Arboricultural Method Statement

101 Camley Street
London
NW1 0PF

Chalk Farm Developments Ltd

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GC Design
Landscape Architecture | Ecology | Arboriculture
Part of Ground Control Group

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Project Scope	Arboricultural Method Statement			
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Client	Chalk Farm Developments			
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1.0 Introduction

Client & Scope

1.1 The following Arboricultural Method Statement has been prepared for Chalk Farm Developments in relation to the proposed mixed use development at 101 Camley Street, London.

1.2 The purpose of this report is to ensure the adequate protection of the identified retained trees during the construction works and satisfy the requirements of planning condition 9 as listed below:

> ***Condition 9***
> *Prior to the commencement of any works on site, details demonstrating how trees to be retained shall be protected during construction work shall be submitted to and approved by the Council in writing. Such details shall follow guidelines and standards set out in BS5837:2012 "Trees in Relation to Construction". All trees on the site, or parts of trees growing from adjoining sites, unless shown on the permitted drawings as being removed, shall be retained and protected from damage in accordance with the approved protection details*

1.3 Landmark Trees Ltd prepared an Arboricultural Impact Assessment Report in May 2014 to support the original planning application. In light of the time period since the original survey Ground Control has carried out a survey to review the health and condition of the trees highlighted for retention.

1.4 This report has been prepared based on the following current/historic information:

Document/Drawing	*Number/Reference*	*Comments*
Topographical Survey	*T8428_TOPO_2D_ R1_2*	
Proposed GA LG Level	*16022 01 AP 0010 004 Rev 003*	
Materials Plan (Turkington Martin) May 2014	*156-L02 Rev B*	*Consented Landscape Scheme Layout*
Arboricultural Impact Assessment (Landmark Trees Ltd) May 2014	*KSR/101CS/AIA/01 a*	

2.0 The Site

Site Description

2.1 The development site is known as 101 Camley Street and bound by Camley Street to the east, Granary Street to the west and Regent's Canal to the North.

2.2 Existing trees to be retained are located at the junction of Camley Street and Granary Street, on Granary Street within the existing public footpath and along Regent's Canal to the North just outside the site boundaries.

Statutory Tree Protection/Designations

2.3 The site and/or trees there in that are protected by the following statutory designations;

	Yes/No	*Source*
Tree Preservation Orders	No	*Telephone conversation with Tunde at Council/Public Trees department of London Borough of Camden on 15/02/2017.*
Conservation Area	Yes	*DP9 Ltd – Planning Statement dated July 2014*
Details		*Regent's Canal Conservation area to the North and the King's Cross Conservation area to the South.*

3.0 Ground Control Tree Survey

3.1 Scope of Survey

	Details
Survey Standards	In accordance with BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations • Part 4.4 – Tree Survey • Part 4.5 – Tree Categorization Method • Part 4.6 – Root Protection Area Refer to Appendix A for Tree Survey Key & Cascade Chart for tree quality Assessment
Survey Area	Trees surveyed highlighted for retention with Landmark trees AIA Report/plans surrounding the development site.
Survey Methodology	Visual Assessment from Ground level
Specialist Surveying Equipment (other than tape/camera/plans)	Tablet Computer
Survey Date(s)	17/01/2017
Surveyor	Alan Richardson, Arboricultural Consultant
Survey Limitations	No access was available to the existing trees T14-T24 located outside the development site boundary along the Regent's Canal. Stem diameter of these trees has been estimated and tree no's has been marked with ''# " on the tree survey schedule.
Have the trees been tagged	No

3.2 Tree Positions

Supplied Site Plan	Originator	Engineering land & Building Surveys
	Drawing Name	Topographical Survey
	Drawing Ref:	T8428_TOPO_2D_R1_2
Is the drawing a measured Topographical Survey		Yes
Are all of the trees plotted individually		No
Additional Trees and/or landscape Features (General)	The location of T15, T18, T19 and T24 are based on visual inspection & estimation of location only due to the trees not being plotted on the supplied Topographical drawing.	

3.3 Surveyed Trees

3.3.1 The trees have been surveyed in accordance with BS 5837:2012 and categorised in accordance with the 'Tree Survey Key & Cascade Chart for tree quality Assessment'. The table below provides an overview summary of the quality assessment breakdown across the site.

Summary Table

Quantity Trees	***Quantity Groups***	***Category***	***Quality & Value***	
0	**0**	**A**	High	Trees to be considered for retention
6	**0**	**B**	Moderate	

12	**0**	**C**	Low	
0	**0**	**U**	Those in such a condition that any existing value would be lost within 10years and which should, in the current context be removed for reasons of sound arboricultural management.	Trees unsuitable for retention
18	**0**			**Totals**

3.3.2 A full Tree Survey Schedule can be found in Appendix B. Tree reference numbers are in accordance with Landmark trees original tree reference numbers with the exception of T23 & T24 which are additional surveyed trees.

3.3.3 A photographic record of the surveyed trees can be found in Appendix C.

4.0 Tree Protection Measures & Working Methods

4.01 To provide guidance on associated protection measures for the retained trees the root protection areas (RPA) have been calculated based on the re-survey undertaken by Ground Control.

4.02 The RPA's of the following trees has been altered /adjusted to suit with the pre-existing side conditions in accordance with the section 4.6.2 of BS5837:2012

- **T1-T4 & T8** - RPA's has been adjusted to suit the assumed constraints of the existing boundary wall and foundation (by <20%).
- **T14, T16, T17, T21, T23 & T24** - RPA's has been adjusted to suit the constraints posed by the Canal.
- **T21** - RPA's has been adjusted to suit the constraints of the site boundary wall and foundation assuming that root growth would be favouring the soft landscaped areas (by 10%).

4.03 This section will provide site specific working methods followed by general working methods in accordance with BS5837:2012 guidance. In relation to the site specific working methods this will firstly outline the works that may affect the RPA followed by the specific recommended protection measures and working methods split across demolition works and construction works.

Site Specific Method of Working

4.1 **T1-T4, T8-T10**

Proposed Works adjacent to /within the RPA's of the trees

Demolition Works

- *Demolition of the existing building*
- *Removal of the boundary fencing located on top of the retaining wall at the junction between Camley Street and Granary Street.*
- *Removal of existing trees*

Construction Works

- *Demolition of the existing boundary wall and associated foundations adjacent to/within the RPA's of the trees.*
- *Hard landscaping within the public footpath will be retained but the area between the retaining wall and footpath at the junction of Camley Street and Granary Street which will be replaced with both hard and soft landscaping.*
- *Installation of new hard surfacing and associated kerbs and foundations adjacent to/within the RPA's of the trees.*
- *Installation of soft landscaping and timber benches within the RPA's of the trees T4, T8-T10.*

Recommended Protection Measures & Method of Working

Demolition Works

1. *Existing boundary retaining wall is to be retained and security hoarding is to be installed on top of the wall prior to commencement of any works on site and act as tree protection fencing. Fencing is to remain in place during the demolition works and adjusted as advised below.*
2. *Existing ground levels are to be retained within the site and no excavation below the existing levels is to be carried out as part of the demolition works.*
3. *Demolition of the building and removal of the existing fencing on top of the retained wall should be undertaken inwards within the footprint of the existing building (often referred as "top down, pull back"*
4. *All demolition works are to be carried out in accordance with the GC Design drawing "Demolition Works - Tree Constraints, Removal and Protection Plan (Annex D)*

Construction Works

1. *Tree protection fencing or security hoarding is to be installed along/adjacent*

to the retaining wall due to be removed within the public footpath as shown on the Tree Constraints and Protection Plans (Appendix D) prior to commencement of the any works and remain in place until the completion of all the proposed works.

2. *Demolition of the retaining walls and associated foundations should be undertaken inwards within the footprint of the wall (often referred as "top down, pull back"). Removal of the retaining wall down to the bottom course can be carried out with conventional demolition technics and machinery. The removal of the foundations should be carried out under arboricultural supervision to ascertain root growth in this area and in sections with care using low impact hand- held pneumatic tools unless otherwise advised by arboricultural surveyor.*
3. *Removal of the hard landscaped surface and sub-base within the RPA's of the existing trees must be carried out with care using hand-held tools or appropriate machinery (under arboricultural supervision), working backwards over the area, so that the machine is not moving over the exposed ground' as outlined within BS 5837: 2012 sec 7.3.6.*

General

4. *Refer to sections 4.4+ for general working measures around existing trees in accordance with BS5837:2012 guidance.*

4.2 **T18, T19, T21, T24 and T23**

Proposed Works adjacent to /within the RPA's of the trees

Demolition Works

- *Removal of the existing hard surfacing and associated foundations within the RPA's*
- *Existing fencing on top of the retaining wall is to be removed*

Construction Works

- *Demolition of the existing boundary wall and associated foundations within the RPA's of the trees.*
- *Installation of new hard surfacing and associated kerbs and bench within the RPA's of the tree T21 only*
- *Installation of new soft landscaping within the RPA's of the trees T18, T19, T24, T21 & T23*

Recommended Protection Measures & Method of Working

Demolition Works

1. *Site Security fencing (hoarding) is to be installed above ground and act as tree protection fencing prior to commencement of any works apart from localised removal of any existing fencing where necessary. Hoarding is to remain in place during the demolition works.*
2. *Removal of the hard landscaped surface within the RPA's of the existing trees must be carried out with care using hand-held tools or appropriate machinery (under arboricultural supervision), working backwards over the area, so that the machine is not moving over the exposed ground' as outlined within BS 5837: 2012 sec 7.3.6.*
3. *Existing sub-base is to be left in -situ if possible. If the sub-base is due to be removed, no excavation should be carried out below the makeup levels.*
4. *Ground protection in accordance with the section 6.2.3.3 of BS 5837:2012 suitable for the proposed construction traffic weight is to be installed immediately after the removal of the sub-base to protect exposed unmade ground. No vehicle or machinery should operate within the RPA's until such time ground protection is installed.*

Construction Works

1. *Site security hoarding (or tree protection fencing) to be retained in place during construction works and remain in place until the completion of all the proposed work. All required alterations to the boundary fencing to be*

agreed with supervising arboricultural consultant. .

2. *Any temporary ground protection installed as noted within demolition works is to remain in place during the removal of the retaining wall and until such time proposed surfacing and soft landscaping is due to be carried out.*
3. *Demolition of the retaining walls and associated foundations should be undertaken inwards within the footprint of the wall within the site boundaries. Removal should be carried out in sections with care using hand held tools or low impact pneumatic tools under arboricultural supervision.*
4. *No excavation is to be carried out below the existing foundations of the wall or existing make up levels unless advised by Arboricultural surveyor in attendance.*

General

Refer to sections 4.4+ for general working measures around existing trees in accordance with BS5837:2012 guidance.

4.3 **T14, T15, T16, T17, T20 & T22**

Proposed Works adjacent to /within the RPA's of the trees
Presently it is our understanding that none of the proposed demolition or construction works will be carried out within the RPA's of these trees and the existing vegetated shrub planting strip in which these trees reside alongside the canal will be retained as current. The boundary walls/fencing along this edge maybe removed as part of the works and site security fencing (hoarding) will be installed to protect the vegetation alongside this canal edge.

General Working Methods for Surveyed Trees

4.4 Barriers & Ground Protection

4.4.1 Existing trees that are being retained on site to be protected by barriers and ground protection where shown within the Appendix D (TCPP) before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences and remain in place until the completion.

4.4.2 The protected area should be regarded as sacrosanct, and, once installed, barriers and ground protection should not be removed or altered without prior recommendation by the project arboriculturist and, where necessary, approval from the local planning authority', unless otherwise stated within this report and associated plans.

4.4.3 Supervising arboricultural consultant to confirm barriers and ground protection has been correctly set out (BS 5837: 2012 Sec 6.2.1.5).

4.4.4 The default specifications should consist of a vertical and horizontal scaffold framework, well braced to resist impact, as illustrated in Appendix E in accordance with the BS 5837: 2012. Vertical tubes should be spaced at a maximum of 3m and driven securely into the ground. Where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection, stabilizer struts should be secured with ground pins or mounted on a block tray as shown figure b of the Appendix E. Alternatively as highlighted within the site specific working measures it might be suitable in this situation to utilise the site security hoarding to provide suitable protection to the trees beyond the site boundary.

4.4.5 Existing hard surfacing within the RPA's of the existing trees that is not proposed for re-use as part of the proposed development should be retained to act as temporary

ground protection during construction, rather than being removed during demolition where possible.

4.4.6 Where the option above is not achievable or unmade ground would be exposed to construction damage within the RPA's of the existing trees, RPA's to be protected by using inter-linked ground protection board placed on top of a 150mm depth woodchip, laid onto a geotextile membrane for pedestrian-operated plant up to gross weight of 2t or an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice for wheeled or tracked construction traffic exceeding 2t gross weight. Areas are denoted on the supporting plans where necessary.

4.5 Demolition and Removal of existing structures and hard surfacing within the RPA's

4.5.1 Where an existing hard surface or feature such as wall is scheduled for removal, care should be taken not to disturb tree roots that might be present beneath it. Hand-held tools or appropriate machinery should be used (under arboricultural supervision) to remove the existing surface, working backwards over the area, so that the machine is not moving over the exposed ground' as outlined within BS 5837: 2012 sec 7.3.6.

4.5.2 Where existing hard surface or wall is to be removed within the RPA's of the existing trees, no excavation to be carried out below the existing make up or foundation levels unless otherwise specified.

4.5.3 The initial 'breaking up' of any hard surface is to be undertaken with low impact pneumatic tools (not breakers attached to diggers or JCB's) or by hand if possible. The removal of debris should be carried out by hand where possible.

4.5.4 All plant and vehicles engaged in demolition works should either operate outside the RPA, or on the ground protection or on existing hard surfaced areas and outside of the tree protection fencing.

4.5.5 Where structures are to be removed in close proximity to existing retained trees, the demolition should be undertaken inwards within the footprint of the existing building (often referred to as "top down, pull back").

4.5.6 Access facilitation pruning should be undertaken as necessary to prevent injurious contact between demolition plant and the tree(s). In some cases, working space may be provided by temporarily tying back tree branches. Pruning or tying should be undertaken in accordance with a specification prepared by supervising arboricultural consultant.

4.6 Avoiding Physical Damage to Roots

4.6.1 All excavation works within the existing soft landscaped areas within the RPA's to be undertaken carefully, using hand-held tools and probably by compressed air soil displacement and in accordance with the protection measures outlined below and BS 5837:2012.

4.6.2 In accordance with BS 5837 2012 sec 7.2.2- 7.2.4) the following guidance is to be adhered to when retained tree roots are exposed.

4.6.2.1 'Roots, whilst exposed, should immediately be wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping should be removed prior to backfilling, which should take place as soon as possible.

4.6.2.2 Roots smaller than 25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps. Roots occurring in clumps or of 25 mm diameter and over should be severed only following consultation with an arboricultural consultant as such roots might be essential to the tree's health and stability.

4.6.2.3 Roots bigger than 25mm diameter should not be cut as this would have major impact on the health and stability of the trees.

4.6.2.4 Prior to backfilling, retained roots should be surrounded with topsoil or un-compacted sharp sand (builders' sand should not be used because of its high salt content, which is toxic to tree roots), or other loose inert granular fill, before soil or other suitable material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots'.

4.7 Permanent hard surfacing within the RPA's

4.7.1 Where an existing hard surface is to be replaced with new, no excavation is to be carried out beyond the existing make up levels.

4.7.2 All works to be carried out by hand-held tools or appropriate machinery.

4.7.3 Existing hard surface to be retained until new surface or topsoil to be laid in order to protect the RPA's of the existing trees.

4.7.4 Ground protection to be installed within the root protection areas within the RPA's of the existing trees if existing hard surface is removed.

4.8 Preparatory works for new landscaping

4.8.1 New/ amended soft landscape planting areas are to be created within the RPA of the specified trees. Existing levels are to be retained for all soft landscape areas.

4.8.2 In accordance with BS 5837:2012 sec 8.1 'The general treatment of areas around newly planted and existing trees should allow for adequate infiltration of water and free gas exchange, reduction of water evaporation and the retention of an open soil structure to encourage root growth'

4.8.3 Where the hard landscaped areas are to be replaced with soft landscape, the exposed soil is to be aerated with compressed air to de-compact the existing soils prior to backfilling with imported topsoil to BS3882 (multipurpose classification) to existing (hard standing) ground levels.

4.8.4 Where existing soft landscape areas are being retained and replanted, existing soil is to be retained as current. Areas to be forked over and improved with green waste compost to BSI PAS 100 (2005) prior to planting and mulching in accordance with detailed planting plan.

4.9 Additional Precautions outside the exclusion zones

4.9.1 (BS 5837:2012 sec 6.2.4.1) Planning of site operations should take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweights (including drilling rigs), in order that they can operate without coming into contact with retained trees. Such contact can result in serious damage to the trees and might make their safe retention impossible. Consequently, any transit or traverse of plant in proximity to trees should be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is maintained at all times. Access facilitation pruning should be undertaken where necessary to maintain this clearance.

4.9.2 (BS 5837:2012 sec 6.2.4.2) 'Fires on sites should be avoided if possible. Where they are unavoidable, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and the wind direction should be taken into account when determining its location and it should be attended at all times until safe enough to leave'.

4.9.3 (BS 5837:2012 sec 6.2.4.3) 'Any materials whose accidental spillage would cause damage to a tree should be stored and handled well away from the outer edge of its RPA'.

5.0 Arboricultural Site Supervision/ Monitoring

5.1 In accordance with BS 5837:2012 sec 6.3 there should be an 'auditable system of arboricultural site monitoring. This should extend to arboricultural supervision whenever construction and development activity is to take place within or adjacent to any RPA'.

5.2 It is our recommendation that a Project Arborist (contact details below) is appointed to offer practical onsite advice and monitor the works during the development period. It is recommended that telephone email advice is available throughout the development works in relation to all site wide tree matters and specific site attendance at the following work stages:

1. Pre start meeting
2. Location and erection of suitable barrier/ ground protection noted above.
3. Construction of any to be determined landscape proposals
4. Completion where upon any further post completion management/ monitoring works will be identified if appropriate.

5.3 A written 'site visit' record is to be prepared and issued following each monitoring visit. Record to include the following details;

1. Date of Survey
2. Description of Works undertaken & monitored (including photographic record).
3. Any actions agreed

5.4 Arboricultural Consultant Contact Details

- Name: Alan Richardson
- Telephone Number: 0779 548 5769

Post Development Management (BS5837:2012 sec 8.8.3)

5.5 It may be appropriate to introduce a program of inspections to monitor the health of the trees in the longer terms to check for signs of decline and offer any future recommendations. Supervising arboricultural consultant is to determine the necessity of this action during the course of the construction works.

Appendix A
Tree Survey Key & BS 5837:2012 Cascade Chart – Table 1

Tree Survey Key

Tree Reference Number:	As recorded on tree survey plan.
Species:	Species listed by common name, key provided to scientific names.
Height:	overall height of the tree from ground level (in meters).
Stem Diameter:	In millimeters at 1.5m above adjacent ground level or immediately above the root flare for multi-stemmed trees.
Branch Spread:	In meters taken at four cardinal points (North, East, South, and West) to derive an accurate representation of the crown as recorded in the Tree Survey Plan.
Existing height (in meters) above ground level of:	1) first significant branch and direction of growth 2) canopy (crown clearance) to inform on ground clearance, crown/stem ratio and shading.
Life Stage:	Young(Y), Middle Aged (MA), Mature(M), Over Mature(OM), Veteran(V)
General observations:	particularly of structural and/or physiological condition (e.g. the presence of any decay and physical defect), and/or preliminary management recommendations;
Estimated remaining contribution:	in years (<10, 10+, 20+, 40+)
RPA:	Root Protection Area calculated from BS5837:2012 “Trees in Relation to Design, Demolition and Construction – Recommendations” in sqm. Where indicated, dimensions of radius of RPA circle based around centre point of trunk calculated for design purposes.
Category Grading:	Categories U or A to C grading, to be recorded on the tree survey plan in accordance with Cascade Chart for tree quality assessment on following page

Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• 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 category U trees (e.g. 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, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix B
Tree Survey Schedule

Reference Number	Common Species Name (Scientific name abreviation)	Height (m)	Stem Diameter (mm)			Branch Spread (m)				Existing height above ground level		Life Stage (Age)	General Observations	Estimated Remaining Contribution (Yrs)	Category Grading	Root Protection Area (m2)
			Multistem (MS)	Comb MS	Single stem (SS)	(N)	E)	(S)	(W)	Branch & Direction	Canopy		Structural / Physiological condition			
T1	London Plane	16			530	5	4	4	6	5mW	5	M	Fair, recently reduced.	40+	B2	127
T2	London Plane	18			500	3	3	4	4	4mW	4	EM	Fair. recently reduced. Bark wound from base to 3m with good occluded sides	20+	B2	113
T3	London Plane	18			425	4	3	3	3	5mW	5	EM	Fair, recently reduced.	20+	B2	82
T4	London Plane	18			450	7	7	8	4	6mW	6	EM	Fair, recently reduced. Co-dominant included fork at 4m	40+	C2	92
T8	London Plane	18			420	5	5	6	6	4	6	EM	Fair. Divides to 4 stems at 4m	40+	B2	80
T9	False Acacia	16			450	5	5	4	4	4mS	5.5	EM	Fair. Previously reduced; minor deadwood under 50mm in diameter	20+	B2	92
T10	Narrow leaved ash;	13			400	4	6	6	5	4	6	EM	Fair. Bark damaged from base to 1m	20+	B2	72
T14#	Sycamore	8			250	2	2	2	2		1.5	SM	Fair. Ivy. No access to base.	20+	C2	28
T15#	Sycamore	5			70	1	1	1	1		1.5	Y	Fair. Ivy. No access to base.	20+	C2	2
T16#	Sycamore	7			250	2	2	2	2		1.5	SM	Fair. Ivy. No access to base.	20+	C2	28
T17#	Goat willow	6			140	3	2	2	2		1.5	EM	Fair.No access to base.	10+	C2	9
T18#	Sycamore	8			120	1	1	1	1		2	SM	Fair.No access to base.	20+	C2	7
T19#	Sycamore	8	160 130 130 0	244		2	2	2	2	2mW	2	SM	Fair.Ivy No access to base.	20+	C2	27
T20#	Goat Willow	8	120 120 95 0	194		2	3	3	3	2mE	2.5	M	Fair.Ivy No access to base.	10+	C2	17
T21#	Sycamore	12	300 240 160 140	439		3	3	3	3	3mW	4	EM	Fair.Ivy No access to base.	40+	C2	87
T22#	Crack Willow	5	240 240 220 0	404		2	2	2	2	2	2	EM	Co-dominant stem. Pollarded ar 2.5m.Fair.Ivy. No access to base.	20+	C2	74
T23#	Sycamore	11	360 360 0 0	509		5	5	5	5	3mS	4	EM	Co-dominant stem. Fair.Ivy. No access to base.	40+	C2	117
T24#	Sycamore	7	110 110 90 75	195		0	2	1	2	3	2	SM	Fair.Ivy No access to base.	20+	C2	17

- Estimated stem diameters due to access restrictions

Appendix C
Site/Tree Photos

T1-T4

T8-T10

T14-T16

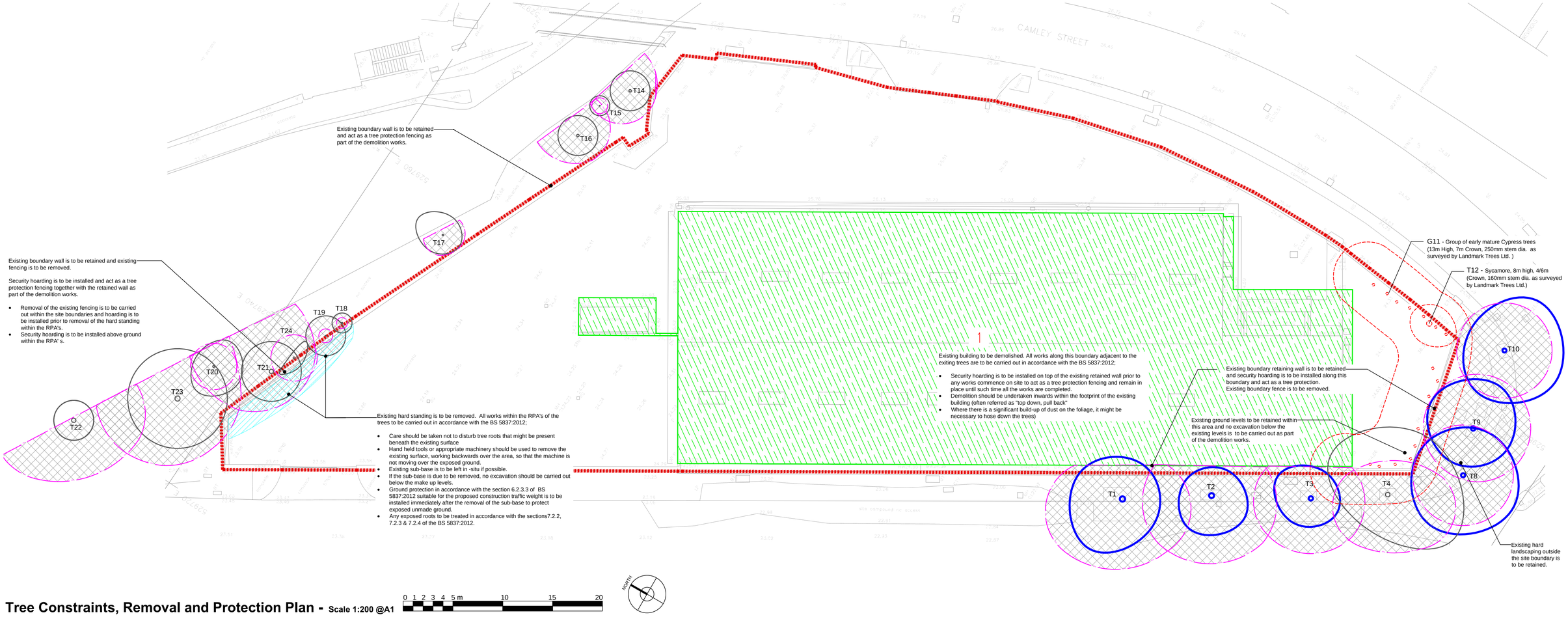
T17

T18-T23

T24

Appendix D

Tree Constraints and Protection Plans GC.190568.04.PL02 & PL03



Tree Constraints, Removal and Protection Plan - Scale 1:200 @A1

0 1 2 3 4 5 m 10 15 20

NORTH

LEGEND:

- Existing category 'B' trees to be retained
- Existing category 'C' trees to be retained
- Existing trees to be removed
- Construction Exclusion Zone (CEZ) within Root Protection Area (RPA)
- Proposed ground protection in accordance with BS 5837:2012
- Site Boundary

This drawing will be issued as part of the planning condition submission. The proposed works are not to commence until the condition 9 below is discharged.

Planning Condition 9 (Ref no: 2014/4385/P)
Prior to the commencement of any works on site, details demonstrating how trees to be retained shall be protected during construction work shall be submitted to and approved by the Council in writing. Such details shall follow guidelines and standards set out in BS5837:2012 "Trees in Relation to Construction". All trees on the site, or parts of trees growing from adjoining sites, unless shown on the permitted drawings as being removed, shall be retained and protected from damage in accordance with the approved protection details

NOTES

1.0 TREE SURVEY INFORMATION

1.1 Tree survey was carried out on 17th January by Mr A. Richardson Ground Control's Arboricultural Manager and superseeds the survey carried out by Landmark Trees dated 1st July 2014 which was submitted as part of the planning application.

1.2 Drawing is based on Walsh's Proposed Demolition Plan 4491-620-P3.

1.3 Tree survey has been carried out in accordance with BS:5837:2012 'Trees in relation to design, demolition and construction - Recommendations' part 4.4. Please refer to these sections for further details.

1.4 Drawing to be read in conjunction with GC Design
- Arboricultural Method Statement (AMS)
- Tree Survey Schedule
- Tree Constraints and Protection Plan GC.190568.04.PL03

1.5 Tree canopies outlines as shown on the plan are in accordance with the branch spread details within the tree schedule.

1.6 The location of T15, T18, T19 and T24 are based on visual inspection & estimation of location only due to the trees not being plotted on the supplied Topographical drawing.

1.7 # marked tree no's on the tree survey schedule indicates the trees with the estimated stem diameters due to access restrictions

1.8 Existing trees to be removed as shown on Landmark Trees Ltd. survey in 2014 have not been surveyed by Ground Control.

1.9 Tree reference numbers are in line with the Tree Survey Schedule provided within the Landmark Trees report outline above. T23 & T24 are additional trees to the original survey.

1.10 The RPA's of the following existing surveyed trees has been altered /adjusted whilst RPA's area calculation has been retained to suit with the pre-existing side conditions in accordance with the section 4.6.2 of the British Standard BS5837:2012, entitled 'Trees in relation to design, demolition and construction - Recommendations'.

- T1-T4 & T8 - RPA' s has been adjusted to suit the assumed constraints of the existing boundary wall and foundation (by <20%).
- T14, T16, T17, T21, T23 & T24 - RPA's has been adjusted to suit the constraints posed by the Canal.
- T21 - RPA's has been adjusted to suit the constraints of the site boundary wall and foundation assuming that root growth would be favoring the soft landscaped areas. (by 10%)

Rev.	Changes	Date	Dr.by	Ap.by

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Landscape Architecture | Ecology | Arboriculture
Part of Ground Control Group

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Stanley Sidings Limited

Project (Address)
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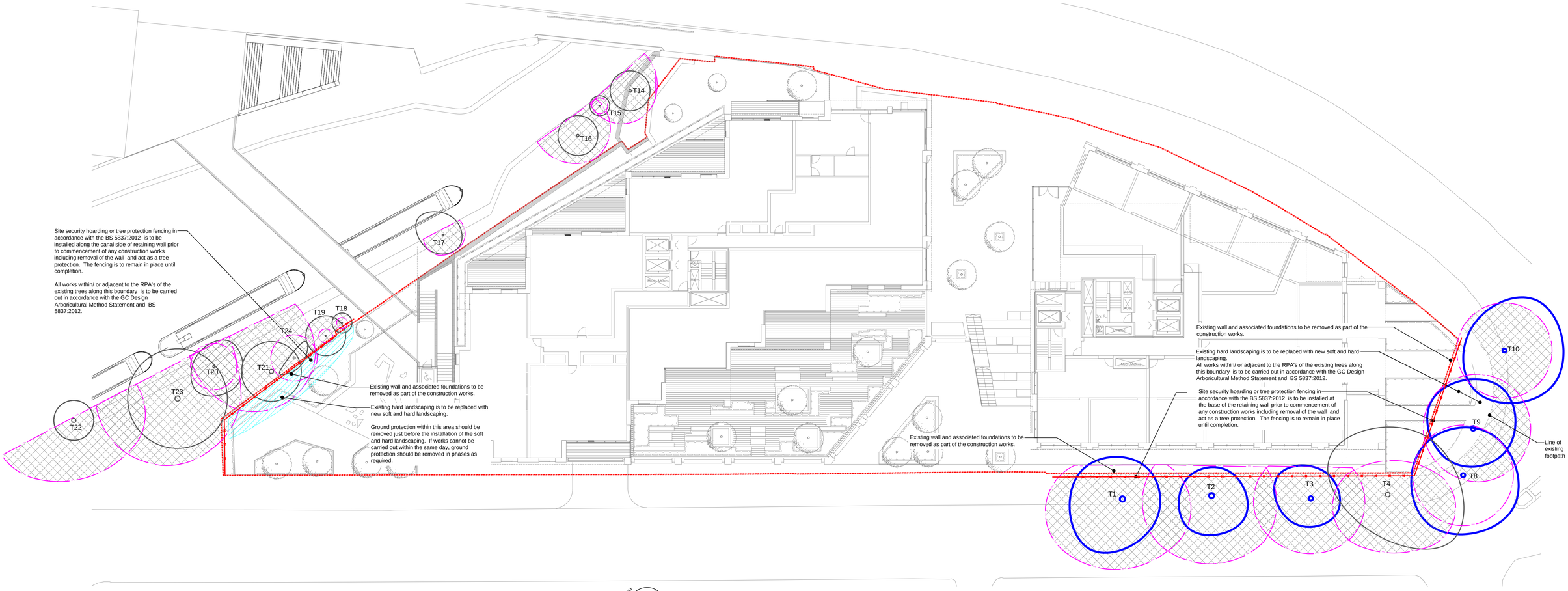
Drawing title
Demolition Works
Tree Constraints, Removal & Protection Plan

Date	Drawn by	Checked by	Scale(s)
January 2017	RA	AR	1:200@A1

Drawing No.	Rev	Issue status
GC.190568.04.PL02	*	Condition discharge

Notes:
1. © This drawing is the copyright of Ground Control Ltd and cannot be reproduced in any form without express consent of the company.
2. Do not scale off this drawing. All written dimensions are to be checked on site prior to commencing works.
3. All discrepancies, errors or omissions are to be reported for clarification before proceeding.



Construction Works Tree Constraints and Protection Plan

Scale 1:200 @A1

0 1 2 3 4 5 m 10 15 20

NORTH

LEGEND:

- Existing category 'B' trees to be retained
- Existing category 'C' trees to be retained
- Existing trees to be removed
- Construction Exclusion Zone (CEZ) within Root Protection Area (RPA)
- Proposed ground protection in accordance with BS 5837:2012
- Proposed Site Security Hoarding or tree protection fencing in accordance with BS 5837:2012
- Site Boundary

This drawing will be issued as part of the planning condition submission. The proposed works are not to commence until the condition 9 below is discharged.

Planning Condition 9 (Ref no: 2014/4385/P)
Prior to the commencement of any works on site, details demonstrating how trees to be retained shall be protected during construction work shall be submitted to and approved by the Council in writing. Such details shall follow guidelines and standards set out in BS5837:2012 "Trees in Relation to Construction". All trees on the site, or parts of trees growing from adjoining sites, unless shown on the permitted drawings as being removed, shall be retained and protected from damage in accordance with the approved protection details

NOTES

1.0 TREE SURVEY INFORMATION

1.1 Tree survey was carried out on 17th January by Mr A. Richardson Ground Control's Arboricultural Manager and superseeds the survey carried out by Landmark Trees dated 1st July 2014 which was submitted as part of the planning application.

1.2 Drawing is based on GC Design Plan prepared based on the planning approved Turkinton Martin Material Plan 156-L02 Rev B and Unit Architects Proposed Site Plan Ground 16022 01 AP 0010 002 Rev 02 as no formal Material Plan was available in required drawing format.

1.3 Tree survey has been carried out in accordance with BS:5837:2012 'Trees in relation to design, demolition and construction - Recommendations' part 4.4. Please refer to these sections for further details.

1.4 Drawing to be read in conjunction with GC Design
- Arboricultural Method Statement (AMS)
- Tree Survey Schedule (Included within the AMS and drawing below)
- Tree Constraints, Removal and Protection Plan GC.190568.04.PL02

1.5 Tree canopies outlines as shown on the plan are in accordance with the branch spread details within the tree schedule.

1.6 The location of T15, T18, T19 and T24 are based on visual inspection & estimation of location only due to the trees not being plotted on the supplied Topographical drawing.

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Rev. Changes Date Dr.by Ap.by

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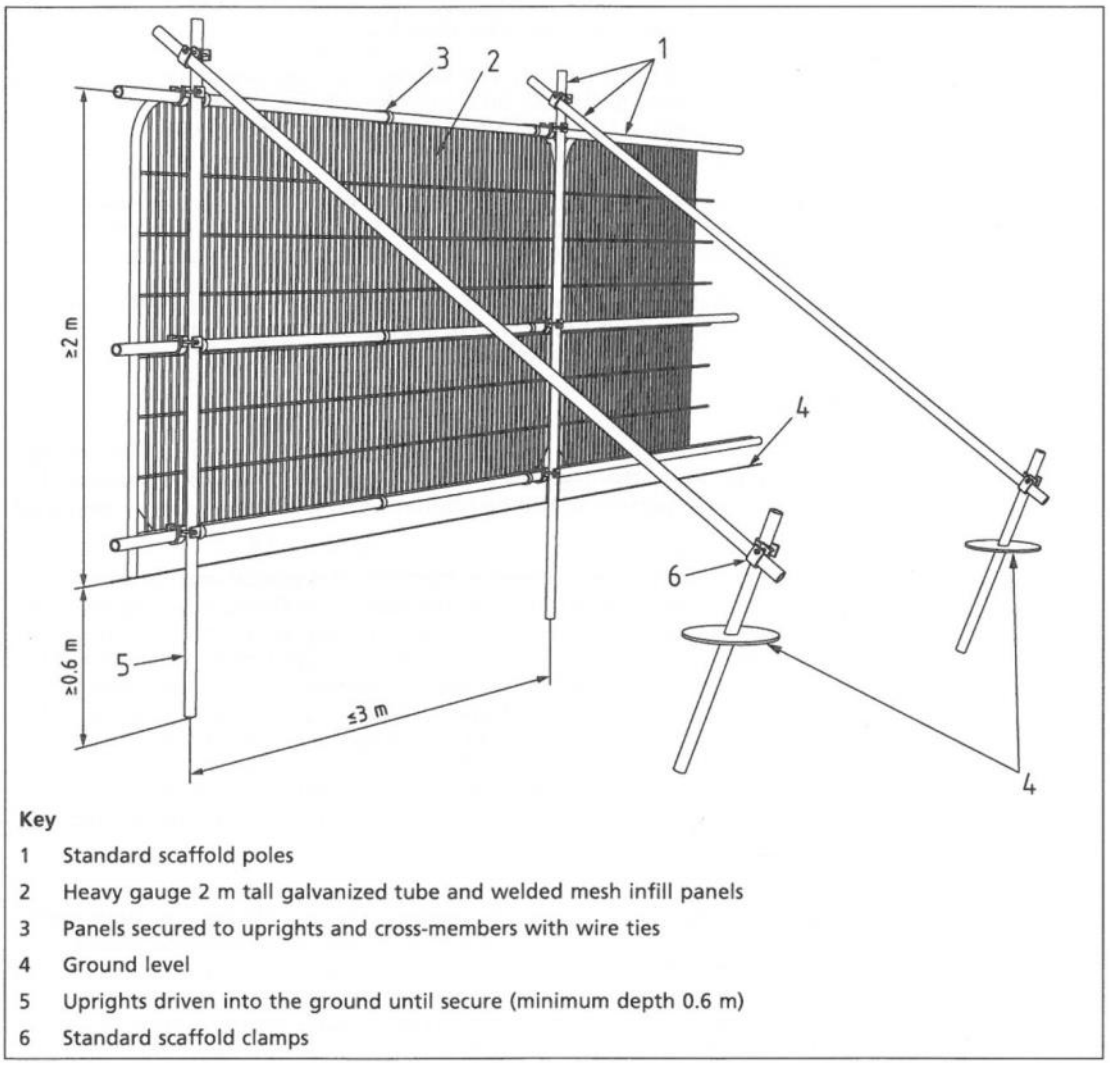
Date	Drawn by	Checked by	Scale(s)
January 2017	RA	AR	1:200@A1

Drawing No.	Rev	Issue status
GC.190568.04.PL03	*	Condition discharge

Appendix E
British Standard's Protective Barrier Fencing Detail

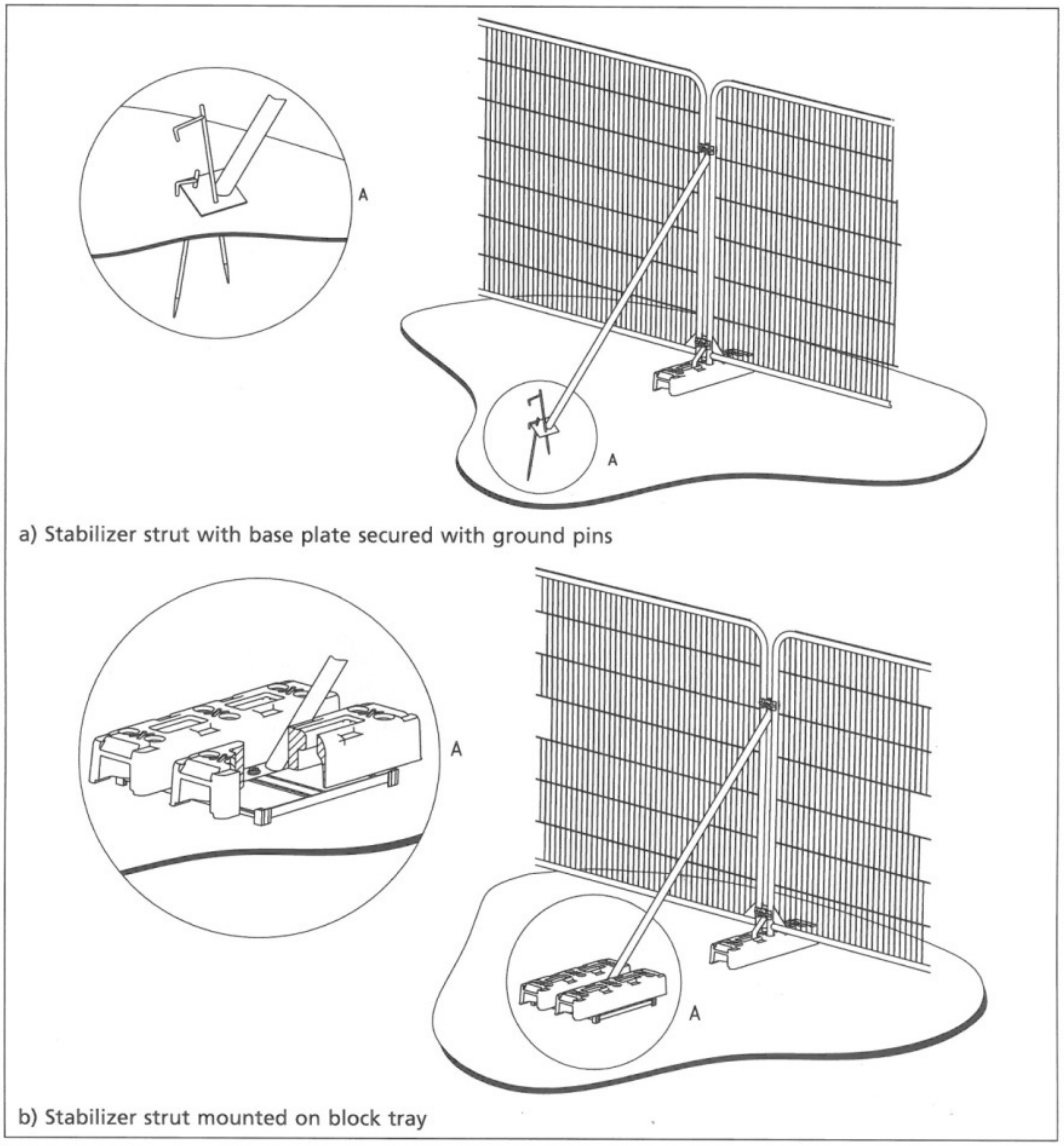
Figure 2 – Default specification for protective barrier



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

Figure 3 – Examples of above ground stabilizing systems



Grounds Maintenance
Landscape Construction
Landscape Design
Fencing
Tree Surveys and Surgery
Gritting and Snow Clearance