Arboricultural Constraints Appraisal

in Relation to Proposed Residential Development at

Land at Transvaal Terrace/Carlinghow Hill, Batley, West Yorkshire, WF17 0AA

Prepared by:

Bowland Tree Consultancy Ltd

March 2019

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ARBORICULTURAL CONSTRAINTS APPRAISAL
LAND AT TRANSVAAL TERRACE/CARLINGHOW HILL, BATLEY

Control sheet

Project No.:	BTC1725
Site:	Land at Transvaal Terrace/Carlinghow Hill, Batley, WF17 0AA
Client:	KUFIC
Council:	Kirklees Council
Survey Date:	28 February 2019
Surveyed by:	Phill Harris MSc BSc(Hons) HND MArborA CEnv MICFor
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Date of Issue:	8 March 2019
Version No:	1

TREE SURVEY SCHEDULE FOR ARBORICULTURAL CONSTRAINTS APPRAISAL			
Site:	Land at Transvaal Terrace/Carlinghow Hill, Batley, West Yorkshire, WF17 0AA	**Survey Date:**	28 February 2019
Client:	KUFIC	**Job Ref:**	BTC1725

Surveyor: Phill Harris Chartered Arboriculturist

No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)
T1	Wild Cherry	10	280	N 7 E 4.5 S 2 W 5	4.5 3	SM	G	▪ Highly biased crown and moderate stem lean north. ▪ Stem bifurcates at a height of approximately 4m, with branches in contact with each other after a distance of approximately 1.5m.	▪	20+	C1	35	3.36
T2	Common Laburnum	8	1x320 1x300 (ts)#	N 3.5 E 4.5 S 1.5 W 2.5	1.2 4	PM	M	▪ Not inspected in detail due to dense bramble around stem. ▪ Stem bifurcates at a height of approximately 1.2m with a tight fork. ▪ Approximately 200mm secondary branch either failed or removed to west at a height of approximately 2m, with resultant large partially occluded wound. ▪ Crown showing signs of a substantial reduction in vitality. ▪ Tree considered to have a short projected remaining life expectancy of <10 years.	▪	<10	U	87	5.26
T3	Whitebeam	8	150	N 3 E 2.5 S 2.5 W 3	2.5 2	Y	G	▪ No major visible structural defects.	▪	40+	C1	10	1.8
T4	Sycamore	12	6x160 (ms)	N 5.5 E 5 S 4.5 W 5.5	3 2.5	SM	G	▪ Self-set tree with multiple stems arising at ground level, possibly resultant of having previously been cut back and subsequently regrown.	▪	40+	C1	104	5.76
T5	Highclere Holly	8.5	120	N 1 E 2.5 S 3 W 2.5	0.2	SM	G	▪ Multi-stemmed from ground level with tight forks. ▪ Highly biased crown south-west due to suppression by neighbouring tree.	▪	40+	C1	39	3.53
T6	Italian Alder	8.5	110	N 2.5 E 2.5 S 2.5 W 2.5	0.2 0.5	Y	G	▪ Stem approximately 300mm from concrete kerb edge.	▪	20+	C1	5	1.32

Headings and Abbreviations:

No. Allocated sequential reference number - Tree ('T'), Group ('G'), Woodland ('W') or Hedge ('H') reference number - refer to plan and to numbered tags where applicable
Species: Common name
Height: In metres, to nearest half metre – where possible approximately 80% are measured using an electronic clinometer and the remainder estimated against the measured trees. In the case of Groups and Woodlands the measurement listed is that of the highest tree
Stem Diam.: Stem diameter in millimetres, to nearest 10mm - measured and calculated as per Annex C of BS5837:2012. MS = multi-stemmed, TS = twin-stemmed
Branch Spread: Crown radius measured (or estimated where considered appropriate) from the four cardinal points (north, east, south and west) to give an accurate visual representation of the crown
Branch & Canopy Clearances: Existing height above ground level, in metres, of first significant branch and direction of growth (e.g. 2.5-N) and of canopy at lowest point – to inform on crown to height ratio, potential for shading, etc.
Life Stage: Estimated age class - Y = young, SM = semi-mature, EM = early-mature, M = mature, PM = post-mature
PC: Physiological Condition - a measure of the tree's(s)' overall vitality, i.e. D = Dead, MD = Moribund, P = Poor, M = Moderate, G = Good
General Observations and Comments: Comments relating to the tree's(s)' overall condition and any other pertinent factors including structural defects, current and potential direct structural damage, physiological decline, poor form, etc.
Management Recommendations: Either Preliminary or In Consideration of the Proposal - In the case of Arboricultural Constraints Surveys the recommended management works only take exiting site and tree circumstances and conditions into account and not proposed developments. Arboricultural Impact Assessment and Method Statement related Surveys take the proposed development into consideration with recommendations made accordingly. More than one option may be given if considered appropriate
ERC: Estimated Remaining Contribution - in years as per BS5837:2012 (i.e. <10, 10+, 20+, 40+)
Cat. Grade: Category Grading - tree retention value listed as U, A, B or C - in accordance with BS5837:2012 Table 1
RPA m²: Root Protection Area in m² - calculated area around the tree that must be appropriately protected throughout the development process in order avoid root damage
RPA Radius (m): Root Protection Area Radius - in metres measured from the centre of the stem to the line of tree protection
 # (Estimated Dimensions): Where trees are located off-site, or are inaccessible for any other reason, and accurate measurements or other information cannot be taken then the information provided is estimated and is duly suffixed with a "#" symbol

No.	Species	Height	Stem Diam.	Branch Spread		Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m^2)	RPA Radius (m)
T7	Sycamore	13	480	N E S W	1.5 5 6 4	5-S 2.5	EM	G	▪ Located on steep banking down to retaining wall down to pavement. ▪ Highly biased crown south over road due to suppression by neighbouring tree. ▪ Evidently previously heavily topped at a height of approximately 9m, with resultant multiple branch regrowth.	▪	10+	C1	104	5.76
T8	Horse Chestnut	16.5	610	N E S W	7 6 2 6	4 2	EM	M	▪ Pronounced increment strip extending approximately 4m up stem from base to point where it divides into multiple primary branches, several of which have tight forks. ▪ Widespread bark buckling and loss below multiple branch union.	▪ Monitor tree's structural condition through annual inspections.	10+	C1	168	7.32
T9	Leyland Cypress	20	630	N E S W	2.5 2.5 2.5 2.5	1 0.5	M	G	▪ Dense crown, which subsequently inhibited inspection. ▪ Many visible branches have tight forks and included bark unions.	▪	10+	C1	180	7.56
T10	Horse Chestnut	16.5	710	N E S W	5 7 8.5 8.5	4 2.5	M	G	▪ Stem divides into multiple primary branches at a height of approximately 4m, evidently at point where evidently previously heavily topped. ▪ Several tight forks of secondary branches. ▪ Several increment strips up several primary and secondary branches. ▪ Moderately biased crown south. ▪ Crown partially encroaches over neighbouring bus-stop, pavement and road.	▪ Monitor tree's structural condition through annual inspections.	10+	C1	228	8.52
T11	Hybrid Black Poplar	19	1100	N E S W	8 11 11 8	6 5	PM	G	▪ Moderate stem lean south-east in direction of road. ▪ Tension cracks to bark at a height of approximately 1.5m, which are indicative of structural defects within this area. ▪ Stem divides into multiple 500mm diameter primary branches at a height of approximately 6m evidently at point where previously heavily topped. ▪ 1m by 1m cavity below union with evidently extensive decay within. ▪ Multiple previous branch failures to approximately 400mm diameter. ▪ Crown partially encroaches over neighbouring bus-stop, pavement and road. ▪ Tree has high risk of branch failure and subsequent unacceptable risk of harm to persons should it fail.	▪ Remove tree immediately due to high risk of branch failure and subsequent unacceptable risk of harm to persons should failure occur.	<10	U	547	13.2

No.	Species	Height	Stem Diam.	Branch Spread		Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m^2)	RPA Radius (m)
T12	Horse Chestnut	11	370	N E S W	4.5 4 5 3	2 1.5	SM	G	▪ Stem growing less than 300mm from that of tree T11. ▪ Stem divides into multiple primary branches at a height of approximately 2m, at point where evidently previously heavily topped. ▪ 100mm diameter partially cavity extending 250mm down into stem at this point. ▪ Primary branches in contact with stem of tree T11. ▪ Removal of T11 likely to cause significant damage to tree.	▪ Remove tree in order to facilitate removal of neighbouring dangerous tree T11.	10+	C1	62	4.44
T13	Common Oak	11.5	300	N E S W	6 8 5 2	3-E 2	SM	G	▪ Minor stem lean and highly biased crown east due to suppression by neighbouring trees.	▪	10+	C1	41	3.6
T14	Horse Chestnut	17	520	N E S W	4 1.5 7 8.5	5 2	EM	G	▪ Minor stem lean west. ▪ Stem divides into multiple primary branches at a height of approximately 5m with several tight forks and bacterial cankers. ▪ Highly biased crown west.	▪	10+	C1	122	6.24
T15	Norway Maple	14	1x240 1x220 1x180 1x170 1x130 (ms)	N E S W	1 5 6 4.5	8	SM	G	▪ Multi-stemmed from ground level. ▪ Highly biased crown south due to suppression by neighbouring trees.	▪	10+	C1	83	5.15
T16	Highclere Holly	6	1x160 2x140 (ms)	N E S W	4 2 2.5 4.5	0.5	SM	G	▪ Three stems arise at ground level. ▪ Slightly biased crown west.	▪	40+	C1	29	3.05
T17	Black Poplar	27	1100	N E S W	9 7 12 12	7 9	PM	G	▪ Moderate stem lean south. ▪ Areas of bulging, various increment strips, and several areas of tension and compression bark cracking to lower stem, all of which are indicative of structural defects within this area. ▪ Stem divides into multiple primary branches of approximately 500mm diameter at a height of approximately 8m, with tight forks and subsidence related bark cracking evident to stem below. ▪ 100mm diameter partially occluded cavity to primary branch to south close to union with stem. ▪ Tree considered to have a short projected safe remaining life expectancy of <10 years.	▪ Remove tree due to multiple structural defects and subsequent unacceptable risk of harm to persons should failure occur.	<10	U	547	13.2

No.	Species	Height	Stem Diam.	Branch Spread		Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m^2)	RPA Radius (m)
T18	Sycamore	17	550#	N E S W	1 4 5 5	4.5 5	EM	G	▪ Located on inaccessible banking with dense bramble around stem, and therefore not inspected in detail. ▪ Part of closely spaced group with two other Sycamores that are located on neighbouring land. ▪ Highly biased crown south. ▪ Very dense ivy up stem. ▪ Stem evidently divides into multiple primary branches at a height of approximately 4.5m.	▪ Sever ivy around circumference of stem base in order to facilitate future inspections.	20+	B1	137	6.6
T19	Sycamore	14.5	360#	N E S W	3 1.5 5 5.5	3-W 2.5	SM	G	▪ On opposite side of palisade fence with stem in contact with structure. ▪ Subsequently projected to cause substantial structural displacement to fence on incremental growth. ▪ Moderate stem lean and highly biased crown west.	▪ Remove tree due to projected causation of structural damage to fence.	<10	U	59	4.32
T20	Field Maple	16.5	1x550 2x300 (ts)#	N E S W	8 3 7 8	4-W 1.5	M	G	▪ On opposite side of palisade fence with stem approximately 1m back from structure. ▪ Stem trifurcates at a height of approximately 0.5m. ▪ Highly biased crown west.	▪	40+	B1	219	8.34
T21	Sycamore	13	390	N E S W	5 6 4 4	0.1-SE 2	SM	G	▪ Close to top of steep banking down to west, with fill around stem base. ▪ 150mm diameter primary branch arises from south-east side of stem base.	▪ If retained then prune to remove branch arising from stem base.	20+	B1	69	4.68
T22	Hornbeam	14	6x200 (ms)	N E S W	7 7 7 7	0.5 0	SM	G	▪ Located on steep banking down to west, with extensive fill in root zone up to stem. ▪ Multiple bacterial cankers to stem.	▪	10+	C1	145	6.79
T23	Hornbeam	10.5	200	N E S W	6 6 6 6	0 0.5	SM	G	▪ Growing at top of steep banking down to west, with extensive fill in root zone up to stem. ▪ Concrete street lamp within crown, approximately 1.5m from east side of stem.	▪	10+	C1	109	5.88
T24	Sycamore	10	1x190 1x170 (ts)	N E S W	0 1 4 4	1 1	Y	G	▪ Growing in crown of neighbouring tree with highly biased crown south. ▪ Stem bifurcates a height of approximately 0.3m.	▪	10+	C1	29	3.06
T25	Hornbeam	9	1x400 1x300 (ts)	N E S W	6.5 7 5 5	2.5-E 1	SM	G	▪ Stem bifurcates at a height of approximately 1m with an acute included bark union and tight compression fork. ▪ Dense Japanese Knotweed in rootzone to south and west.	▪	20+	B1	113	6

No.	Species	Height	Stem Diam.	Branch Spread		Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m^2)	RPA Radius (m)
T26	Sycamore	17	860	N E S W	8.5 9 8 9	4 3	M	G	▪ Growing in earth mound. ▪ Moderate stem lean east, possibly resultant of past partial rootplate failure. ▪ Stem bifurcates at a height of approximately 4m with a partially included bark union.	▪	20+	B1	335	10.32
G1	2no. Cherry Laurel, 1no. Sargent Cherry	≤ 5	≤ 6x50 (ms)	N E S W	≤ 6.5 ≤ 2 ≤ 2 ≤ 2	N/A ≥ 0	Y-SM	G	▪ Closely spaced group. ▪ All are multi-stemmed from ground level. ▪ Cherry has highly biased crown and severe stem lean north-east.	▪	20+	C1	≤ 7	≤ 1.47
G2	approx. 4no. Hawthorn, 3no. English Elm, 1no. Silver Birch	≤ 13	≤ 2x160 (ts)	N E S W	≤ 2.5 ≤ 2.5 ≤ 2.5 ≤ 2.5	N/A ≥ 1	Y-SM	G	▪ Moderately to closely spaced group of self-set trees on banking down to road. ▪ Hawthorn and Elm are young, and Silver Birch is semi-mature. ▪ Biased crowns due to suppression by neighbouring trees.	▪	10+	C1	≤ 23	≤ 2.72
G3	2no. Sycamore, 1no. Hawthorn, 1no. Elm	≤ 14	≤ 240	N E S W	≤ 1 ≤ 1 ≤ 3 ≤ 4	2-W ≥ 2	Y	G	▪ Very closely spaced group, with only largest Sycamore having any long-term potential for development.	▪ Remove all trees in group but largest Sycamore.	10+	C1	≤ 26	≤ 2.88
G4	2no. Sycamore, 1no. Horse Chestnut	≤ 16	≤ 470	N E S W	≤ 5 ≤ 5 ≤ 5 ≤ 5	4-W ≥ 2	SM-EM	G	▪ Moderately closely spaced group. ▪ Sycamore are semi-mature and Horse Chestnut is early-mature. ▪ All evidently previously heavily topped at a height of approximately 5m with resultant multiple branch regrowth and cavities. ▪ North Sycamore has very dense ivy up stem and into multiple primary branches.	▪ Sever ivy around circumference of stem base of Sycamore in order to facilitate future inspections.	10+	C1	≤ 100	≤ 5.64
G5	3no. Sycamore	≤ 17	≤ 2x400 (ts)#	N E S W	≤ 6 ≤ 7 ≤ 3 ≤ 7	N/A ≥ 4	EM	G	▪ Moderately closely spaced group. ▪ Located on neighbouring land and therefore under third party ownership. ▪ Not inspected in detail.	▪	40+	B1	≤ 145	≤ 6.79
G6	4no. Sycamore, 2no. Ash	≤ 18	≤ 550#	N E S W	≤ 6.5 ≤ 6.5 ≤ 6.5 ≤ 6.5	N/A ≥ 5	SM-EM	G	▪ Roughly linear group located on neighbouring land and therefore under third party ownership. ▪ Not inspected in detail. ▪ On opposite side of retaining wall in area that is between approximately 1.5m and 4m higher than the ground levels immediately adjacent within the site.	▪	20+	B1	≤ 137	≤ 6.6
G7	2no. Sycamore	≤ 17	≤ 500#	N E S W	≤ 5 ≤ 5 ≤ 5 ≤ 5	N/A ≥ 5	EM	M	▪ Moderately spaced pair located in area of dense bramble on opposite side of retaining wall in area that is approximately 1.5m higher than the ground levels immediately adjacent within the site. ▪ Not inspected in detail. ▪ Both trees have stems in contact with either wall or palisade fence. ▪ Tree to south has extensive bark necrosis up stem for 8m.	▪ Clear area of bramble in order to allow inspection of trees.	10+	C1	≤ 113	≤ 6

No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)
G8	3no. Sycamore	≤ 18	≤ 600#	N ≤ 5 E ≤ 7 S ≤ 5 W ≤ 9	9 ≥ 8	EM	G	▪ Moderately spaced pair located in area of dense bramble on opposite side of retaining wall in area that is approximately 1.5m higher than the ground levels immediately adjacent within the site. ▪ Not inspected in detail.	▪	40+	B1	≤ 163	≤ 7.2
G9	2no. Sycamore	≤ 17	≤ 550#	N ≤ 5 E ≤ 6 S ≤ 3 W ≤ 9	3-W ≥ 5	EM	G	▪ Closely spaced pair located on neighbouring land and therefore under third party ownership. ▪ on opposite side of retaining wall in area that is approximately 1.5m higher than the ground levels immediately adjacent within the site.	▪	20+	B1	≤ 137	≤ 6.6
G10	Sycamore, Goat Willow, Hawthorn, Ash	≤ 14.5	≤ 350#	N ≤ 5.5 E ≤ 5.5 S ≤ 5.5 W ≤ 5.5	N/A ≥ 1.5	M	G	▪ Moderately closely spaced group of several hundred trees on banking to opposite side of palisade fence. ▪ Not inspected in detail. ▪ Sycamore and Ash are in the young to semi-mature age range, Goat Willow are semi-mature to early-mature, and Hawthorn are young to post-mature.	▪	40+	B1/2	≤ 55	≤ 4.2
G11	1no. Ash, 1no. Wych Elm	≤ 6	≤ 6x70 (ms)	N ≤ 4.5 E ≤ 4.5 S ≤ 4.5 W ≤ 4.5	N/A ≥ 0.5	SM	G	▪ Very closely spaced pair of multi-stemmed trees. ▪ Both with stems growing in contact with concrete street lamp.	▪	<10	U	≤ 13	≤ 2.06
G12	1no. Sycamore, 1no. Wild Cherry	≤ 13	≤ 320	N ≤ 3 E ≤ 3 S ≤ 3 W ≤ 3	N/A ≥ 1	SM	G	▪ Loose pair of trees. ▪ Sycamore is multi-stemmed with tight forks. ▪ Cherry has a moderate stem lean north.	▪	10+	C1	≤ 46	≤ 3.84
G13	approx. 5no. Sycamore, 2no. Ash, 1no. Cypress	≤ 17	≤ 500	N ≤ 5 E ≤ 5 S ≤ 5 W ≤ 5	N/A ≥ 2	SM-EM	G	▪ Loose group of mostly early-mature trees to north of site.	▪	40+	B1/2	≤ 113	≤ 6
G14	Ash, Hawthorn, Sycamore, Rowan, Goat Willow	≤ 15	≤ 450	N ≤ 4.5 E ≤ 4.5 S ≤ 4.5 W ≤ 4.5	N/A ≥ 0	Y-PM	G	▪ Very closely to loosely spaced group of approximately 30 trees on steep banking down to west. ▪ Partially growing in areas of rubble and fill. ▪ Ash are in the young to semi-mature age range, Hawthorn are semi-mature to post-mature, Sycamore are young to early-mature, and Rowan is mature. ▪ Substantial number of young Ash to north-east of group.	▪	20+	B1/2	≤ 92	≤ 5.4
G15	5no. Ash	≤ 11.5	≤ 270	N ≤ 5 E ≤ 5 S ≤ 4 W ≤ 4	N/A ≥ 0.5	Y-M	G	▪ Very closely to moderately spaced group. ▪ Growing in area of rubble and fill.	▪	10+	C1	≤ 33	≤ 3.24

TREE SURVEY SCHEDULE FOR ARBORICULTURAL CONSTRAINTS APPRAISAL					
Site:	Land at Transvaal Terrace/Carlinghow Hill, Batley, West Yorkshire, WF17 0AA	**Surveyor:**	Phill Harris Chartered Arboriculturist	**Page:** 7 of 7	
Client:	KUFIC	**Survey Date:**	28 February 2019		
		Job Ref:	BTC1725		

No.	Species	Height	Stem Diam.	Branch Spread		Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m^2)	RPA Radius (m)
G16	approx. 5no. Hawthorn	≤ 9	≤ 5x100 (ms)	N E S W	≤ 2.5 ≤ 2.5 ≤ 2.5 ≤ 2.5	N/A ≥ 1	EM	G	▪ Loosely to moderately closely spaced group on steep banking down to west. ▪ Growing in area of rubble and fill. ▪ Dense Japanese Knotweed immediately to west.	▪	20+	C1	≤ 23	≤ 2.68
G17	2no. Ash	≤ 10	≤ 190	N E S W	≤ 3.5 ≤ 3.5 ≤ 3.5 ≤ 3.5	N/A ≥ 1	Y	G	▪ Very closely spaced pair of trees. ▪ Growing in area of rubble and fill. ▪ Dense Japanese Knotweed approximately 1.5m to north of group.	▪	10+	C1	≤ 16	≤ 2.28

BS5837:2012 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 BS5837:2012 paragraph 4.5.7.*			Red
	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)	Green
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. Examples include the presence of remediable defects including unsympathetic past management and minor storm damage	Trees present in numbers, usually as groups or woodlands, so they form distinct landscape features which attract a higher collective rating than they might as individuals. But which are not, individually, essential components of formal or semi-formal arboricultural features. For example, trees of moderate quality within an avenue that includes better, A category specimens. Or trees which are internal to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	Blue
Category C Those trees of low quality and value: currently in adequate condition to remain until new planting could be established - a minimum of 10 years is suggested - or young trees with a stem diameter below 150 mm	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	Grey
	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 150mm should be considered for relocation			

DISCLAIMER

Survey Limitations: Unless otherwise stated all trees are surveyed from ground level using non-invasive techniques. The disclosure of hidden crown and stem defects, in particular where they may be above a reachable height or where trees are ivy clad or in areas of ground vegetation, cannot therefore be expected. All obvious defects, however, are reported. Detailed tree safety appraisals are only carried out under specific written instructions. Comments upon evident tree safety relate to the condition of said tree at the time of the survey only.

Unless otherwise stated all trees should be re-inspected annually in order to appraise their on-going mechanical integrity and physiological condition. It should, however, be recognised that tree condition is subject to change, for example due to the effects of disease, decay, high winds, development works, etc. Changes in land use or site conditions (e.g. development that increases access frequency) and the occurrence of severe weather incidents are also significant considerations with regards tree structural integrity and trees should therefore be re-assessed in the context of such changes and/or incidents and inspected at intervals relative to identified and varying site conditions and associated risks.

Where trees are located wholly or partially on neighbouring private third-party land then said land is not accessed and our inspection is therefore restricted to what can reasonably be seen from within the site. Stem diameters of trees located on such land are estimated. Any subsequent comments and judgments made in respect of such trees are based on these restrictions and are our preliminary opinion only. Recommendations for works to neighbouring third-party trees are only made where a potentially unacceptable risk to persons and/or property has been identified during our survey. Where significant structural defects of third-party trees are identified and associated management works are considered essential to negate any risk of harm and/or damage then we will first attempt to inform the site occupier of the issues and, if not possible, then inform the relevant Council. Where a more detailed assessment is considered necessary then appropriate recommendations are set out in the Tree Survey Schedule.

Where tree stem locations are not included on the plan(s) provided then they are plotted at the time of the survey using, where appropriate and/or practicable, a combination of measurement triangulation and GPS co-ordination. Where this is not possible then locations are estimated. Restrictions in these respects are detailed in the report.

The tree survey and any report information provided is intended as a guide to identify key tree related constraints to site development only. As such, the potential influence of trees upon existing or proposed buildings or other structures resulting from the effects of their roots abstracting water from shrinkable load-bearing soils is not considered herein. The tree survey information in its current form should not therefore be considered sufficient to determine appropriate foundation depths for new buildings. Accordingly, an updated survey, with reference to the current NHBC Standards Chapter 4.2 - Building Near Trees, must therefore be prepared for the specific purpose of informing suitable foundation depths subsequent to planning approval being granted. The advice of a structural engineer must also be sought with regard to appropriate foundation depths for new buildings.

Third Parties: Any disclosure of this document to a third party is subject to this disclaimer. The report was prepared by Bowland Tree Consultancy Ltd at the instruction of and for use by our client, as named. This report does not in any way constitute advice to any third party who is able to access it by any means. Bowland Tree Consultancy Ltd excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage arising from reliance on the contents of this report.

Statutory Tree Protection: It is the client's responsibility to check for the presence of any statutory tree protection measures, such as the site's location within a Conservation Area and/or the presence of any Tree Preservation Orders, directly with the applicable Council's planning department prior to scheduling or carrying out any tree works. In turn, it is also the client's responsibility to check for the need for a felling licence with the Forestry Commission prior to scheduling or carrying out any tree works. Bowland Tree Consultancy Ltd cannot be held responsible for any decisions made by the client to prune or remove trees where any such statutory protection exists.

- TEMPORARY PROTECTIVE FENCING & GROUND PROTECTION SPECIFICATION -

Construction Exclusion Zones (CEZs), shall be enclosed by **Temporary Protective Fencing** and/or, where necessary, **Temporary Ground Protection Measures**. The fencing/ground protection Type(s), locations, and extents shall be agreed, in writing, with the Local Planning Authority (LPA). In turn, the **Temporary Protective Fencing** and/or **Temporary Ground Protection Measures** shall:

1. be constructed as in accordance with the Type 1, Type 2 or Type 3 'Temporary Protective Fencing Construction' sections and, where applicable the 'Temporary Ground Protection Measures' section, as detailed herein and agreed, in advance with the LPA;
2. be retained in place throughout the development process until completion of the project, and only removed following receipt of written permission from the LPA;
3. be sited in the area(s) defined by the Root Protection Areas on the associated Tree Impact Plan, or as the CEZs on the Tree Protection Plan;
4. be erected prior to any construction, demolition or excavation works and remain in place for the duration of the project;
5. preclude any delivery of site accommodation and/or materials and/or plant machinery;
6. preclude all construction related activity, with the sole exception of specified arboricultural works and any other works to be carried out under supervision that have been agreed by all parties;
7. preclude the storage of all development related materials and substances including fuels, oils, additives, cement and/or any other deleterious substance; and
8. be affixed with a 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1, below), at every 10.0 metre length of protective fencing.
9. Important: Any incursion into CEZs must be by prior arrangement, following consultation with the LPA.

Figure 1: CEZ Warning Sign

– TREE PROTECTION AREA –
KEEP OUT!

(TOWN & COUNTRY PLANNING ACT 1990)
THE TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR SUBJECTS OF A 'TREE PRESERVATION ORDER', THE CONTRAVENTION OF WHICH MAY LEAD TO CRIMINAL PROSECUTION

THE FOLLOWING MUST BE OBSERVED BY ALL PERSONNEL:

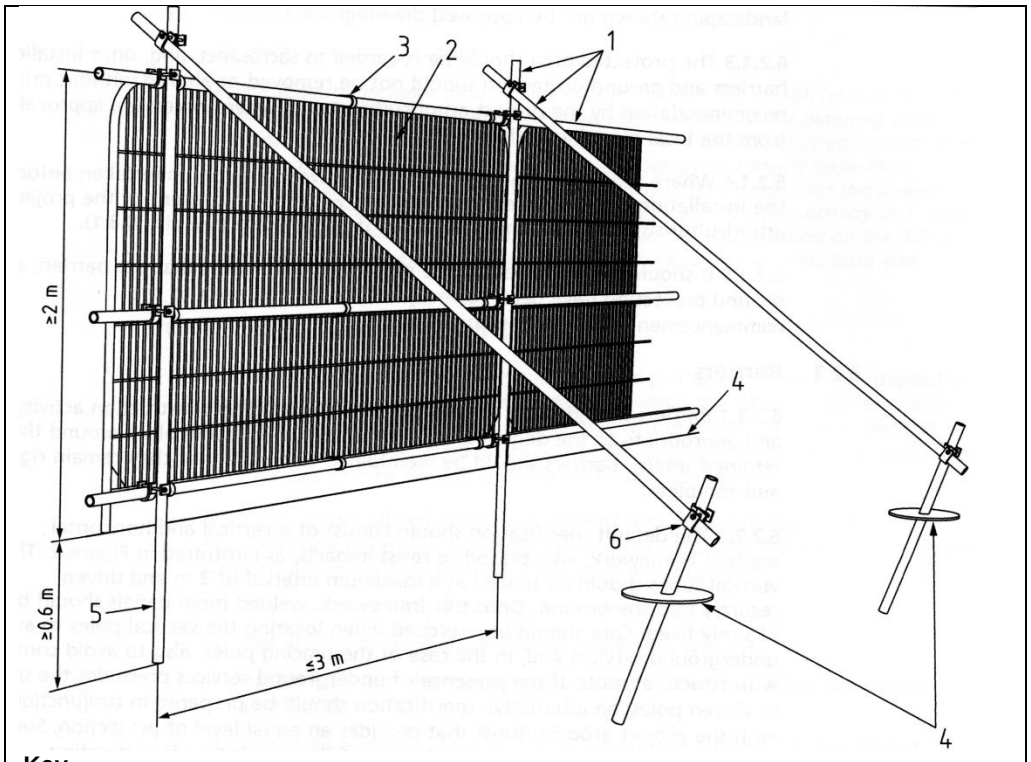
- THE PROTECTIVE FENCING MUST NOT BE MOVED
- NO PERSON SHALL ENTER THE CONSTRUCTION EXCLUSION ZONE
- NO MACHINE, PLANT OR VEHICLES SHALL ENTER THE EXCLUSION ZONE
- NO MATERIALS SHALL BE STORED IN THE EXCLUSION ZONE
- NO SPOIL SHALL BE DEPOSITED IN THE EXCLUSION ZONE
- NO EXCAVATION SHALL OCCUR IN THE EXCLUSION ZONE
- NO FIRES SHALL BE LIT IN THE EXCLUSION ZONE

ANY INCURSION INTO THE EXCLUSION ZONE MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

Type 1 (i.e. 'Default') Temporary Protective Fencing Construction (see Figure 2, below)

1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
2. The panels shall butt together and be securely fixed to a scaffold framework, as per points 3 to 5 of Figure 2, overleaf.
3. The scaffold framework shall comprise of upright poles of at least 3.0 metres in length driven no less than 0.6 metres into the ground at maximum 3.0 metre centres with horizontal and diagonal poles fixed to the uprights, as per points 4 to 5.
4. The two horizontal rail poles shall be attached to the uprights at heights of 0.6 and 1.8 metres with 3 no. clamps to each joint.
5. The diagonal scaffold pole struts be clamped to the top rail of the scaffold framework at a 45º angle and extend back into the CEZ and clamped to a 0.7 metre length of scaffold tube that shall be driven no less than 0.5m into the ground.
6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1) shall be fixed to every 10.0 metre length of protective fencing.
8. On completion of erection, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Protective Fencing.

Figure 2: BS5837:2012 Default specification for protective barrier



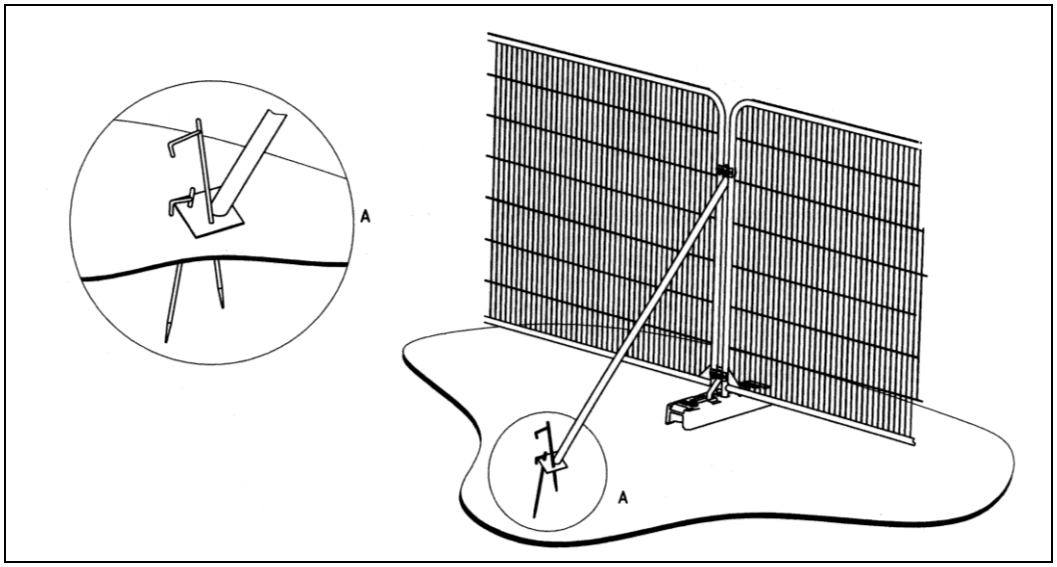
Key

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

Type 2 Temporary Protective Fencing Construction (see Figure 3(a), below)

1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
2. The panels shall stand on rubber or concrete feet.
3. The panels shall butt together, and be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence.
4. The distance between the fence couplers shall be at least 1.0 metre, and shall be uniform throughout the fence.
5. The panels shall be supported on the inner side by stabiliser struts, which shall be clamped to the scaffold framework at a 45º angle and extend back into the CEZ and shall be attached to a base plate, which shall be secured to the ground with pins (Figure 3a).
6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1) shall be fixed to every 10.0 metre length of protective fencing.
8. On completion of erection, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Protective Fencing.

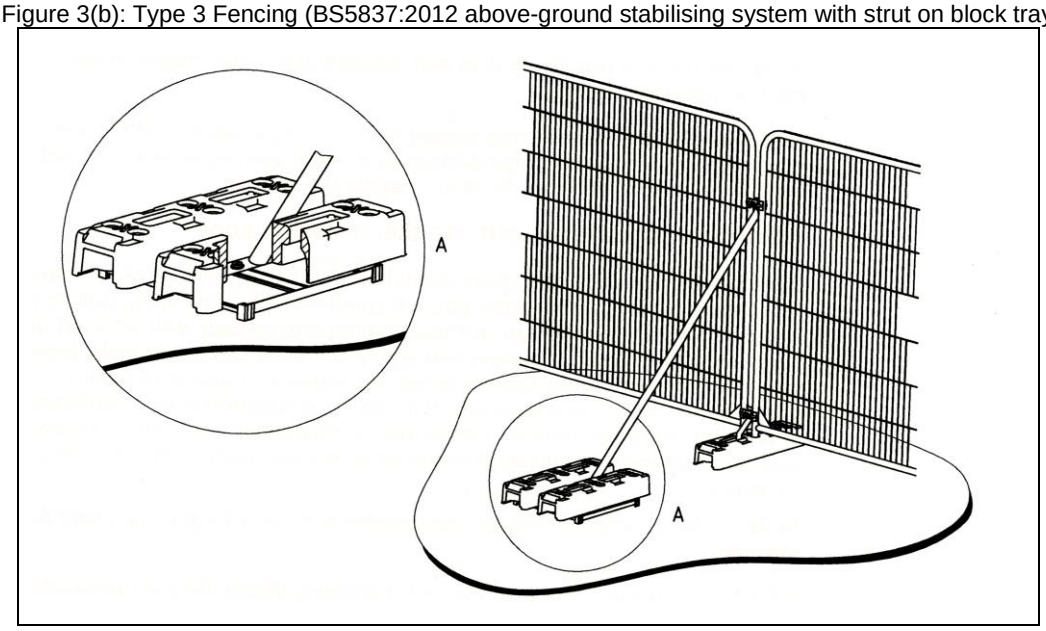
Figure 3(a): Type 2 Fencing (BS5837:2012 above-ground strut stabilising system with ground pins)



Type 3 Temporary Protective Fencing Construction (see Figure 3(b), overleaf)

1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
2. The panels shall stand on rubber or concrete feet.
3. The panels shall butt together, and be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence.
4. The distance between the fence couplers shall be at least 1.0 metre, and shall be uniform throughout the fence.
5. The panels shall be supported on the inner side by stabiliser struts, which shall be clamped to the scaffold framework at a 45º angle and extend back into the CEZ and shall be attached to a block tray base (Figure 3b).
6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1) shall be fixed to every 10.0 metre length of protective fencing.
8. On completion of erection, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Protective Fencing.

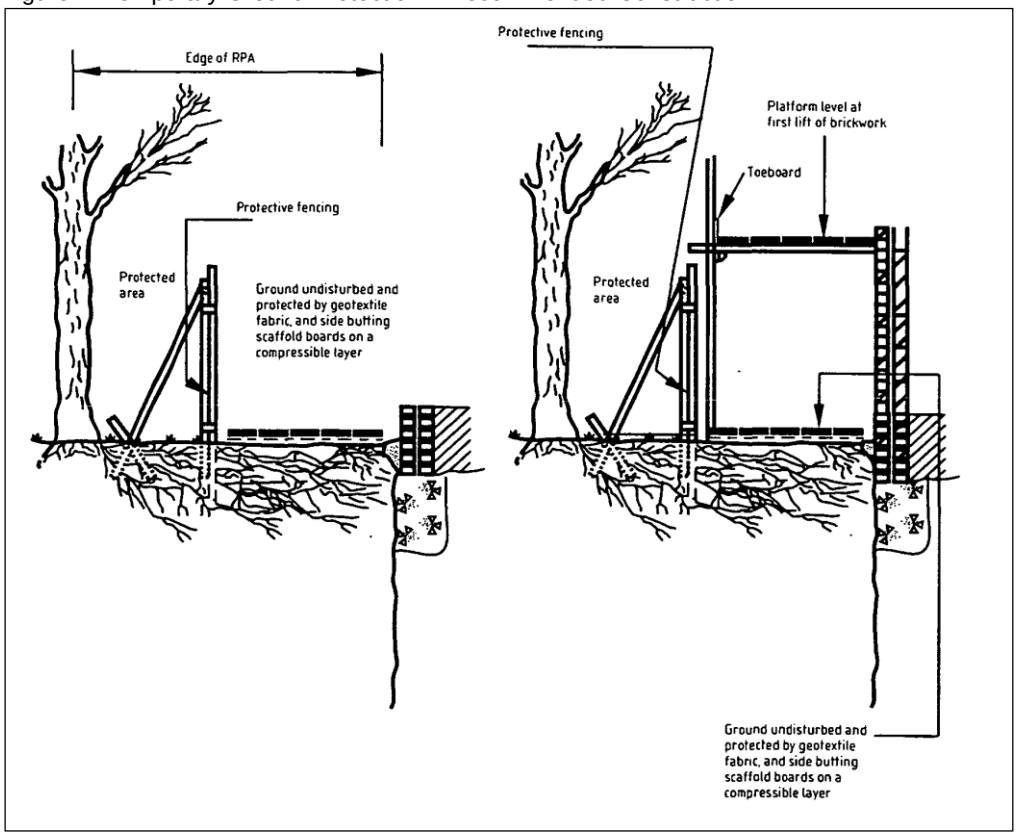
Figure 3(b): Type 3 Fencing (BS5837:2012 above-ground stabilising system with strut on block tray)

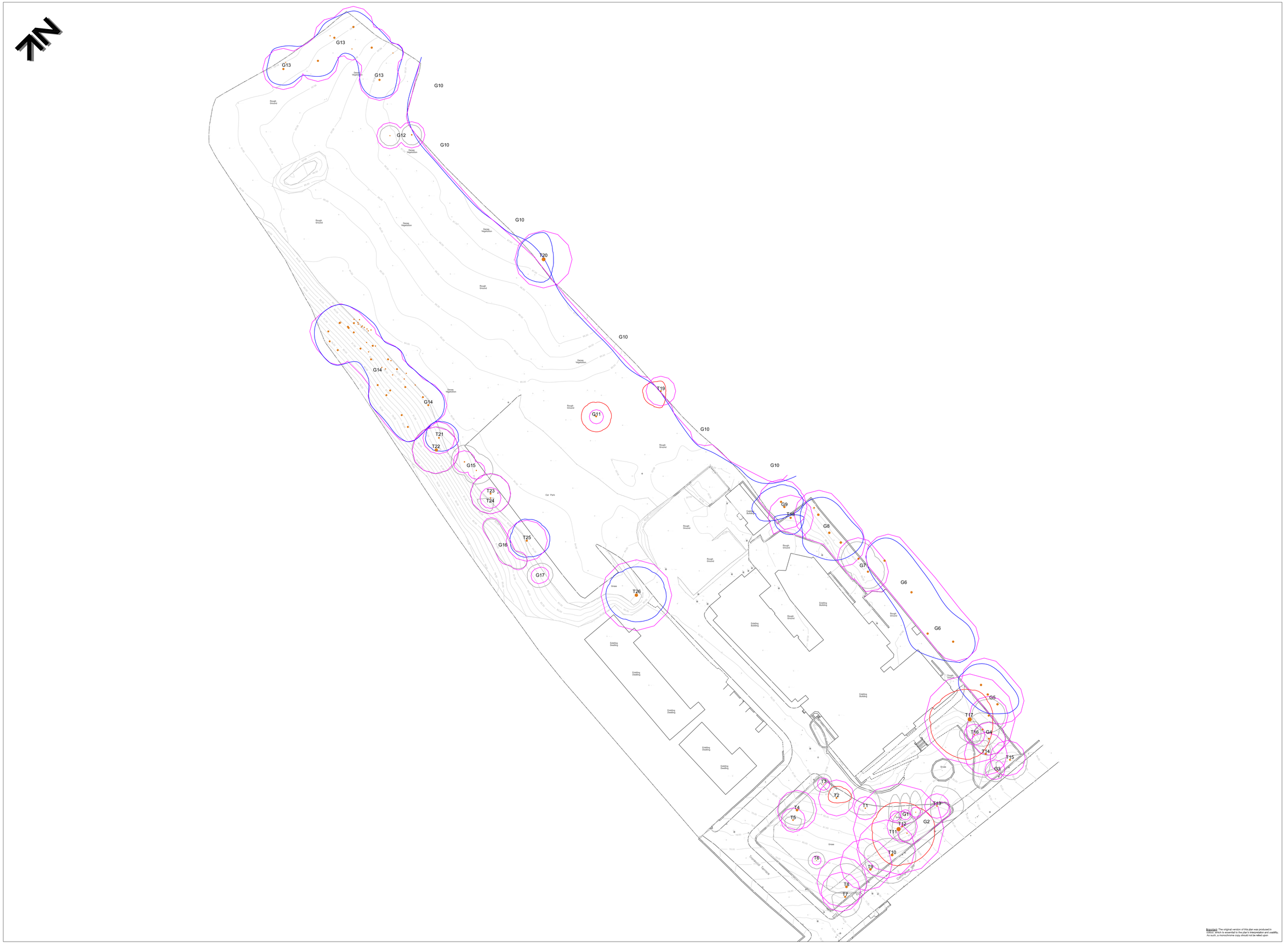


Temporary Ground Protection

1. Any necessary Temporary Ground Protection areas shall conform to Figure 4, below, unless otherwise agreed with the LPA.
2. The Ground Protection Area shall be left undisturbed and covered by a semi-permeable geotextile membrane which shall, in turn, be covered by a compressible layer consisting of a material such as woodchip.
3. Side-butting scaffold boards shall then be fitted to cover the Ground Protection Area.
4. On completion of installation, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Ground Protection.
5. The Temporary Ground Protection shall remain in place until completion of the project and only removed following receipt of written permission from the LPA.

Figure 4: Temporary Ground Protection – Recommended Construction





KEY

T = Individual Tree
G = Group of Trees

Please refer to associated Tree Survey Schedule for specific details in respect of items below:

Tree Categorisations:

Those to be Considered for Retention:

Category 'A' Tree/Group
Those of a High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years

Category 'B' Tree/Group
Those of a Moderate Quality with an Estimated Remaining Life Expectancy of at Least 20 Years

Category 'C' Tree/Group
Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Considered Unsuitable for Retention:

Category 'U' Tree/Group
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

Note: The stem locations of individual trees T19 and T20, and some or all of the trees in groups G1, G2, G5, G6, G8, G10, G14 and G17, were not included on the topographical survey plan provided and were subsequently plotted by the arboricultural surveyor at the time of the survey using a combination of GPS siting, estimation and measurement from existing land features. As such, the plotted locations of these trees cannot therefore be considered to be wholly accurate

Root Protection Areas (RPAs):

RPAs
Area(s) of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone - see Temporary Protective Fencing Specification Appended

Project:
LAND AT TRANSVAAL
TERRACE/CARLINGHOW HILL
BATLEY
WEST YORKSHIRE
WF17 0AA

Client:
KUFIC

Title:
TREE CONSTRAINTS PLAN
in Relation to Proposed Residential Development

Scale:	1:500@A1
Date:	March 2019
Drawn by:	PH
Checked by:	JK

Bowland Tree Consultancy Ltd
e: info@bowlandtreeconsultancy.co.uk
t: 01772 437700

Ref: BTC1726-TCP Rev:

Important: The original version of this plan was produced in 'colour' which is essential to the plan's interpretation and usability. As such, a monochrome copy should not be relied upon