



Craig Vincent & Graham Hind

The Limes, Congerstone – Amended Access

Arboricultural Assessment & Arboricultural Method Statement

May 2023

FPCR Environment and Design Ltd

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Tree Retention Plan (10077-T-02_D)

Tree Protection Plan (10077-T-03_C)

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1.0 INTRODUCTION

- 1.1 This report has been prepared by FPCR Environment and Design Limited on behalf of Craig Vincent and Graham Hind to provide information of potential impacts to trees located at The Limes, Congerstone (hereafter referred to as the site), OS Grid Ref SK 367 056.
- 1.2 This report should be read in conjunction with the Site Wide Arboricultural Assessment in May 2021 by FPCR Environment and Design to support a planning application for the construction of two residential dwellings.

Site Plans

- 1.3 As part of this assessment, a Tree Retention Plan has been prepared to show the proposed access in relation to the retained tree cover allowing an assessment of any potential conflicts. The plan also identifies which trees would be required to be removed or retained as part of the proposed development.
- 1.4 A Tree Protection Plan has been included to provide the position of Tree Protection Fencing along with any other methods required to implement the proposals.

2.0 ARBORICULTURAL IMPACT ASSESSMENT

- 2.1 The following paragraphs present a summary of the potential impacts that may arise from the proposed development in the form of an Arboricultural Impact Assessment in accordance with section 5.4 of BS5837. Any final tree retentions will need to be reconciled with the advice contained within this report.
- 2.2 The AIA has been based upon the proposed access amendment drwg no.CV0223-HP-001A and seeks to outline the relationship between the highway alterations and driveway alignment and the existing trees. The secondary access to the approved development will require the removal of one individual tree and a section of hedgerow. The loss of this tree cover is additional to what has been highlighted within the Arboricultural Assessment submitted as part of the approved planning application for two residential plots.
- 2.3 The proposed point of access to the western plot not will require the removal of any trees. Thus, preserving the frontage with all the trees staying in place and only a small section of hedging removed to allow the new access point. Three common limes will remain either side of the driveways which when mature will continue the line of trees along Shackerstone Road.
- 2.4 The proposed alignment of the western access will pass through the outer extent of the calculated RPA of T37, any impacts associated with the required works are considered to be minimal and will not cause long term detriment to the tree however it is still recommended that they are carried out under supervision of a suitably qualified Arboricultural Clerk of Works. Works within the existing footway are also considered to be minimal due to the restricted growing conditions, any rooting material from T37 is expected to be limited.

- 2.5 The alignment of a turning head will encroach upon the RPA of T33 and T35 however the amount is considered to be minimal. The current levels mean the driveway will be constructed by increasing the levels and not excavating. Due to the minimal encroachment and construction method for the driveway, these works are not considered to be detrimental to the trees in question.
- 2.6 The removal of hedgerow will be compensated for by new hedgerow planting following the construction of the access. This hedgerow planting will fill in any gaps along the frontage and also form new hedgerows between each plot.

3.0 ARBORICULTURAL METHOD STATEMENT

- 3.1 All retained trees will be adequately protected during demolition works. Measures to protect trees will follow the guidance in BS5837 and applied where necessary for the purpose of protecting trees within the site whilst allowing sufficient access for the implementation of the proposed building. These have been broadly summarised below.

Tree Protection

- 3.2 All trees retained on site will be protected by suitable installed Tree Protection Fencing as detailed within Appendix C. The Tree Protection Plan shows the position of the proposed Tree Protection Fencing in pink.
- 3.3 Tree Protection Fencing will be erected prior to commencement of any works. Once installed, the area protected by fencing or other barriers will be regarded as an exclusion zone. Barriers will not be removed or altered without prior consultation with the appointed Arboricultural Clerk of Works (ACoW).
- 3.4 Confirmation that the fencing has been set out correctly should be gained prior to the commencement of site activity.
- 3.5 Tree protection will be fit for the purpose of excluding any type of demolition activity and suitable for the degree and proximity of works to retained trees. Barriers will be maintained to ensure that they remain rigid and complete for the duration of activities on site.

Protection outside the exclusion zone

- 3.6 Once the areas around trees have been protected by the barriers, any works on the remaining site area may be commenced providing activities do not impinge on protected areas.
- 3.7 No materials will be stored within the fenced areas.
- 3.8 All weather notices will be attached to the protective fencing to indicate that demolition activities are not permitted within the fenced area. The area within the protective barriers will then remain an exclusion zone throughout the duration of the demolition phase of the proposed development. Protection fencing signs can be provided upon request.
- 3.9 Wide or tall loads etc should not come into contact with retained trees. Banksman should supervise transit of vehicles where they are in close proximity to retained trees.

- 3.10 Oil, bitumen, cement or other material that is potentially injurious to trees should not be stacked or discharged within 10m of a tree stem. No concrete should be mixed within 10m of a tree. Allowance should be made for the slope of ground to prevent materials running towards the tree.
- 3.11 No fires will be lit where flames are anticipated to extend to within 5m of tree foliage, branches or trunk, taking into consideration wind direction and size of fire.
- 3.12 Notice boards, telephone cables or other services should not be attached to any part of a retained tree.

Protection for Aerial Parts of Retained Trees

- 3.13 If in the event of having caused any branch or limb damage to retained trees it is recommended that further suitable tree surgery be carried out, in accordance with British Standard 3998:2010 and in agreement with the Local Planning Authority prior to correcting the damage, upon completion of development

Excavation Under Supervision

- 3.14 Due to the requirement for excavation within the root protection area of T37 & T39 supervision of works is required. The Tree Protection Plan shows the area of supervision as a red hatch.
- 3.15 The cutting of roots shall not entirely be avoidable during the removal of existing ground material to construct the certain parts of access road and driveway. As such the excavation of this material is to be carried out under the supervision of the ACoW. Any roots located / identified during these works shall be pruned back to the face of the trench as they became exposed. Roots shall be wrapped with hessian material, which is to be kept damp, until the area can be back filled.

Removal of Tree Protection

- 3.16 Following the completion of all demolition works and in agreement with the ACoW the tree protection will be removed carefully as to avoid causing root disturbance. This operation can be carried out prior to soft landscaping works such as new planting, mulching, grass sowing etc.

Table 2: Timeline of Tree Protection Measures

Works required	Action	Approximate Timetable
Pre-Commencement Meeting and Induction (TOOL BOX TALK)	Include in a Pre-Commencement Meeting briefing site personnel on the tree protection scheme and measures	Prior to any works starting on site to form the access or driveway
Tree Protection	Erect Tree Protection Fencing as detailed in Sections 6 to the specification shown in Appendix C and as per the positions shown on the Tree Protection Plans. Locations will be marked out by the appointed Site Contractor and approved by the LPA Tree Officer / ACoW	Prior to any works starting on site to form the access or driveway

Works required	Action	Approximate Timetable
Approval of fencing by ACoW	Written confirmation from ACoW that Tree Protection Fencing has been positioned and erected satisfactorily. This will be via email	Immediately following completion of installation and prior to commencement of works
Supervision of excavation	Supervise all excavation required to form the access	At the point the access is formed with the highway
Monitoring Visits	To ensure site rules for tree protection are being followed and that tree protection is still suitable for the purpose it is serving as per this document and is not damaged / moved	Pre-agreed timeframes for visits throughout the duration of the development
Removal of Tree Protection Fencing	As detailed within Section 6	Following the completion of all works and in agreement with the ACoW

Induction and Site Briefing

- 3.17 As part of the overall tree protection measures inductions of all appointed personnel and contractors working near to the retained trees are aware of the protection measures. This will involve briefing personnel on the various constraints and working practices around the retained trees to safeguard them from damage during demolition and the importance of the tree protection measures. Site induction meetings would need therefore to include a brief synopsis of Section 5 and the full details of section 6 of this document.
- 3.18 As it would be impractical for the ACoW to be present for all site briefings and inductions through the various phases of the sites development this duty will be delegated to the site manager or their appointed staff member, once having been sufficiently briefed initially by the ACoW.

Individual Responsibilities and Key Personnel

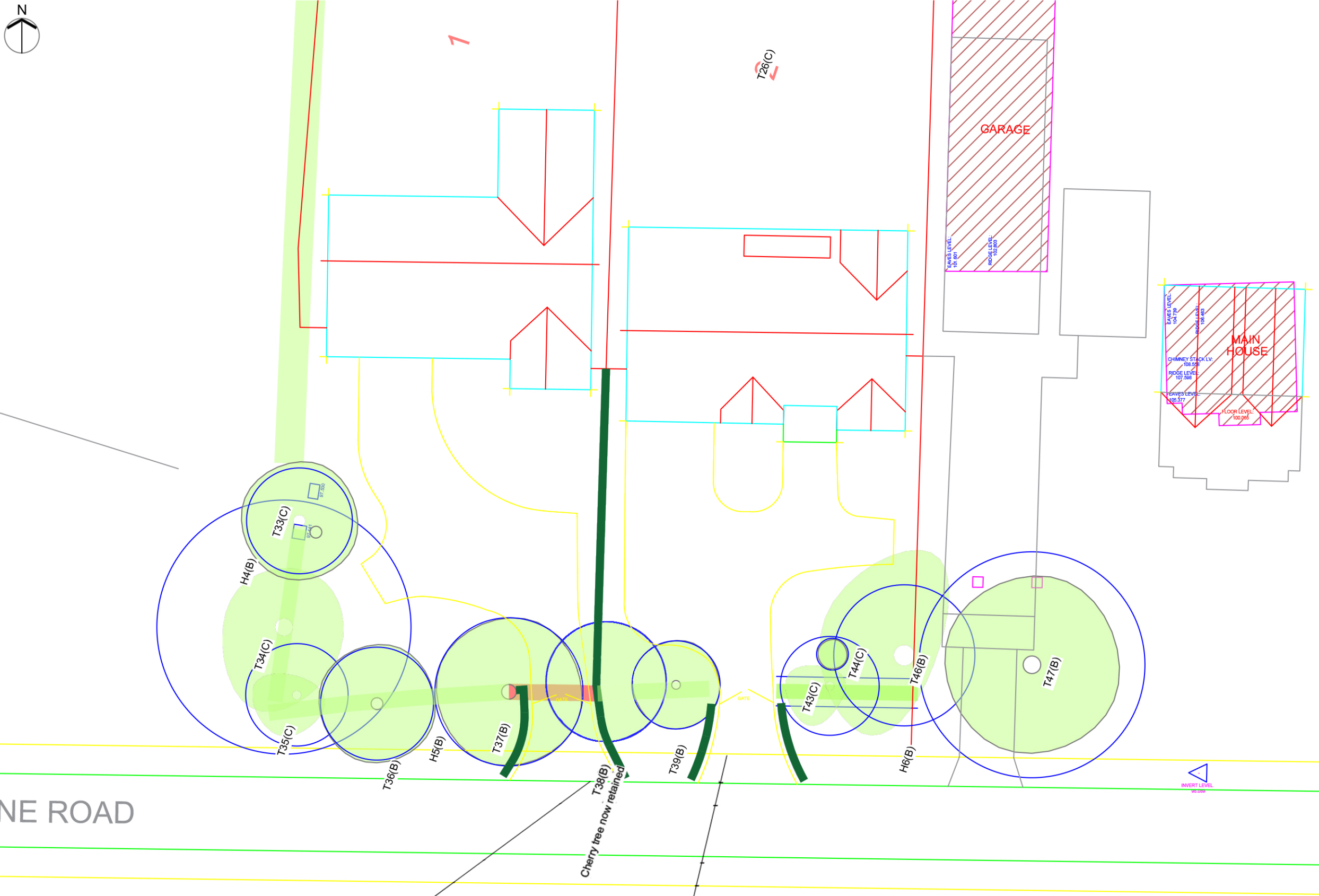
- 3.19 The site manager and appointed ACoW will be responsible for the implementation of this AMS on site; ensuring the protective barriers remain in place for the duration of all activity on site following approval from the ACoW and is not moved without approval ensuring the general protection measures are fully adhered to at all times.

Procedures for variation or incident

- 3.20 Should at any time, during the demolition, a variation to the protection measures be required then advice will be sought from first the ACoW and if necessary, by submission of an addendum to this document for review by the local planning authority tree officer.
- 3.21 Variations may be required for such work as; facilitation pruning of retained trees where branches conflict with the demolition works and approval for works can be sought; temporary removal or movement of protective barriers due to unforeseen circumstances. This will be important as part of the review process of the AMS as the various phases of the demolition take place.

4.0 MONITORING OF TREES DURING AND POST DEMOLITION

- 4.1 This is to take place as outlined below and as formerly approved and agreed with the local planning authority. The ACoW will be responsible for monitoring of all arboricultural works and issuing a certificate of practical completion at the various stages; via email to the relevant officer.
- 4.2 In addition, the ACoW will inspect the protective barriers and oversee / monitor any works within exclusion zones. A record of site visits will be maintained for inspection on site and copies can be forwarded to the client and to the local planning authority.
- 4.3 Key monitoring stages are summarised below:
- Site visit to check position of tree protection and specification to ensure it has been correctly installed and is fit for purpose.
 - Inspection and approval of tree protection measures.
 - Signing off the tree protection.
 - Supervision of excavation
 - Eventual removal of all tree protection barriers following the completion of all activity on site in agreement with the ACoW.
- 4.4 The ACoW will carry out inspections of the site at agreed intervals / key stages following decisions made at initial meetings with the site management team. The purpose of the visits will be to approve and monitor the tree protection measures including ensuring the position of tree boxes are correct and overseeing any other works required within RPAs. A record of site visits will be maintained for inspection on site and copies can be made available upon request.
- 4.5 Site monitoring of tree protection will be undertaken daily by the site manager and by the ACoW at other timescales as to be agreed throughout the duration of the demolition to ensure trees remain undamaged.



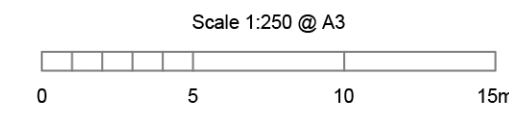
KEY

Tree/Group to be Retained

Tree/Group proposed to be removed subject to relevant permissions

T1 (A)
G1 (A)

T1 (A)
G1 (A)



NOTES

All dimensions to be verified on site. Do not scale this drawing, use figured dimensions only. All discrepancies to be clarified with project Arboriculturalist. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.

Drawing has been produced in colour and is based on digital information in .dwg format, aerial images and/or GPS location where appropriate. A monochrome copy should not be relied upon. The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculating foundation depths.

Trees are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by the project Arboriculturalist should works commence 12 months after the date of this survey.

SOME TREES MAY BE SUBJECT TO STATUTORY CONSTRAINTS. IT IS THEREFORE ADVISED THAT NO WORKS SHOULD BE UNDERTAKEN TO ANY TREES ILLUSTRATED HEREIN WITHOUT FIRST OBTAINING THE RELEVANT AUTHORISATION TO DO SO UNLESS AGREED AS PER THE APPROVED PLANS THROUGH PLANNING CONSENT.

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project
The Limes
Congerstone

drawing title
TREE RETENTION PLAN

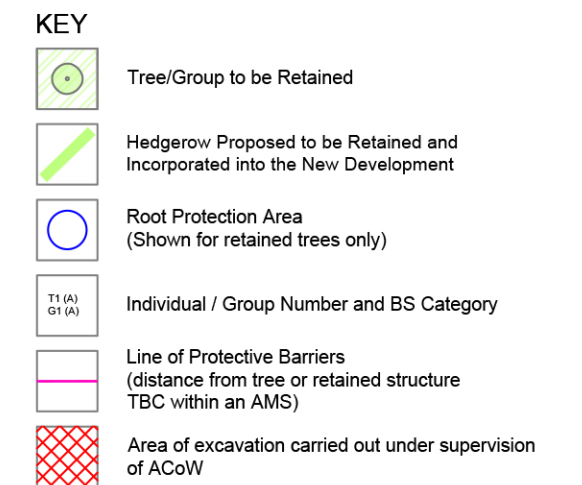
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May 2023

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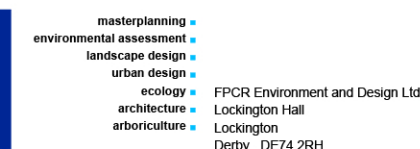
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Appendix A - Tree Schedule

Measurements	Age Classes	Quality Assessment of BS Category	ULE (relates to BS Category)
Height - Measured using a digital laser clinometer (m)	YNG: Establishing, typically with good vigour and fast growth rates and strong apical dominance; c. less than 1/3 life expectancy	Category U - Trees 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.	<10 years
Stem Dia. - Diameter measured (mm) in accordance with Annex C of the BS5837	SM: Semi-mature trees less than 1/3 life expectancy	Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years.	40+ years
Crown Radius - Measured using a digital laser clinometer radially from the main stem (m)	EM: Established, typically vigorous and increasing in apical height and lateral spread; 1/3 - 2/3 life expectancy. Offers landscape significance	Category B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	20-40 years
Abbreviations est - Estimated stem diameter avg - Average stem diameter for multiple stems upto - Maximum stem diameter of a group	M: Fully established over 2/3 life expectancy, generally good vigour and achieving full height potential with crown still spreading	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 150mm.	10-20 years
	OM: Fully mature, at the extremes of expected life expectancy, vigour decreasing, declining or moribund	Sub-categories: (i) - Mainly arboricultural value (ii) - Mainly landscape value (iii) - Mainly cultural or conservation value	
	V: biological, cultural or aesthetic value comprising niche saproxylic habitat. Individuals of large proportions (stem girth) in comparison to trees of the same species/surviving beyond the typical age range for their species.	The BS category particular consideration has been given to the following: • The presence of any structural defects in each tree/group and its future life expectancy • The size and form of each tree/group and its suitability within the context of a proposed development • The location of each tree relative to existing site features e.g. its screening value or landscape features • Age class and life expectancy	

Structural Condition	Physiological Condition
Good - No significant structural defects	Good - No significant health problems
Fair - Structural defects that can be remediated	Fair - Symptoms of ill-health that can be remediated
Poor - Significant defects beyond remediation, present a risk of failure in the foreseeable future	Poor - Significant ill-health. Unlikely the tree will recover in the long term
Dead - Dead tree with structural integrity of tree severely compromised	Advanced Decline / Dead - Advanced state of decline and unlikely to recover or Dead

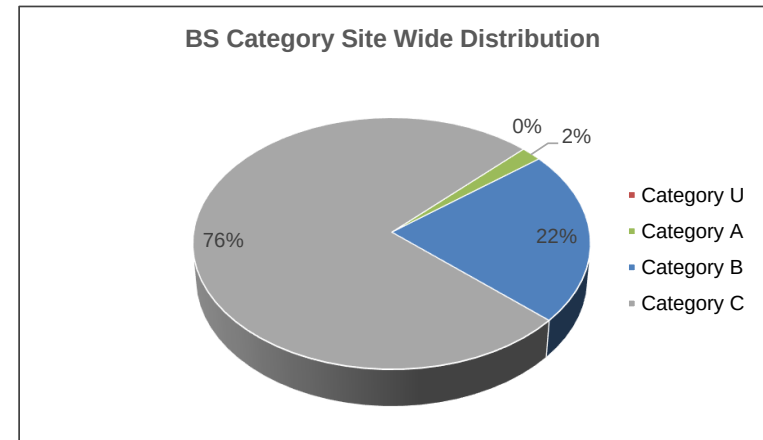
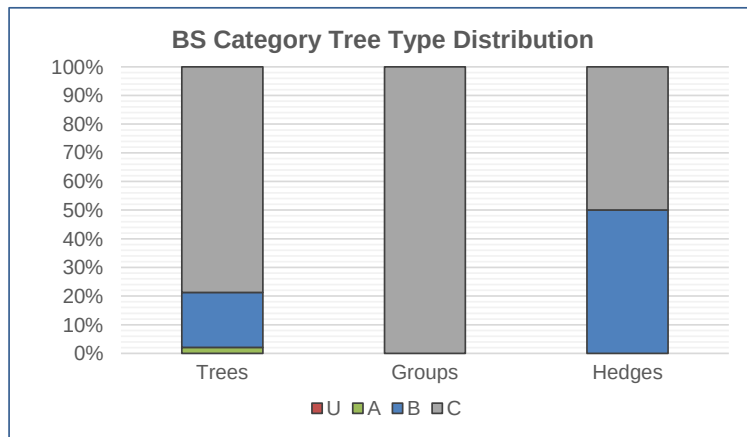
Root Protection Area (RPA)
- The RPA Radius column provides the extent of an equivalent circle from the centre of the stem (m). - The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the rooting area required for a tree to be successfully retained. Tree roots extend beyond the calculated RPA in many cases and where possible a greater distance should be protected. - Where veteran trees have been identified the RPA has been calculated in accordance with Natural England guidance i.e. 15x the stem diameter, uncapped.

Appendix Summary

	Individual Trees	Totals	Tree Groups and Hedgerows	Totals
Category U		0		0
Category A	T1	1		0
Category B	T16, T22, T23, T36, T37, T38, T39, T46, T47	9	H4, H5, H6	3
Category C	T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T17, T18, T19, T20, T21, T24, T25, T26, T27, T28, T29, T30, T31, T32, T33, T34, T35, T40, T41, T42, T43, T44, T45	37	G1, H1, H2, H3	4
	Total	47	Total	7

BS Category Tree Type Distribution displays the proportion of trees assessed in each type to enable a better understanding of the category distribution.

BS Category Site Wide Distribution shows the proportion of trees assessed in each category across the whole site which allows an interpretation of the site's overall quality.



Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
INDIVIDUAL TREES										
T1	English Oak Quercus robur	18	1080	12	M	G	Branch stubs evident Characteristic for species Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) No major defects were noted Rubbish to base	528	13.0	A (i)
T2	Laural Prunus Laurocerasus	7	180	3	M	F	Crossing and rubbing branches Low crown form Rubbish to base	15	2.2	C (i)
T3	Laural Prunus Laurocerasus	7	170	N - 2 S - 3 E - 2 W - 3	M	P	Bark wounds noted Crossing and rubbing branches Low crown form Rubbish to base	13	2.0	C (i)
T4	Spring Cherry Prunus x subhirtella	4	80 80	2	EM	P	Branch stubs evident Crossing and rubbing branches Included bark union Suppressed crown form Twin stemmed from base Rubbish to base	6	1.4	C (i)
T5	Spring Cherry Prunus x subhirtella	4	140 100	2	EM	P	Branch stubs evident Crossing and rubbing branches Included bark union Suppressed crown form Twin stemmed from base Rubbish to base	13	2.1	C (i)
T6	Apple Malus domestica	3	130 150	3	EM	P	Branch stubs evident Crossing and rubbing branches Included bark union Pruning wounds noted Suppressed crown form Twin stemmed from base	18	2.4	C (i)
T7	Apple Malus domestica	4	120	2	EM	P	Branch stubs evident Crossing and rubbing branches Included bark union Pruning wounds noted	7	1.4	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T8	Apple Malus domestica	4	110	2	EM	P	Branch stubs evident Crossing and rubbing branches Included bark union Pruning wounds noted	5	1.3	C (i)
T9	Norway Maple Acer platanoides	5	80	1	SM	P	Base obscured Established ivy cover Within hedgerow	3	1.0	C (i)
T10	Apple Malus domestica	3	90	2	SM	F	Branch stubs evident Crossing and rubbing branches Pruning wounds noted	4	1.1	C (i)
T11	Apple Malus domestica	6	180 150 150	4	M	F	Branch stubs evident Crossing and rubbing branches Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Pruning wounds noted Twin stemmed from base	35	3.3	C (i)
T12	Apple Malus domestica	2	40	1	Yng	F	Newly planted	1	0.5	C (i)
T13	Damson Prunus insititia	2	110 100 120	2	M	P	Basal suckers present Branch stubs evident Broken branches evident Crossing and rubbing branches Delaminating bark on main stem Dieback of the crown observed Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Specimen in extensive decline	17	2.3	C (i)
T14	Norway Maple Acer platanoides	2	40	1	Yng	F	Newly planted	1	0.5	C (i)
T15	Apple Malus domestica	1	40	1	Yng	F	Newly planted	1	0.5	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T16	Common Lime <i>Tilia x europaea</i>	14	360	4	SM	F	Characteristic for species Crossing and rubbing branches Epicormic growth evident within the crown Light ivy cover Minor dead wood evident in the crown (<75mm)	59	4.3	B (i)
T17	Apple <i>Malus domestica</i>	2	110	N - 1 S - 1 E - 2 W - 1	SM	F	Crossing and rubbing branches Suppressed crown form	5	1.3	C (i)
T18	Apple <i>Malus domestica</i>	1	40	1	Yng	F	Suppressed crown form	1	0.5	C (i)
T19	Apple <i>Malus domestica</i>	5	150	N - 1 S - 2 E - 1 W - 1	EM	P	Branch stubs evident Compacted ground at the base Crossing and rubbing branches Pruning wounds noted	10	1.8	C (i)
T20	Apple <i>Malus domestica</i>	5	160 110	2	M	P	Branch stubs evident Compacted ground at the base Crossing and rubbing branches Pruning wounds noted Rubbish to base	17	2.3	C (i)
T21	Apple <i>Malus domestica</i>	6	190 170	N - 2 S - 3 E - 1 W - 3	M	P	Branch stubs evident Compacted ground at the base Crossing and rubbing branches Pruning wounds noted Rubbish to base	29	3.1	C (i)
T22	Ash <i>Fraxinus excelsior</i>	16	770	7	M	F	Branch stubs evident Crossing and rubbing branches Epicormic growth evident within the crown Compacted ground to the base Minor dead wood evident in the crown (<75mm) Pruning wounds noted	268	9.2	B (i)
T23	Scots Pine <i>Pinus sylvestris</i>	15	470	6	EM	F	Characteristic for species Crossing and rubbing branches Established ivy cover	100	5.6	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T24	Apple Malus domestica	7	480	4	M	P	Branch stubs evident Crossing and rubbing branches Epicormic growth evident within the crown Established ivy cover Minor dead wood evident in the crown (<75mm) Pruning wounds noted	104	5.8	C (i)
T25	Apple Malus domestica	7	140	2	EM	P	Branch stubs evident Crossing and rubbing branches Epicormic growth evident within the crown Pruning wounds noted	9	1.7	C (i)
T26	Apple Malus domestica	7	230 150	4	M	P	Branch stubs evident Broken branches evident Crossing and rubbing branches Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Pruning wounds noted Twin stemmed from base	34	3.3	C (i)
T27	Wild Cherry Prunus avium	6	290	4	M	P	Branch stubs evident Broken branches evident Crossing and rubbing branches Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Pruning wounds noted Twin stemmed from base Bleeding canker of cherry	38	3.5	C (i)
T28	Apple Malus domestica	4	130 100	N - 1 S - 2 E - 1 W - 2	EM	P	Branch stubs evident Broken branches evident Crossing and rubbing branches Epicormic growth evident within the crown Included bark union Minor dead wood evident in the crown (<75mm) Pruning wounds noted Twin stemmed from base	12	2.0	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T29	Apple Malus domestica	5	390	4	M	P	Branch stubs evident Broken branches evident Compacted ground at the base Crossing and rubbing branches Epicormic growth evident within the crown Established ivy cover Included bark union Minor dead wood evident in the crown (<75mm) Pruning wounds noted	69	4.7	C (i)
T30	Apple Malus domestica	3	120	2	SM	F	Basal suckers present Crossing and rubbing branches	7	1.4	C (i)
T31	Ash Fraxinus excelsior	21	870	N - 9 S - 9 E - 6 W - 8	M	F	Barbed Wire attached to stem/s Branch socket cavities observed Branch stubs evident Crossing and rubbing branches Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm)	342	10.4	C (i)
T32	Wild Cherry Prunus avium	13	440	N - 4 S - 6 E - 4 W - 5	M	P	Bark wounds noted Branch stubs evident Crossing and rubbing branches Epicormic growth evident within the crown Heartwood exposed Minor dead wood evident in the crown (<75mm) Pruning wounds noted Bleeding canker of cherry	88	5.3	C (i)
T33	Norway Maple Acer platanoides	12	300	4	EM	F	Bark wounds noted Characteristic for species	41	3.6	C (i)
T34	English Oak Quercus robur	13	Over ivy 720	N - 4 S - 6 E - 4 W - 4	M	F	Branch stubs evident Crossing and rubbing branches Crown had been heavily reduced Epicormic growth evident within the crown Established ivy cover Minor dead wood evident in the crown (<75mm) Potential Roost Features (PRF) Pruning wounds noted	235	8.6	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T35	Common Lime <i>Tilia x europaea</i>	8	290	N - 3 S - 2 E - 1 W - 3	SM	F	Crossing and rubbing branches Epicormic growth evident within the crown Suppressed crown form	38	3.5	C (i)
T36	Common Lime <i>Tilia x europaea</i>	12	320	4	SM	F	Characteristic for species Crossing and rubbing branches Epicormic growth evident within the crown	46	3.8	B (i)
T37	Common Lime <i>Tilia x europaea</i>	14	420	5	EM	F	Characteristic for species Crossing and rubbing branches Epicormic growth evident within the crown	80	5.0	B (i)
T38	Wild Cherry <i>Prunus avium</i>	14	340	N - 1 S - 5 E - 5 W - 5	EM	F	Characteristic for species Crossing and rubbing branches Epicormic growth evident within the crown	52	4.1	B (i)
T39	Common Lime <i>Tilia x europaea</i>	12	250	3	SM	F	Basal suckers present Characteristic for species Crossing and rubbing branches Epicormic growth evident within the crown	28	3.0	B (i)
T40	Common Lime <i>Tilia x europaea</i>	12	220	N - 2 S - 0 E - 1 W - 1	SM	P	Branch stubs evident Crossing and rubbing branches Included bark union Suppressed crown form	22	2.6	C (i)
T41	Common Walnut <i>Juglans regia</i>	13	270	N - 1 S - 1 E - 3 W - 1	SM	P	Branch stubs evident Crossing and rubbing branches Included bark union Suppressed crown form	33	3.2	C (i)
T42	Norway Maple <i>Acer platanoides</i>	14	310	N - 2 S - 2 E - 3 W - 1	SM	P	Branch stubs evident Crossing and rubbing branches Included bark union Suppressed crown form	43	3.7	C (i)
T43	Common Lime <i>Tilia x europaea</i>	12	280	N - 3 S - 1 E - 1 W - 3	SM	F	Branch stubs evident Crossing and rubbing branches Included bark union Suppressed crown form	35	3.4	C (i)
T44	Beech <i>Fagus sylvatica</i>	4	90	1	Yng	P	Suppressed crown form	4	1.1	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T45	Wild Cherry Prunus avium	4	270	N - 4 S - 0 E - 1 W - 2	Yng	P	Basal suckers present Epicormic growth evident within the crown Established ivy cover Suppressed crown form	33	3.2	C (i)
T46	Beech Fagus sylvatica	15	400	N - 6 S - 2 E - 7 W - 6	EM	F	Branch socket cavities observed Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Pruning wounds noted	72	4.8	B (i)
T47	Common Lime Tilia x europaea	19	640	6	EM	F	Branch stubs evident Characteristic for species Crossing and rubbing branches Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Pruning wounds noted Situated offsite	185	7.7	B (i)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
GROUPS OF TREES										
G1	Lawson Cypress Chamaecyparis lawsoniana	6	avg 180	1	SM	P	Crossing and rubbing branches Interlocking crowns Low crown form 5 trees with shrubs	15	2.2	C (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
HEDGEROWS										
H1	Elder Sambucus nigra Hawthorn Crataegus monogyna	1	est 6x 50	1	EM	F	Base obscured Crossing and rubbing branches Established ivy cover Maintained hedgerow	7	1.5	C (ii)
H2	Lawson Cypress Chamaecyparis lawsoniana	2	avg 150	1	EM	P	Branch stubs evident Crossing and rubbing branches Crown had been topped Established ivy cover	10	1.8	C (ii)
H3	Leyland Cypress Cupressocyparis leylandii	2	avg 110	0.5	SM	F	Maintained hedgerow	5	1.3	C (ii)
H4	Yew Taxus baccata	1.5	avg 100	0.5	EM	F	Maintained hedgerow	5	1.2	B (ii)
H5	Beech Fagus sylvatica	2	avg 80	0.5	SM	F	Crossing and rubbing branches Established ivy cover Maintained hedgerow	3	1.0	B (ii)
H6	Beech Fagus sylvatica	2	avg 80	0.5	SM	F	Crossing and rubbing branches Established ivy cover Maintained hedgerow	3	1.0	B (ii)

Appendix C Tree Protection – Working Methodology

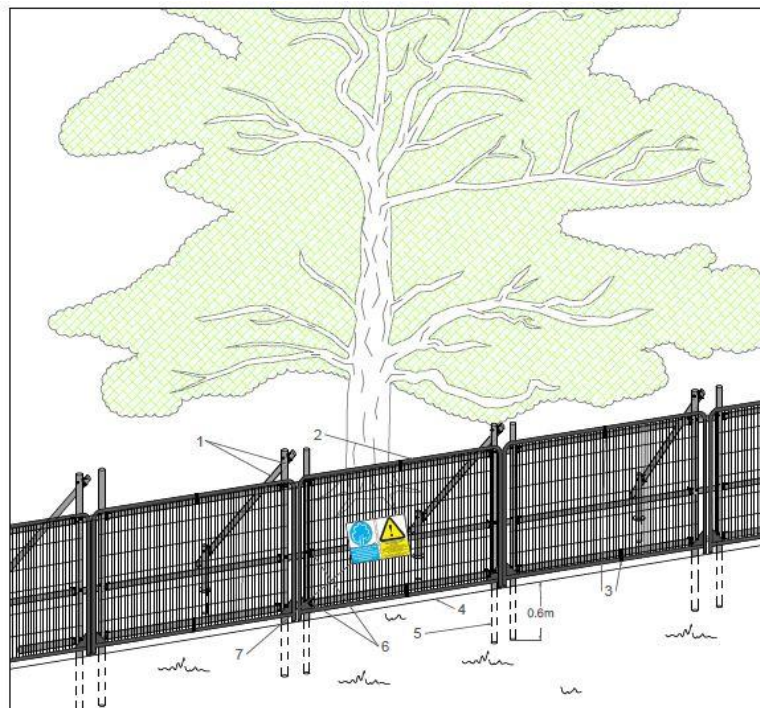
Table 1: Related Reference Material

Plan Name	Drawing Number
Tree Protection Plan	10077-T-03_A
Appendices	Appendix Title
Appendix A	Tree Schedule
Appendix B	Protective Fencing Signage

Tree Protection Fencing will be installed as detailed in Tree Protection Plans (referenced above) at, where possible, the extent of the root protection areas of retained trees using the dimensions indicated on the relevant plans. The positioning of the Tree Protective Fencing shall be measured out with assistance from the Arboricultural Clerk of Works and, where deemed necessary, with the Site Manager present. Highly visible fluorescent paint and / or marker pegs / stakes will be used to assist in identification.

STANDARD FENCING SPECIFICATION

Unless stated below, Protective Fencing will comprise a Heras HSG151 panel framework supported by scaffold poles driven into the ground. An example of this has been illustrated below.



Standard specification for High Intensity Protective Barrier

1. Standard scaffold poles
2. Heavy gauge 2m tall galvanized tube and welded mesh infill panels
3. Panels secured to scaffold frame with wire ties
4. Ground level
5. Uprights driven into the ground until secure (min depth of 0.6m)
6. Standard scaffold clamps
7. Construction Exclusion Zone signs

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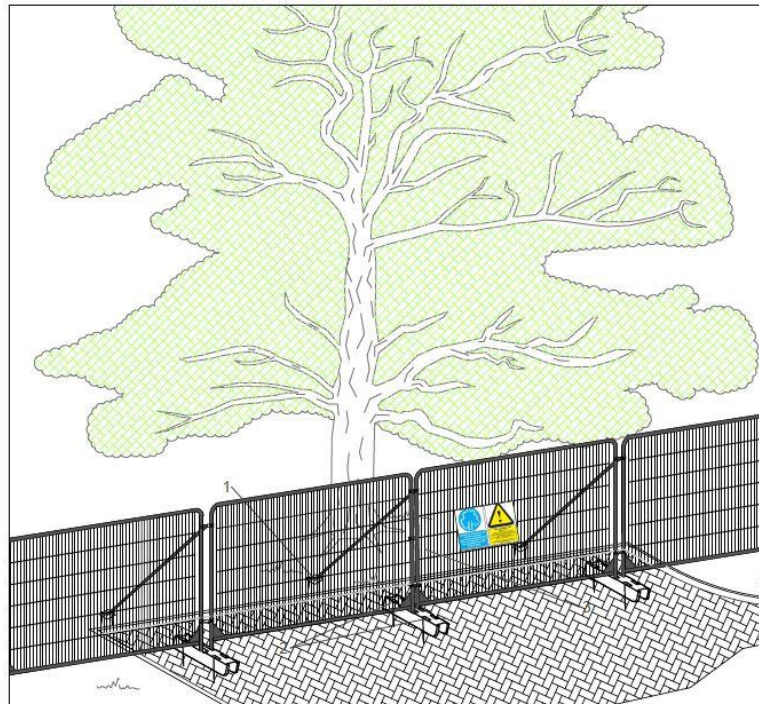
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Installation Guide

- 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.
- The two horizontal rail poles shall be attached to the uprights at heights of 0.6 and 1.8 metres with clamps to each joint.
- The diagonal scaffold pole struts shall be clamped to the top rail of the scaffold framework at a 45° angle and extend back into the root protection area and clamped to a 0.7 metre length of scaffold tube that shall be driven no less than 0.5m into the ground.
- No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.

TEMPORARY FENCING SPECIFICATION

This fencing specification shall only be used where specified on the relevant Tree Protection Plans as is not to be used as an alternative to the standard specification unless determined by the Arboricultural Clerk of Works.



Standard Specification for Above Ground Stabilizing Systems
 1. Stabiliser strut with base plate secured with ground pins
 2. Feet blocks secured with ground pins
 3. Construction Exclusion Zone signs

Heras Fence Panel to be supported by rubberised stabiliser blocks with a base plate which is secured to the ground using ground pins (as shown above).

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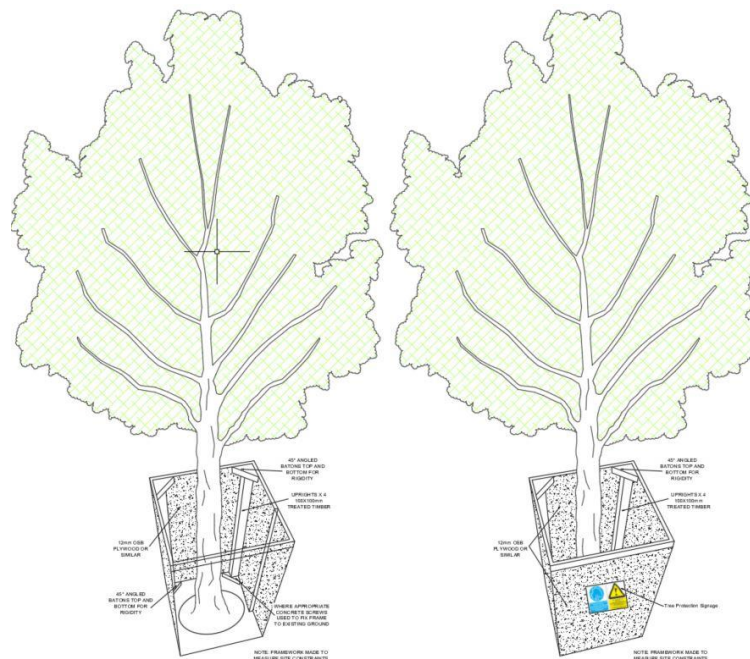
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TIMBER TREE BOX SPECIFICATION

Protective barriers are not considered practical for the protection of offsite street trees G1, G. To prevent damage during the proposed works associated with the Basin G outfall to the main stem of each tree, a hollow constructed close-board timber cube ("Tree Box") will be built.

Tree Box

1. The tree Box will be constructed prior to the commencement of any construction works.
2. The Tree Box will remain intact until all hard landscaping works are complete.
3. No part of the Tree Box must come into contact with the stem or any part of the canopy of a tree at any time.
4. The Tree Box will stand to a height of no less than 1.8m above the ground surface.
5. The Tree Box will be constructed of OSB and treated timber.
6. The OSB board timber will be fitted to a timber frame to act as a brace, that will be constructed around the outside of the stem.
7. The Tree Box will be constructed to rest on the ground.
8. No digging/trenching must occur to construct the Tree Box.
9. If it is necessary to secure the Tree Box in place, then it is considered acceptable to use narrow ground pins, driven into the ground or screws and fastened to the exterior of the box.



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GENERAL TREE PROTECTIVE FENCING METHODOLOGY

The fencing will be strong and suitable for the location, type and proximity of construction activity and prevent access of machinery, plant or operative beyond the area required to construct the development.

Tree Protection Fencing and work exclusion zones will be clearly marked using appropriate signage, an example of which has been included as Appendix B. These signs shall be laminated to ensure they last the duration of the construction works and shall be fixed to the fencing panels every 10 metres along its length.

All Tree Protective Fencing will remain rigid and in place for the duration of the development and should be inspected at weekly intervals by the Site Manager alongside regular inspections to be carried out by the Arboricultural Clerk of Works.

Following the completion of construction works and in agreement with the Arboricultural Clerk of Works, the Tree Protection Fencing will be removed carefully as to avoid causing root disturbance or leaving in situ any lengths of scaffold framework. This operation can be carried out prior to soft landscaping works such as new planting, mulching grass sowing etc.

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