all personnel working on the site are made aware of the tree protection plan and arboricultural method statements covering any activities they will undertake. This duty includes delegating the task of briefing personnel in the absence of the site manager.
- The tree protection measures are left in place until the construction phase of development is completed, except with the written consent of the Local Planning Authority (LPA).
- site personnel are updated of any approved changes or variations to the approved tree protection measures.

5.1.5 All personnel must work in accordance with this document at all times, or in accordance with any approved variation.

Procedures for incidents

5.1.6 If any breach of the approved tree protection measures occurs:

- The Local Planning Authority Tree officer or other Planning Officer shall be notified.
- The site manager must be informed immediately.
- Swift action must be taken to halt the breach and prevent any further breach.
- damage mitigation measures appropriate to the scale of the incident will be deployed where required.

Prohibited Activities

5.1.7 The following must not be carried out under any circumstances:

- Cutting down, uprooting, damaging or otherwise destroying any retained tree.
- Lighting a fire within 10 metres of the canopy of any retained tree.
- Equipment, signage, fencing, tree protection barriers, materials, components, vehicles or structures shall not be attached to or supported by a retained tree.
- Mixing cement, chemical toilets and other use or storage of anything that would be harmful to trees shall not take place within, or close to a Root Protection Area (RPA). The distance away from the RPA must be sufficient, and the slope of the site must be such that contamination of soil in the RPA would not occur if there were spillage, seepage or displacement.
- No plant or equipment or vehicle with a hydraulic arm such as a mini digger shall be operated within striking distance of the stem and branches or the RPA of any retained tree unless otherwise specified in this report.

5.1.8 No alterations or variations shall be made to the approved tree protection measures without written approval from the LPA.

Timing and order of operations

5.1.9 The development must be carried out in the following order unless otherwise agreed in writing with the LPA. Each step must be completed before moving onto the next:

i. Tree Works
ii. Installation of tree protection barriers and temporary ground protection in areas indicated on plan and areas of special engineering.
iii. Construction
iv. Removal of the remaining ground protection and barriers.
v. Installation of cellweb tree root protection system.

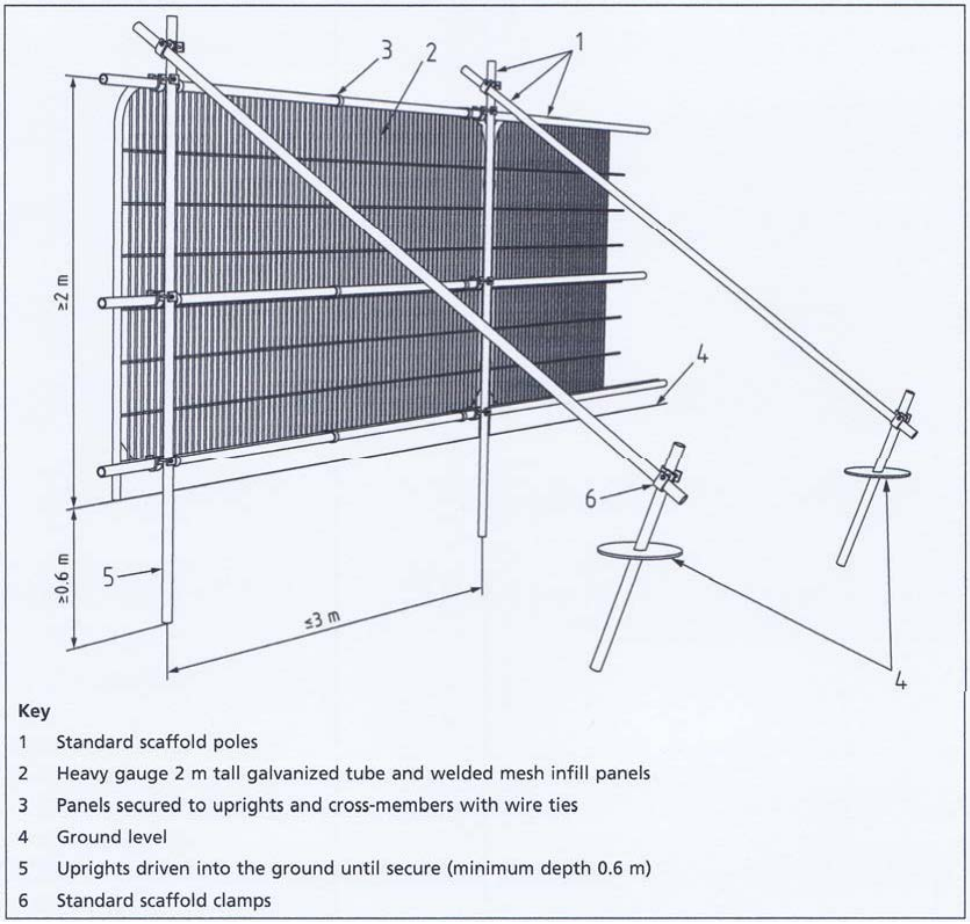
5.2 PROTECTIVE BARRIERS AND GROUND PROTECTION

Barriers

5.2.1 The barriers shall be installed and removed in accordance with the timing of operations above and laid out in accordance with the appended tree protection plan *see page 20*. The appended notice should be used to create all weather notices that must be added to the tree protection barriers or suitable intervals. In the event of any panel or support becoming damaged, this must be immediately reinforced by adding panels with the designs below as appropriate.

5.2.2 The default specification is a vertical and horizontal scaffold framework, braced to resist impacts, as per figure 1 below. The vertical tubes are spaced at a maximum interval of 3 m and these are driven securely into the ground. Welded mesh panels are securely attached to the frame. During installation it is important to consider the position of below ground services and structural roots, which must not be damaged. Where these constraints prevent the use of this specification, an alternative specification is given below. See figure 1 below:

Figure 1 – default tree protection barrier specification



Key

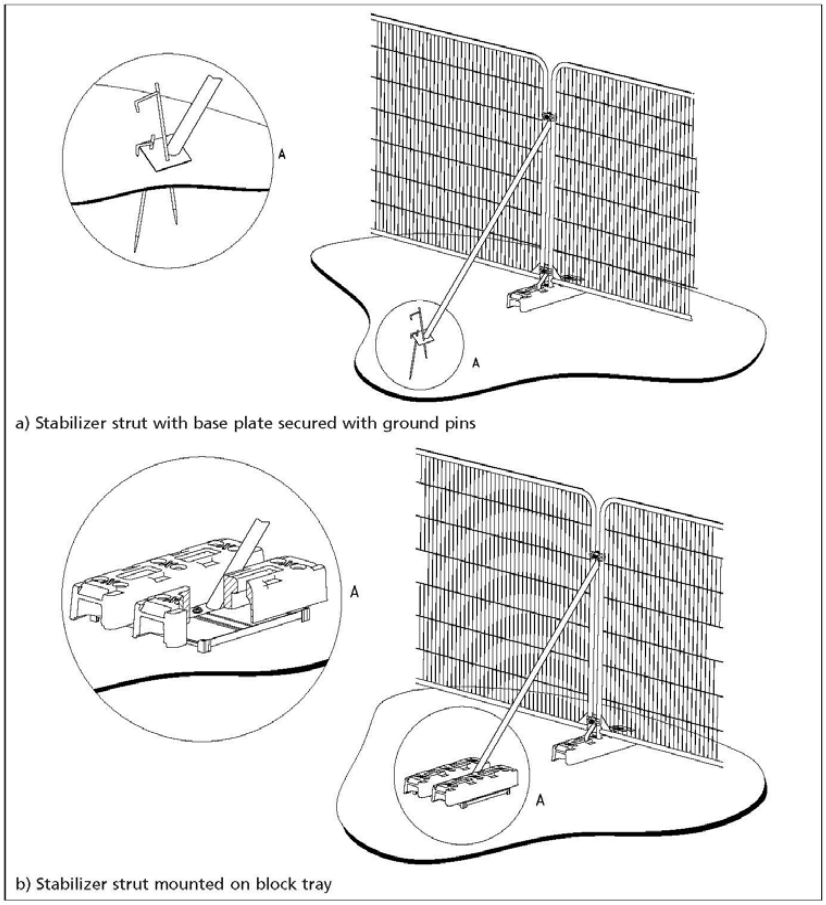
1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Alternative tree protection barrier design

5.2.3 2 metre tall welded mesh panels standing in rubber or concrete feet joined using a minimum of two anti-tamper couplers installed so they can only be removed from inside the protected area. The fence couplers should be at spaced least 1 m apart, but uniformly across the whole barrier. These panels must be supported within the protected area with struts attached to a base plate secured by ground pins as per figure 2a.

5.2.4 Where the fencing is installed above retained hard surfacing and / or it is otherwise not feasible unfeasible to use ground pins (e.g. due to underlying services or structural roots), the struts can be mounted on a block tray as per figure 2b.

Figure 2 – above ground stabilising systems:



5.3 ARBORICULTURAL METHOD STATEMENT

Tree Works

5.3.1 All tree works should be carried out by professional arboricultural contractors with appropriate qualifications, experience and public liability insurance. The work should be carried out in accordance with British Standard document number 3998:2010 "Recommendations for Tree Work".

See Tree Survey Schedule, page 13, for other specific recommendations.

Construction of car park

5.3.2 When all of the tree works have been carried out and the property conversion is complete. The construction of the car park can commence.

5.3.3 The site stripping of surface vegetation can be removed by hand only and general leveling can be carried out. No excavator or other machine will be taken into the root protection area until the Cellweb panels have been installed. The existing site levels are to be retained i.e. no additional infill to be carried out along the tree line, in extreme circumstances a maximum of 100mm of existing site topsoil could be utilized.

5.3.4 Place a Treetex T300 Geotextile all over the proposed new car park area on to the hand prepared surface and peg down using timber pegs.

5.3.5 Then place the cellweb tree protection system over the complete area and expand the cellweb 2.56m wide panels by 8.1m length. Pin the cellweb panels with metal pins (provided by the manufacturer) to anchor open the cells and staple adjacent panels together to create a continuous mattress. This cellweb must be placed over the complete area, and the cellweb should have a depth of 150mm. No machines to be used in this process to avoid compaction.

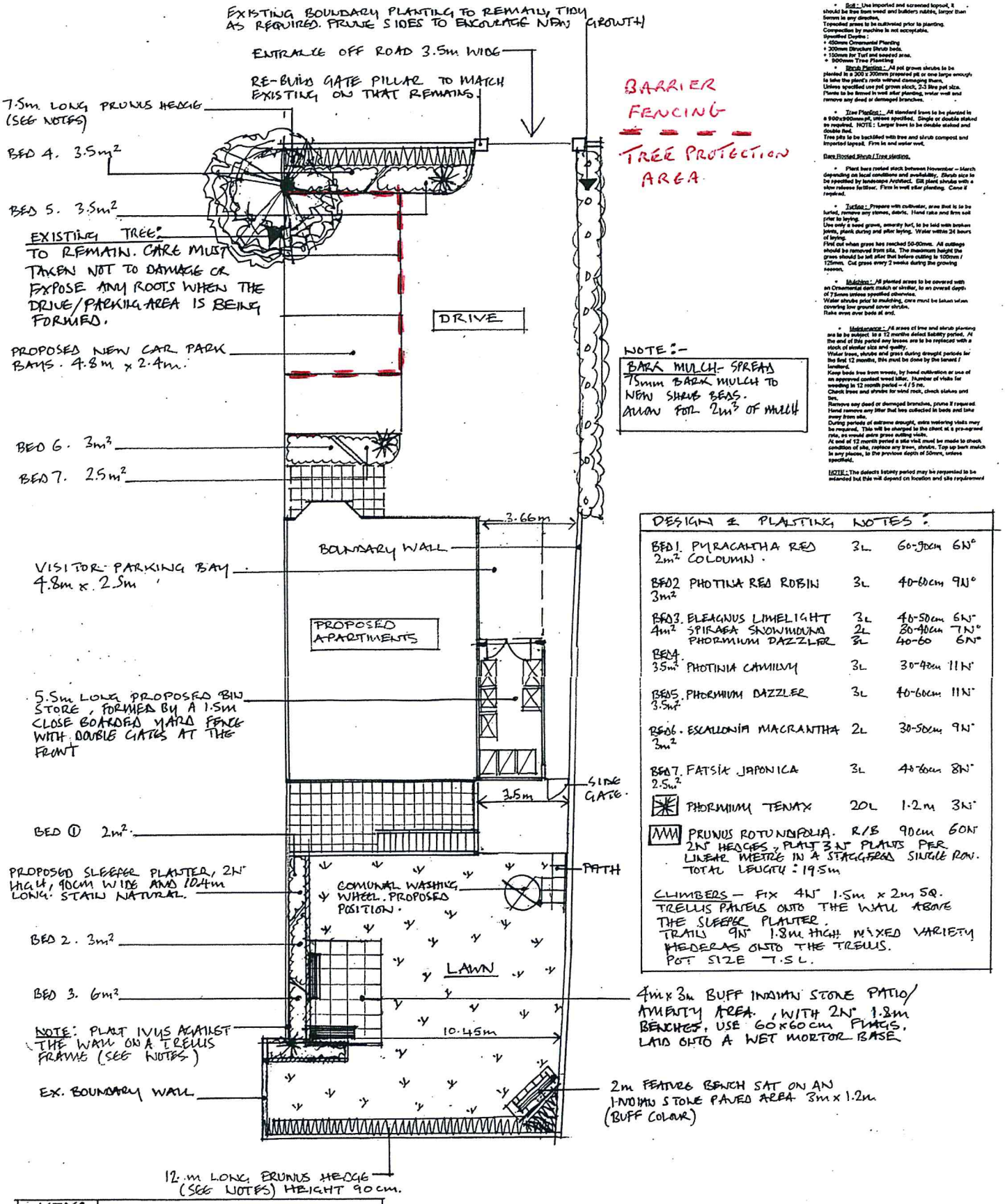
5.3.6 Infill the cellweb with no fines angular granular fill (4 - 20mm and not limestone) within each open cell. The use of cellular confinement reduces the bearing pressure on the sub soil by stabilizing aggregate surfaces against rutting under wheel loads. The aggregate will be placed at the front of the proposed car park first and levelled out as it is placed into the cells gradually from front to back.

The machine size will be restricted to 3-4 tonnes to prevent damage to remaining overhead branches and limit the weight on the surface. The machine will only sit on the filled cells, at no time will the machine be permitted to sit on the root protection area without filled cellweb under its tracks.

5.3.7 Introduce a timber edging all around the outside of the car park using a treated timber stake on to 250mm x 30mm timber edging.

5.3.8 In the car parking bays pea gravel or hoggin material is to be placed over the cellweb to a depth of 50mm to 100mm over the complete parking area.

See detailed method statement for the installation of Cellweb attached – page 23



DETAILED PLANTING NOTES
PREPARED BY BRANCHING OUT TWO LTD.

- All tree, shrub planting and turfing to be carried out in accordance with British Standards 3936 and 4428.
- Soil - Use imported and screened topsoil, it should be free from weed and builder's rubble, larger than 5mm in any direction.
Topsoiled areas to be cultivated prior to planting.
Compaction by machine is not acceptable.
Imported Depths:
+ 450mm Ornamental Planting
+ 300mm Standard Shrub beds.
+ 150mm for Turf and seeded area.
+ 900mm Tree Planting
- Shrub Planting :- All pot grown shrubs to be planted in a 300 x 300mm prepared pit or one large enough to take the plant's roots without damaging them. Unless specified use pot grown stock, 2-3 litre pot size. Plants to be firmed in well after planting, water well and remove any dead or damaged branches.
- Tree Planting :- All standard trees to be planted in a 900x900mm pit, unless specified. Single or double stake as required. NOTE: Larger trees to be double staked and double tied.
Tree pits to be backfilled with tree and shrub compost and imported topsoil. Firm in and water well.

Bare Rooted Shrub / Tree planting.

- Plant bare rooted stock between November – March depending on local conditions and availability. Shrub size to be specified by landscape Architect. Bit plant shrubs with a slow release fertiliser. Firm in well after planting. Cane if required.
- Turfing :- Prepare with cultivator, area that is to be turfed, remove any stones, debris. Hand rake and firm soil prior to laying.
Use only a seed grown, smooth turf, to be laid with broken joints, plank during and after laying. Water within 24 hours of laying.
First cut when grass has reached 50-60mm. All cuttings should be removed from site. The maximum height the grass should be left after that before cutting is 100mm / 125mm. Cut grass every 2 weeks during the growing season.
- Mulching :- All planted areas to be covered with an Ornamental dark mulch or similar, to an overall depth of 75mm unless specified otherwise.
Water shrubs prior to mulching, care must be taken when covering low ground cover shrubs.
Rake even over beds at end.
- Maintenance :- All areas of tree and shrub planting are to be subject to a 12 months defect liability period. At the end of this period any losses are to be replaced with a stock of similar size and quality.
Water trees, shrubs and grass during drought periods for the first 12 months, this must be done by the tenant / landlord.
Keep beds free from weeds, by hand cultivation or use of an approved contact weed killer. Number of visits for weeding in 12 month period - 4 / 5 no.
Check trees and shrubs for wind rock, check stakes and ties.
Remove any dead or damaged branches, prune if required.
Hand remove any litter that has collected in beds and take away from site.
During periods of extreme drought, extra watering visits may be required. This will be charged to the client at a pre-agreed rate, as would extra grass cutting visits.
At end of 12 month period a site visit must be made to check condition of site, replace any trees, shrubs. Top up bark mulch in any places, to the previous depth of 50mm, unless specified.

NOTE:- The defects liability period may be requested to be extended but this will depend on location and site requirement

DESIGN & PLANTING NOTES:

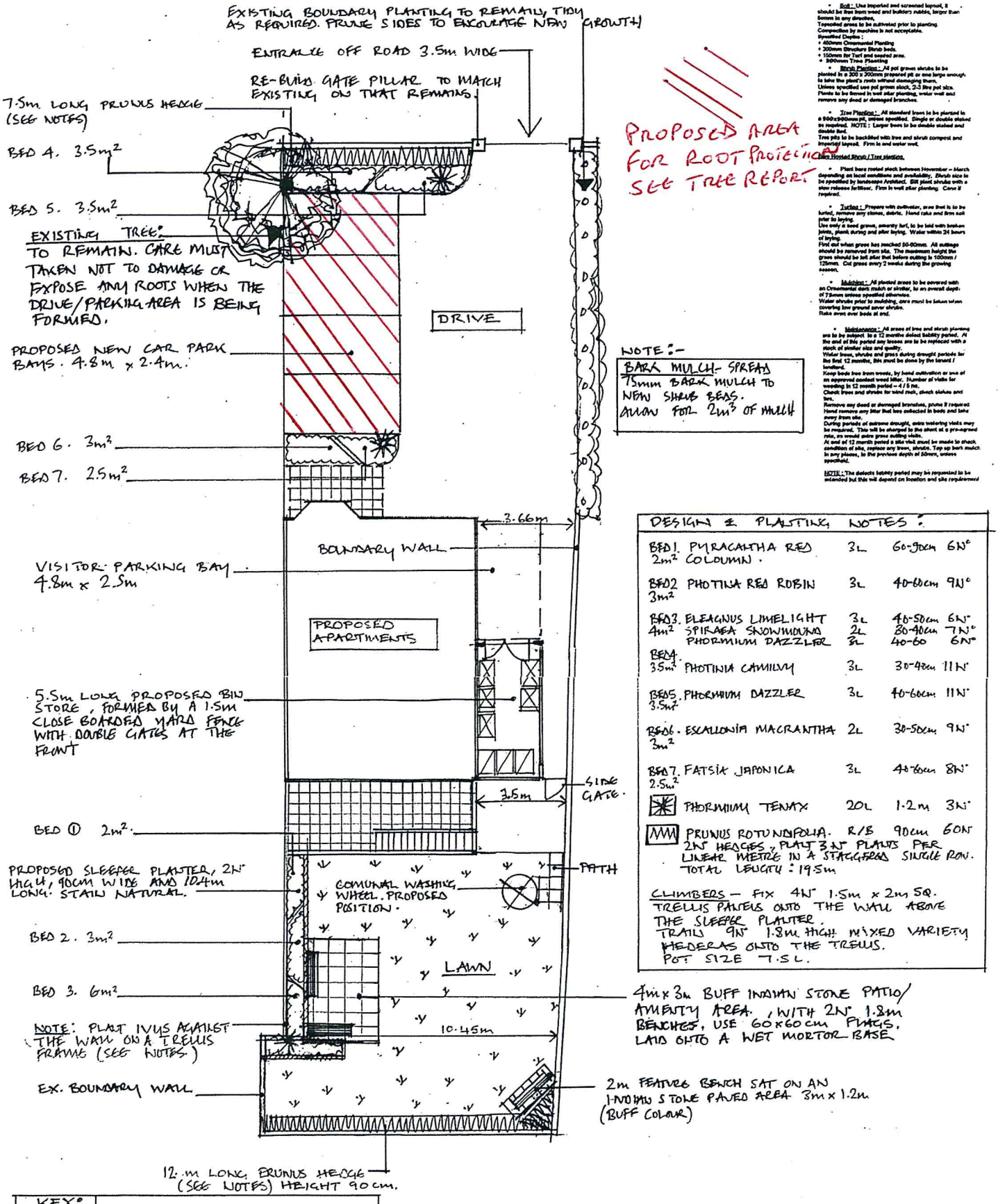
BED 1. 2m²	PYRACANTHA RED COLOUMN.	3L	60-90cm	6N°
BED 2. 3m²	PHOTINIA RED ROBIN	3L	40-60cm	9N°
BED 3. 4m²	ELEAGNUS LIMELIGHT	3L	40-50cm	6N°
	SPIRAEA SNOWMOUND	2L	30-40cm	7N°
	PHORMIUM DAZZLER	3L	40-60	6N°
BED 4. 3.5m²	PHOTINIA CAMILLIA	3L	30-40cm	11N°
BED 5. 3.5m²	PHORMIUM DAZZLER	3L	40-60cm	11N°
BED 6. 3m²	ESCALLONIA MACRANTHA	2L	30-50cm	9N°
BED 7. 2.5m²	FATSIA JAPONICA	3L	40-60cm	8N°
	PHORMIUM TENAX	20L	1.2m	3N°
	PRUNUS ROTUNDIFOLIA. R/B 2N° HEDGES, PLAT 3N° PLANTS PER LINEAR METRE IN A STAGGERED SINGLE ROW. TOTAL LEUGTH = 19.5m	90cm		60N°

CLIMBERS – FIX 4N° 1.5m x 2m SQ. TRELLIS PANELS ONTO THE WALL ABOVE THE SLEEPER PLANTER. TRAIL 9N° 1.8m HIGH MIXED VARIETY HEDERAS ONTO THE TRELLIS. POT SIZE 7.5L.

KEY:

- PROPOSED SHRUB PLANTING (PLANT AT A DENSITY OF 3N° PER m²)
- PROPOSED EVERGREEN HEDGE
- RAISED SLEEPER PLANTER
- EXISTING TREE & PLANTING AREAS

Branching Out TWO LTD
SUNRISE HOUSE, HULLEY ROAD, MACCLESFIELD, CHESHIRE, SK10 2LP
CONTRACT LANDSCAPE LAYOUT, 91 PALATINE ROAD, DIDSBURY.
CLIENT MARIE WRONKO.
SCALE:-1:100 @ A2 | DRAWN PAUL | DATE SEPT 15.
TEL: 01625 505919 FAX: 01625 626208 branchingout@waitrose.com www.branchingouttwo.co.uk
LANDSCAPE ARCHITECTS • PROJECT MANAGERS • COMMERCIAL & PRIVATE LANDSCAPING



DETAILED PLANTING NOTES.
PREPARED BY BRANCHING OUT TWO LTD.

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  - 300mm Structure Shrub beds.
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- Mulching: All planted areas to be covered with an Ornamental dark mulch or similar, to an overall depth of 75mm unless specified otherwise. Water shrubs prior to mulching, care must be taken when covering low ground cover shrubs. Rake even over beds at end.
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CLIMBERS – FIX 4N° 1.5m x 2m SQ. TRELLIS PANELS ONTO THE WALL ABOVE THE SLEEPER PLANTER. TRAIL 9N° 1.8m HIGH MIXED VARIETY HEDERAS ONTO THE TRELLIS. POT SIZE 7.5 L.

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TREE PROTECTION BARRIER – ACCESS PROHIBITED

DO NOT TAMPER WITH THIS BARRIER OR REMOVE IT



This area contains trees which must be retained as part of the planning permission. Additional legal protection may also apply e.g. a Tree Preservation Order. Removing or damaging trees in this area may be a breach of planning permission. Damage to protected trees may lead to a criminal conviction and / or a fine.

Only the site manager may permit for the removal or moving of tree protection measures. This should always be in accordance with the planning permission.

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Method Statement

For The Installation of Cellweb Tree Root Protection System.



When considering damage to tree roots, in applications of vehicular access and parking, the risk of oxygen depletion caused by compaction of subsoil's, site clearance damaging the root source and type of reinforcement are areas which need to be given due consideration.

Other risk factors are:

- Creating an impermeable surface
- Causing a rise in the water table due to construction
- Increasing ground level
- Contamination of subsoil's

1. Compaction

When looking at site conditions and use, the following information should be considered to enable a load bearing structure capable of supporting traffic to be proposed:

- Californian Bearing ratio (CBR) – Standard test method for measuring soil strength
- Soil types
- Water table
- Maximum load (vehicles)
- Acceptable rut depth
- Reinforcement type — Cellweb Cellular Confinement 150mm deep
- Type and Depth of engineered infill material — Clean, angular. Usually 40mm to 20mm.

2. Dig (site strip)

Site stripping does damage some root structure prior to construction; however, the use of no-dig construction elevates the access road requiring edge protection.

3. No dig

3.1. Remove surface vegetation	Use a suitable herbicide suitable for the specific vegetation and not harmful to the tree root system
3.2. Place geotextile separation filtration layer	Use a Treetex T300 non woven Goetextile over the prepared sub-grade. Overlap dry joints by 300mm.
	The three dimensional cell structure, is formed by ultrasonically welding polyethylene (perforated) strips / panels together to create a three dimensional network of interconnecting cells. A high degree of frictional interaction is developed between infill and the cell wall, increasing the stiffness of the system
3.4. Edge restraint	A treated timber edging is usually acceptable.

4. Cellular Confinement and Backfill Material.



Expand the Cellweb 2.56m wide panels to the full 8.1 metre length. Pin the Cellweb panels with staking pins to anchor open the cells and staple adjacent panels together to create a continuous mattress. Infill the Cellweb with a no fines angular granular fill (typically 4-20mm) within each open cell. The use of cellular confinement reduces the bearing pressure on the subsoil by stabilising aggregate surfaces against rutting under wheel loads. Comparisons between cellular confinement and traditional aggregate and geogrid-reinforced structures demonstrate a 50% reduction in construction thickness of the granular material.

5. Surfacing Options

Block Paving:
5.1. Lay second layer of Treetex T300 Geotextile separation fabric over the infilled Cellweb sections
5.2. Lay sharp sand bedding layer compacted with a vibro compaction plate to recommended depth.
5.3. Place block paviors as per manufacturers instructions.

Tarmac:
Place 25mm surcharge of the granular material above the Cellweb system and lay the bitumen base and wearing courses.

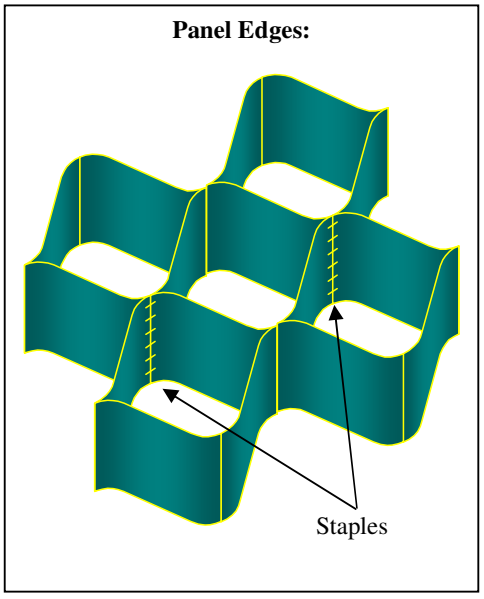
Loose Gravel:
5.4. Ensure Cellweb is completely filled.
5.5. Place decorative aggregate to required depth
NOTE: A treated timber edge should be provided to restrict gravel movement.

Grass Blocks:
5.6. Place second layer of Treetex T300 Geotextile separation fabric over the infilled Cellweb sections
5.7. Place 50/50 rootzone bedding layer to the required depth
5.8. Lay recycled Duo Block 500 Grass Protection System infilled with 50/50 rootzone mix.
5.9. Seed as per architects instructions.
(Alternatively the Grass Blocks may be infilled with gravel.)

Concrete Slab
6.0 Lay Cellweb as previous and place second layer of Treetex Geotextile directly over the filled panels. Pour concrete base as specified.

Below are illustrations of the correct stapling procedure for joining both edges and ends of panels together;

Panel Edges:



Panel Ends:

