TIM MOYA ASSOCIATES

Arboricultural Report

for planning purposes

Chester Terrace
London
NW1 4ND

November 2022

220928-PD-11b

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CONTENTS PAGE

1 EXECUTIVE SUMMARY

1.1 This *Arboricultural Report* ('the Report') has been instructed by *Crown Estate Paving Commission* ('the Client').

1.2 The proposed development at *Chester Terrace* ('the Site') is for the demolition of the existing eastern retaining wall and the construction of a new retaining wall in its place ('the Proposed Development'), within the area administrated by the *London Borough of Camden* ('the LPA').

1.3 The Site was visited, and the trees and other vegetation surveyed, referring to the recommendations of BS5837, on the 9th of September 2022.

1.4 The Proposed Development requires the removal of 20no. trees, which includes 1no. *Category A*, 18no. *Category B*, and 1no. *Category C* trees. Whilst the loss of the specified trees from the Site will visually alter its character, the wider area contains a significant number of trees and therefore the character of this area is considered to be sufficiently upheld. The Proposed Development also presents a unique opportunity to re-introduce the historic vision for the landscaping at the Site. Therefore, tree removals and the associated landscaping strategy do need to be considered in this context.

1.5 The impact to the retained trees is considered to be able to be appropriately managed, through the installation of barrier, ground, and stem protection measures, in addition to some crown lifting within the path of the excavator and other plant. Further details regarding protection will need to be provided, at a later stage in the planning process.

1.6 Where excavations are to occur within the *Root Protection Areas* of retained trees, there remains an inherent 'blind spot' as regards the extent to which structural stabilities of the affected trees will be affected. It is considered reasonable in this instance for such impacts to be quantified upon the implementation of excavation works, through the undertaking of a load analysis assessment.

2 INTRODUCTION

Instruction

2.1 This *Arboricultural Report* ('the Report') has been instructed by *Crown Estate Paving Commission* ('the Client').

Author

2.2 This Report was written by Christopher Wright (the 'Author'). Christopher is an arboricultural consultant dealing with trees in relation to all forms of human activity including built development. He is a *Technician Member* of the *Arboricultural Association*, a member of the *Royal Forestry Society*, a member of the *Institute of Chartered Foresters*, holds the *Level 6 Diploma in Arboriculture (ABC)*, the *Professional Tree Inspection certificate* (*LANTRA*), and has received a *BSc (Hons) Conservation and Environment* (2:1) from *Writtle University College*.

Proposed development

2.3 The proposed development at *Chester Terrace* ('the Site') is for the demolition of the existing eastern retaining wall and the construction of a new retaining wall in its place ('the Proposed Development'), within the area administrated by the *London Borough of Camden* ('the LPA').

Scope

2.4 This Report has been provided to assist all parties involved in the planning process, in accordance with *British Standard 5837:2012 - Trees in relation to design demolition and construction - Recommendations* ('BS5837').

Site survey

Survey date

2.5 The Site was visited, and the trees and other vegetation surveyed, referring to the recommendations of BS5837, on the 9th of September 2022 by Dean Meadows (a colleague of the Author). The details of this survey are found within the Report appendices.

Map 1: *Showing the area discussed in this Report within the indicative line (note: this is not the red line plan of the Proposed Development).*

Report preparation

External documents

2.6 This Report has been prepared, with reference to the following supplied documents and information:

- *Access Plan* (*24509-200-P1*);
- *Design and Access Statement* (*24509/JRH/DMC REV01*);
- *Existing and Proposed Sections* (*24509-110-P1* through *24509-116-P1*);
- *Landscape and Arboricultural Heritage Report* (no reference);
- *Phase 2 Geotechnical Investigation* (*20.03.011a*);
- *Proposed Retaining Wall Plan* (*24509-100-P1* through *24509-104-P1*);
- *Topographical Survey* (*13244-TOPO-001-R1*); and
- *Typical Details: Sequencing* (*24509-120-P1* through *24509-P125-P1*).

Appendix

2.7 The appendices of this Report include:

- Appendix A (plans);
- Appendix B (schedules); and
- Appendix C (stem protection).

Definition of terms

2.8 The following terms and abbreviations may be used within this Report. These terms are defined by BS5837 as follows, unless provided without quotation marks:

- **Arboricultural Method Statement ('AMS')** - "*methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained*".
- **Local Planning Authority ('LPA')** - the planning department of the borough, district, or metropolitan council.
- **Root Protection Area ('RPA')** - "*layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority*.
- **Service(s)** - "*any above- or below-ground structure or apparatus required for utility provision*" that may for example include "*drainage, gas supplies, ground source heat pumps, CCTV and satellite communications*".
- **Tree Protection Plan ('TPP')** - "*scale drawing, informed by descriptive text where necessary, based upon the finalized proposals, showing trees for retention and illustrating the tree and landscape protection measures*".

3 SITE INFORMATION

Current Site use

3.1 The Site comprises the private open space along the western side of *Chester Terrace* - specifically, its eastern flank where the retaining wall is located. For clarity, this retaining wall is capped with a low ornamental wall, though the wall itself retains the adjacent road (i.e., *Chester Terrace*), given that the Site is at a lower level - at its southern end, the Site is just under 1000mm lower than the road, whilst at its northern end the level difference reduces to around 500mm).

***Photo 1 (left) & Photo 2 (right)**: Looking north into the Site from the south-eastern stair access (left) and looking south from adjacent to T488 (right).*

Geotechnical information

British Geological Survey

3.2 The *British Geological Survey* ('BGS') provides on-line information, regarding the general soil properties of an area, including the underlying bedrock and any superficial deposits that overlay the bedrock. This information indicates that the Site is situated upon a bedrock of *London Clay Formation* (comprised of clays, sands, and silts), over which no superficial deposits are recorded.

3.3 Site-specific ground investigations have also been undertaken that confirms the presence of clay beneath a layer of Made Ground. This Made Ground is comprised of clays, gravels, and sands, and is present to a depth of around 2.25m on average.

Root morphology

3.4 Soils where the clay content is significant will tend to encourage tree root growth at shallower depths - often, within the upper 600mm of soil[1]. Where other soil components are present to greater extents (as is observed to be the case in this instance), root morphology may differ, though impermeable layers of heavy compacted clay (e.g., as a bedrock) may restrict penetrative root growth, which may influence how far roots radiate from the stem of the tree to acquire nutrients.

Photo 3 (left) & Photo 4 (right): *Looking south towards T223 (left) and looking south along the western edge of the Site from adjacent to T221 (right).*

1 - Forestry Commission. (2005) Information Note FCN078 - The influence of soils and species on tree root depth.

4 TECHNICAL ARBORICULTURAL DETAILS

Landscape details

Distribution

4.1 The surveyed trees are located fairly evenly throughout the Site, though the mature trees are generally located east of its long axis with smaller trees and shrub masses located west of this axis.

Photo 5 (left) & Photo 6 (right): *Looking south towards T487 (left) and looking north towards T488 (right).*

Visibility

4.2 The surveyed trees are all visible from the public realm that surrounds the Site (primarily to its west, though also to its east along *Chester Terrace* itself). Whilst views of the trees along the eastern side of the Site are slightly obscured by trees and shrubs positioned along the western edge (adjacent to which is the main view into the Site along *Outer Circle*), all trees are visible from this western vantage - as are the trees visible from the eastern vantage along *Chester Terrace*.

4.3 Overall, the trees are considered to have more value as a group where they combine to form a linear green feature (that is the Site), though larger individual trees (such as T209) do have individual amenity value.

Photo 7 (left) & photo 8 (right): *Looking north along the western edge of the Site from its south-western corner (left) and looking north along Chester Terrace towards T488 (right).*

BS5837 details

Survey criteria

4.4 The surveyed trees and other vegetation items have been generally categorised, in terms of the arboricultural and landscape criteria as defined in BS5837. These criteria consider the arboricultural merits of individual trees, in addition to the wider value afforded in contributing to the character of the landscape.

BS5837 categorisation

4.5 In BS5837 terms, the surveyed trees and other forms of vegetation comprise:

- *Category A* (i.e., high-quality): 2no. trees;
- *Category B* (i.e., moderate-quality): 28no. trees & 2no. shrubs; and
- *Category C* (i.e., low-quality): 2no. trees.

Root Protection Areas

4.6 Based on the ground conditions of the Site that includes the known or foreseeable presence of buried structures, in addition to the context within which the surveyed trees and other vegetation items are growing, the circular RPAs have in particular instances been amended - specifically, RPAs are not extended beyond the existing retaining wall to the eastern edge of the Site (i.e., RPAs do not extend under the adjacent vehicular highway). These changes are reflected on the plans found in this Report's appendices.

Statutory protections

Conservation Areas

4.7 The LPA publishes details of its *Conservation Areas* ('CAs') online. According to this information, the Site is within the *Regent's Park* CA, which affords a baseline level of protection to the surveyed trees, under the relevant provisions of *The Town and Country Planning (Tree Preservation)(England) Regulations 2012*.

Tree Preservation Orders

4.8 The LPA have confirmed via email on the 17th of October 2022 that there are no *Tree Preservation Orders* ('TPOs') that apply to any of the surveyed trees.

Client statutory powers

4.9 This Report observes the position that the Client maintains an exemption as per *The Town and Country Planning (Tree Preservation)(England) Regulations 2012* specifically, with regard to *Regulation 14(1)(a)*. Particularly, the Client has statutory powers of control over the garden, roadway and footway each at *Chester Terrace* and the footway of the *Outer Circle*, which encompasses the entire Site.

5 PLANNING POLICY AND GUIDANCE

National

Background information

5.1 Planning policy at national level is set out in the government's *National Planning Policy Framework* (the 'NPPF')[2], published in July 2021.

5.2 At this level, policy addresses the key principles of development. At its core, there is a presumption in favour of sustainable development incorporating good and durable design, by combining economic, social, and environmental strands in a balanced manner. Trees comprise an element of green infrastructure, which is one aspect of the environmental strand of sustainability.

National Planning Policy Framework 2021

5.3 In the context of the Proposed Development, the NPPF provides the following guidance that is relevant in terms of the surveyed trees:

- **Paragraph 174** - "*Planning policies and decisions should contribute to and enhance the natural and local environment by: ... b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services including the economic and other benefits of ... trees and woodland*".

Greater London

Background information

5.4 Planning policy at the *Greater London* level is currently set out in *The London Plan* (the 'LP'). The current iteration of the LP was published, in March 2021.

London Plan 2021

5.5 In the context of the Proposed Development the LP provides the following guidance that is relevant in terms of the surveyed trees:

- **Policy G7 Trees and Woodlands** - "*Development proposals should ensure that, wherever possible, existing trees of value are retained. If planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy*".

2 - Ministry of Housing, Communities and Local Government (2021). National Planning Policy Framework.

Local

Background information

5.6 Planning policy at the local level is currently set out in the LPA's *Camden Local Plan* (the 'LDP'), published in 2017.

Camden Local Plan 2017

5.7 In the context of the Proposed Development, the current LDP provides the following guidance that is relevant in terms of the surveyed trees:

- **Policy D1: Design** - "*The Council will seek to secure high quality design in development. The Council will require that development: ... k. incorporates high quality landscape design (including public art, where appropriate) and maximises opportunities for greening for example through planting of trees and other soft landscaping*";
- **Policy D2: Heritage** - "*The Council will: e. require that development within conservation areas preserves or, where possible, enhances the character or appearance of the area; ... g. resist development outside of a conservation area that causes harm to the character or appearance of that conservation area; and h. preserve trees and garden spaces which contribute to the character and appearance of a conservation area*"; and
- **Policy A3: Biodiversity** - "*The Council will protect, and seek to secure additional, trees and vegetation. We will: j. resist the loss of trees and vegetation of significant amenity, historic, cultural or ecological value including proposals which may threaten the continued wellbeing of such trees ... [and] l. expect replacement trees or vegetation to be provided where the loss of significant trees or vegetation or harm to the wellbeing of these trees and vegetation has been justified in the context of the proposed development*".

Regent's Park Conservation Area Appraisal and Management Strategy 2011

5.8 The CA within which the Site is located was appraised by the LPA during 2011, within the *Regent's Park Conservation Area Appraisal and Management Strategy 2011* document ('the CAA'). The CAA appears to focus heavily on the architectural merits of the CA, though it does discuss trees to some length and there are relevant elements in the context of the Proposed Development. Specifically, these are:

- **Part 1 Section 4.3** - "*The landscape of the park in the proximity of the terraces is a wide open parkland setting. The private ornamental gardens on the perimeter contain more exotic and colourful trees and shrubs and are raised to the level of*

the terrace to which they relate. This creates a layered effect when viewed from the park, and an added sense of privacy when viewed from the terraces."

- **Part 1 Section 4.12** - "*Between the park and the terraces are a series of private open spaces which are designated private open spaces in the UDP. These are important elements within the landscape structure of the conservation area although there is some variation in the structure and planting, some are raised where others are sloped banks. The planting in terrace gardens offers variety to the presentation of the terraces, and represents a domestication' of the landscaping. Generally speaking the larger trees within these spaces are the more significant landscape elements providing intermediate scale and enclosure between the park and the terraces.*"
- **Part 1 Section 8** - "*The street trees and established front gardens enhance the public spaces. Management and replanting of a mature landscape is essential in public and private spaces.*"
- **Part 2 Section 2** - "*Mature trees add greatly to the character of the area. The trees are protected by conservation area designation. Many trees are in private gardens and incremental careful replacement is encouraged in the future, as these trees add greatly to the quality to the street scene and the sense of the country in the city.*"
- **Part 2 Section 7.6** - "*The landscape and buildings are part of one composition and are of equal importance in the character of the area. As stated above, the Royal Parks Agency, the Crown Estates Paving Commission, the council and private individuals have responsibility for the upkeep of parts of the landscape. The trees in the park and the terrace gardens make a significant impact on how the area appears today.*"
- **Part 2 Section 7.6** - "*The Council would generally resist the removal of trees within the conservation area unless they were dead/dying/dangerous, causing damage to buildings or not considered to be of visual or wildlife importance. The unsympathetic pruning of trees would also be resisted. Trees that form part of the landscape of any part of the Park should be sensitively and minimally pruned to conserve the natural appearance of the canopy silhouette, whilst allowing some flexibility to reduce trees to allow important views through the park and estate to be retained.*"

6 ARBORICULTURAL IMPACT ASSESSMENT

Removals

Numerical data

6.1 The Proposed Development requires the removal of 20no. trees, which in BS5837 terms comprises:

- *Category A* (i.e., high-quality): 1no. tree (i.e., T488);
- *Category B* (i.e., moderate-quality): 18no. trees (i.e., T210, T214, T217, T218, T221, T223, T227, T229, T486, T487, & T489-T496); and
- *Category C* (i.e., low-quality): 1no. tree (i.e., T731).

Reasons for removals

6.2 In all instances, the removal of the specified trees is considered to be necessary, due to the fact that the affected trees are located either within or immediately adjacent to the area that requires excavation to implement the Proposed Development (specifically, excavations that are required to enable the underpinning and other foundation works to the retaining wall) or are otherwise in the direct path of the route of the excavator. The trees that are specified for removal therefore constitutes the minimum number of trees that need to be removed.

6.3 For clarification, as per the details of the *Design and Access Statement*, 2no. alternative design approaches were explored through were ultimately discounted - this included explorations as regards the use of ground anchors or a deeper reinforced concrete wall. In the instance of using ground anchors, the potential impact to trees would potentially have been lesser, though the impracticalities of this approach due to the presence of buried structures and utilities in the immediate vicinity of the existing retaining wall rendered it inviable.

Impacts of removals

6.4 The loss of the specified trees from the Site will visually alter its character, both from the quieter side of the public realm (i.e., along *Chester Terrace*) and along the busier public thoroughfare (i.e., along *Outer Circle*). The visual change along *Chester Terrace* is however considered to be more discernible, due to the fact that the trees that are specified for removal are located along this side of the Site.

6.5 Along *Outer Circle*, the visual change is considered to be less significant, because the trees and shrubs along the western side of the Site are to be retained. Therefore, the character of *Outer Circle* is largely upheld - particularly, due to the fact that *Regent's Park* is located on the opposite side of the road and contains extensive mature tree and shrub planting.

6.6 Whilst not a typical consideration of this type of Report, the removal of trees also provides an increased view of the architectural designs of the properties located along *Chester Terrace*. The improved views of the properties will be most obvious in the winter months (with a recent *Google Street View* image from November 2020 demonstrating this - see Photo 9 below). In this albeit rare instance, improved views of architecture are considered to be of value or merit, considering that the design appears to be particularly interesting, helps to define the sense of place, and the wider area contains a significant number of trees.

Photo 9: *Looking north-east towards the western edge of the Site from Outer Circle from a point adjacent to T209 (front right and largely out of view).*

Mitigation greening

6.7 The Proposed Development provides a new landscaping design for the Site that is fundamentally based on the details of the *Chester Terrace Management Vision* ('the CTMV') - specifically, as articulated in the *Landscape and Arboricultural Heritage Report*, which is submitted as part of the Proposed Development. The CTMV was produced in August 2019 by *Todd Longstaffe-Gowan Landscape Design* and was subsequently adopted by the *Crown Estate Paving Commission* (i.e., the Client).

6.8 Consequently, the approach to new tree planting in response to the specified tree removals focusses not in a direct replacement for these trees but instead at re-directing the design of the Site so that it is in stricter adherence to its original design intentions.

6.9 In turn, it is considered most appropriate to frame the tree removals specified in the context of the Proposed Development as a 'soft reset' point, with new tree planting not being a direct response to tree removal but as a means of altering the long-term character of the Site. It so happens that works to implement the Proposed Development includes the removal of trees, which as discussed above is necessary to facilitate the works associated with reconstructing the retaining wall.

Pruning

Numerical data

6.10 The Proposed Development requires the pruning of 4no. trees, which in BS5837 terms comprises:

- *Category A* (i.e., high-quality): 1no. tree (i.e., T209); and
- *Category B* (i.e., moderate-quality): 3no. trees (i.e., T215, T222, & T228).

Specifications of pruning

6.11 The specification for pruning is in all instances to establish a vertical clearance from the existing ground level of no greater than 5m in the areas where access for the excavator and other plant is required. A caveat to this specification is that no branches greater than 50mm diameter will be cut, unless it is agreed with the arboriculturist that it is both necessary and will not significantly undermine the health (and condition) of the affected tree.

6.12 All specified pruning work is to be undertaken under the supervision of the arboriculturist and the Site Manager, to ensure that all pruning is undertaken in the most appropriate manner (discussed further from the following paragraph).

Reasons for pruning

6.13 The reason for establishing up to a 5m vertical clearance on the eastern crown aspects is to ensure that there is sufficient space under which an excavator (and other plant) can operate, which is necessary to achieve the excavations that are required to enable the new retaining wall to be constructed.

6.14 In all possible instances, a lower crown clearance will be provided, assuming that it is possible to do so and still permit the safe passage of plant beneath. This is the reason why all pruning works are to be undertaken whilst the arboriculturist and Site Manager are present.

Impacts of pruning

6.15 The specified pruning works are not considered to have a significant impact on the health and condition of the trees (and by extension nor their amenity values), given that only localised crown elements of the affected trees are to be pruned and that there is a holding threshold of no removal of branches that are in excess of 50mm diameter.

Retained tree juxtapositions

6.16 In relation to the retained trees, the Proposed Development does not place any increased pressure upon them that may result in inappropriate management (e.g., major branch removal or heavy pruning). The Proposed Development is therefore considered to be acceptable, regarding its juxtaposition to the retained trees.

Retaining wall replacement works

General protection details

6.17 The indicative TPP at Appendix A sets out the specifications for tree protection that are associated with the implementation of this phase of the Proposed Development, based on the details that are currently available. This TPP includes an outline AMS (i.e., indicative of the basic principles of works), which provides some baseline information relating to the installation, implementation, and management of the specified tree protection measures.

Arboricultural oversight

6.18 The implementation of the Proposed Development is considered to require a continued presence of the arboriculturist, to ensure that the principles of protection as are outlined in this Report are adhered to.

6.19 In order to ensure that the risk of significant harm that may occur to any of the retained trees is as low a probability as possible, it is considered that a Site visit (i.e., meeting) by the arboriculturist will occur at least at the following points, with the findings of each visit being summarised in written format and issued to at least the Client, main contractor, and LPA tree officer:

- a pre-commencement meeting at the Site with at least the Site Manager;
- during works to undertake the specified crown lifting works (as provided at Appendix B);
- upon the completion of the installed tree protection measures; and
- during works to excavate within the RPAs of all retained trees (as per the details from paragraph 6.25).

Tree protection measures and logistics

6.20 The means of tree protection is at this stage indicative, based on the fact that the means of access into and through the Site is not confirmed with complete precision. However, the following is assumed:

- a 21t excavator will (a *Komatsu PC210/LC-10*) be used to undertake excavations; and
- the piling rig will operate from within the Site.

6.21 An access ramp is currently specified at the north-eastern corner of the Site, which will be used by the excavator and piling rig to get into the Site. The direction of movement of plant will thereafter be through the central area of the Site.

6.22 Upon confirmation of the precise means of access through the Site, the arboriculturist will need to provide a detailed specification for the approach to tree protection. Nominally, this will include the installation of barrier, ground, and stem protection elements, which will need to allow for the safe access and movement of plant in conjunction with delivering sufficient levels of tree protection (i.e., the reduce the risk of significant harm to the lowest possible level).

6.23 For clarity, stem protection is shown around the stems of T209 and T222 on the TPP (at Appendix A), because it is considered necessary for such a degree of protection to be present by virtue of the proximity of the trees to work activities. The extent to which barrier and ground protection further protects these trees (and all others) will need to be specified by the arboriculturist at a later stage (of which some examples are provided from Appendix C and within the TPP).

6.24 The LPA retains the capacity to require the provision of further details as part of a detailed AMS document, which is something that is typically provided in response to a pre-commencement planning condition. In this instance, the provision of such a document may be considered appropriate by the LPA.

Excavations for foundation access and installation

6.25 Excavations to provide the required access to demolish the existing retaining wall and to subsequently construct the foundations of the new wall are to occur within the RPAs of the following trees and at the identified distances from their stems:

- T209 (*Category A*) - 6m closest distance; and
- T222 (*Category B*) - 5.5m closest distance.

6.26 It is considered that, based on the fact that excavations are to only occur on one side of these trees (as listed at paragraph 6.25), whilst there is likely to be some root damage that will occur, it is unlikely that the trees will significantly decline in

physiological condition - mainly, because their wider RPAs remain undisturbed (except for incursions into peripheral RPAs) and within these wider areas the trees are likely to be acquiring sufficient nutrients and water.

6.27 Nonetheless, it is reasonable to assume that there could be an impact on the structural conditions of these trees. Consequently, it will need to be the case that excavations within RPAs are undertaken under oversight by the arboriculturist, which will allow for any severed roots to be recorded, attributed to a particular tree, and subsequently for a management decision as regards further investigations to occur.

6.28 Specifically, this will require the arboriculturist to confirm whether a load analysis to assess the stability of any of the trees is required (as noted at Appendix B in the *Tree Work Schedule*). Following receipt of the results of such an analysis, it can be confirmed whether further management works are required to any of the affected trees. In this context, there is a degree of 'unknown' arboricultural impact, though this is an inherent blind spot that is unable to be avoided in the context of the Proposed Development.

Works to the retaining wall

6.29 Considering that excavations are occurring within the RPAs of adjacent trees to facilitate the construction of the foundation element for the new retaining wall, it is unlikely that any further impacts to the trees will occur beyond that which could occur as a result of the preceding excavations (assuming that tree protection measures are appropriately installed once the details of access are fully confirmed - as per the details from paragraph 6.20).

6.30 Therefore, subject to compliance with the details of this Report and the TPP, it is considered that no further impact to trees will arise as a consequence of constructing the 'superstructural' retaining wall (i.e., elements built upon the foundation element).

Associated landscaping works

6.31 At this stage of the process, detailed elements relating to hard and soft landscaping within the Site are not confirmed. However, there is the intent to re-design the path network within the Site, in addition to more comprehensively re-landscaping the borders. It is considered that the general level of significant risk of harm to the retained trees is low, given that such works are typically kept to near-surface levels.

6.32 In turn, it is considered reasonable for such details to be addressed as part of a detailed AMS document (that may, if deemed appropriate by the LPA, be a sub-element of a landscaping condition).

Planning policy considerations

National policies

6.33 With regard to the relevant planning policies at this spatial scale (as per paragraph 5.1), the Proposed Development is considered to respond to these policies in the following manners:

- **Paragraph 174** - The manner in which trees positively contribute to the character of the nearby public realm is not considered to significantly change, as a consequence of the Proposed Development. Whilst there is some tree loss within the Site, the wider area benefits from extensive tree cover and this is something that will not significantly change.

Regional policies

6.34 With regard to the relevant planning policies at this spatial scale (as per paragraph 5.4), the Proposed Development is considered to respond to these policies in the following manners:

- **Policy G7** - Trees of value are retained as part of the Proposed Development, in all instances where it is considered possible to do so. Where trees are specified for removal, the Proposed Development includes a landscaping scheme that is considered to appropriately respond to the long-term design intentions of the Site and the area within which the Site is located (note: this includes new tree planting). Given the nuanced nature of the Site and its management history, it is considered inappropriate to apply standard approaches to mitigation to address the loss of trees in this particular scenario (e.g., the use of CAVAT).

Local policies

6.35 With regard to the relevant planning policies at this spatial scale (as per paragraph 5.6), the Proposed Development is considered to respond to these policies in the following manners:

- **Policy D1** - The Proposed Development specifies the removal of trees that are to be replaced in a manner whereby the original management principles and design intents of the Site are to be re-introduced, which is considered to be reasonable in the wider context of the management of the appearance of the Site.

- **Policy D2** - The comments as per *Policy D1* apply, with the addition that the re-introduction of a more historic Site appearance can be considered an attractive change in an area of London that is rich in architectural and landscaping history (and this this may follow the principles of the CAA more broadly). Furthermore, the wider area contains a significant number of trees that is considered to sufficiently

uphold the character of the area in the period following the removal of the specified trees.

- **Policy A3** - The comments as per *Policy D1* and *Policy D2* apply.

7 CONCLUSIONS

7.1 The Proposed Development requires the removal of 20no. trees, which includes 1no. *Category A*, 18no. *Category B*, and 1no. *Category C* trees. In all instances, the removal of the specified trees is considered to be necessary, to facilitate the implementation of the Proposed Development.

7.2 Whilst the loss of the specified trees from the Site will visually alter its character, the wider area contains a significant number of trees and therefore the character of this area is considered to be sufficiently upheld. Furthermore, the planting of new trees in a manner commensurate with the design intentions of the Site will ensure that it positively contributes to the character of the area upon its implementation.

7.3 The Proposed Development requires the pruning of 4no. trees, which in BS5837 terms comprises 1no. *Category A* and 3no. *Category B* trees, to facilitate its implementation. The specified pruning works are not considered to have a significant impact on the health and condition of the affected trees.

7.4 The impact to the retained trees is considered to be able to be appropriately managed, through the installation of barrier, ground, and stem protection measures, in addition to some crown lifting within the path of the excavator and other plant. The details of these measures can be provided as part of a detailed AMS that is typically provided in response to a planning condition.

7.5 Where excavations are to occur within the RPAs of retained trees, there remains an inherent 'blind spot' as regards the extent to which structural stabilities of the affected trees will be affected. It is considered reasonable in this instance for such impacts to be quantified upon the implementation of excavation works, through the undertaking of a load analysis assessment.

8 APPENDICES CONTENTS

APPENDIX A - Plans

- 220928-P-10 Tree Survey
- 220928-P-11b Proposed Layout and Tree Works
- 220928-P-12b Tree Protection Plan

APPENDIX B - Schedules

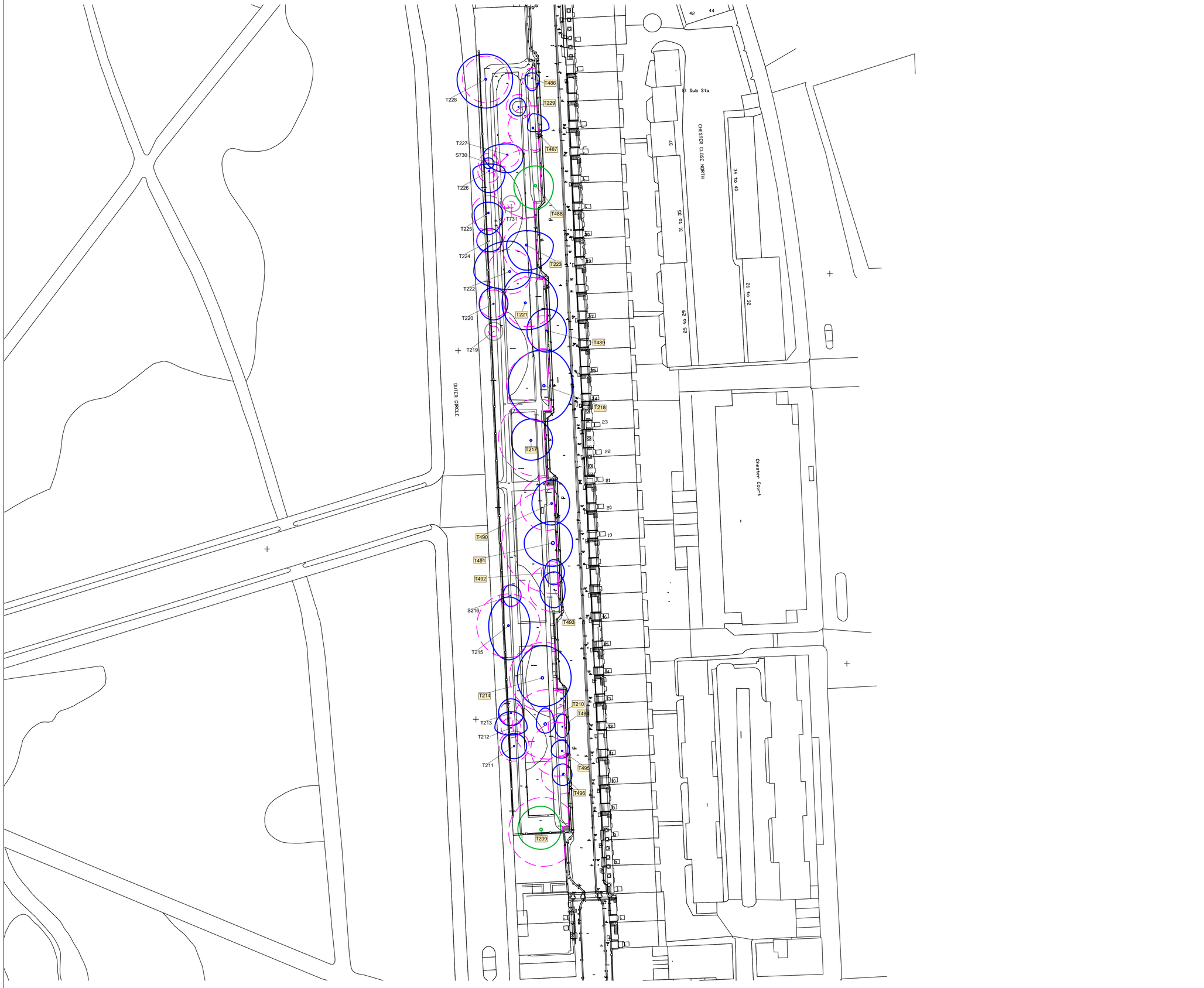
- 220928-PD-10 Tree Schedule
- 220928-PD-12b Tree Work Schedule

APPENDIX C - Stem protection

- Green Grid Systems - Trunk Protecta

APPENDIX A - Plans

- 220928-P-10 Tree Survey
- 220928-P-11b Proposed Layout and Tree Works
- 220928-P-12b Tree Protection Plan



BS 5837:2012 TREE RETENTION CATEGORIES

Canopy spread (m)
Tree Stem
T1 — Unique tree identification number
Root Protection Area (RPA)

Group canopy extents shown in their retrospective retention category.
G2 — Unique group identification number
Root Protection Area (RPA)

Category A
Trees and groups of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees and groups of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C
Trees and groups of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm.

Category U
Those in such a condition that the tree cannot realistically be retained as living trees in the context of the current land use for longer that 10 years.

BS5837 Root Protection Areas
Precautionary areas within which tree roots and soil structure must be protected. All works within these areas will require special methods of work.

T33 — The RPAs of affected trees have been off-set, due to the presence of existing roads.

rev	date	description	drawn by
-	xx.xx.xx	-	xx

Base Drawing: OSMAP and TOPO

Title
Tree Survey

Client
Crown Estates Paving Commission

Project
Chester Terrace, London, NW1 4RU

Date	Drawn by	Authorised
19.10.2022	HR	CW

Drawing No	Rev	Scale
211130-P-10	-	1:500@A1

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0 5m 10m 20m 30m 40m 50m

BS 5837:2012 TREE RETENTION CATEGORIES

NORTH

Canopy spread (m)
Tree Stem
T1 Unique tree identification number
Root Protection Area (RPA)

Group canopy extents shown in their retrospective retention category.
G2 Unique group identification number
Root Protection Area (RPA)

Category A
Trees and groups of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees and groups of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C
Trees and groups of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm.

Category U
Those in such a condition that the tree cannot realistically be retained as living trees in the context of the current land use for longer that 10 years.

BS5837 Root Protection Areas
Precautionary areas within which tree roots and soil structure must be protected. All works within these areas will require special methods of work.

T33 The RPAs of affected trees have been off-set, due to the presence of existing roads.

Trees and groups to be removed shown shaded grey and dashed.

Crown to be lifted to no greater than 5m above the existing ground level at appropriate points, to facilitate access beneath its crown for an excavator to safely be positioned.

Outer face of retaining wall
Excavation line (approx. 1.75m from face of retaining wall)

rev	date	description	drawn by
b	21.11.22	tree removals updated	HR
a	14.11.22	edits to key	HR

Base Drawing: 4509 - 100 to 104 & DRAFT WIP 24509 - 05.10.22

Title
Proposed Layout and Tree Works

Client
Crown Estates Paving Commission

Project
Chester Terrace, London, NW1 4RU

Date	Drawn by	Authorised
19.10.2022	HR	CW

Drawing No	Rev	Scale
211130-P-11	b	1:500@A1

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General Arboricultural Method Statement

TREE WORKS

Only the tree works specified within this report may be undertaken, after the appropriate planning consents have been acquired and in order to implement the consent. In the event of any uncertainty regarding tree works, the arboriculturist will be consulted and where appropriate the Local Planning Authority.

All tree works will be undertaken, in accordance with the best-practice recommendations provided in BS 3998:2010. The statutory responsibilities as outlined in the Wildlife and Countryside Act 1981 (as amended) and the Habitat Regulations 2010 will also be complied with.

TREE PROTECTION FENCING

The tree protection fencing and (where appropriate) ground protection, will be installed as specified within this plan, prior to the commencement of any demolition and construction works. No plant or materials will be delivered to site prior to the construction of the tree protective fencing other than those required to install the tree protection fencing. On every third panel, a sign will be fixed that states "Tree Protection Zone (CEZ). Keep out. Any incursion into this area must be agreed in advance with the arboriculturist and Local Planning Authority." An example of this sign is provided within this plan.

The position of the tree protection fencing must not be amended and no individual panels will be uncoupled, without the agreement of the arboriculturist and/or Local Planning Authority.

SERVICES AND DRAINAGE

The installation of drainage runs, manholes, storage tanks, and utilities will be positioned outside the root protection areas of retained trees. If the installation of new services and drainage runs are required within the root protection areas (RPAs) of retained trees, all methods of working will follow the guidance within Table 3 of BS 5837 or the National Joint Utilities Group's (NJUG) Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees (volume 4, issue 2).

Excavation works within the RPAs of retained trees will be undertaken manually with the use of hand tools only (under the supervision of the arboriculturist), unless otherwise agreed in advance by the arboriculturist. It is recommended that an air lance - and if required a soil vacuum - is used, to excavate service trenches within RPAs. If soil conditions are not suitable for this method of excavation, alternative hand tools can be used once agreed in advance by the arboriculturist.

All roots greater than 25mm in diameter will be retained and will immediately be wrapped in hessian or another appropriate material, to prevent desiccation and temperature fluctuations. Roots will be pushed aside to allow for runs to be installed, where this is practical and without causing root damage.

No machinery will be permitted within the CEZ, at any time, unless agreed in advance with the arboriculturist.

NO-DIG CONSTRUCTION AREAS

Areas that will require no-dig methods of construction are shown within this plan. Working methods within these areas will comply with the details outlined in the main report and in advance of works being undertaken will be agreed with the arboriculturist.

ARBORICULTURAL CLERK OF WORKS

Attendance by the arboriculturist on Site is required, as per the specifications outlined within the Report to which this plan is appended.

It will be the responsibility of the main contractor (or other managing individual or organisation) to confirm the date and time of attendance, providing at least five working days of notice so that the project arboriculturist can confirm attendance.

GENERAL PROTECTION METHODS

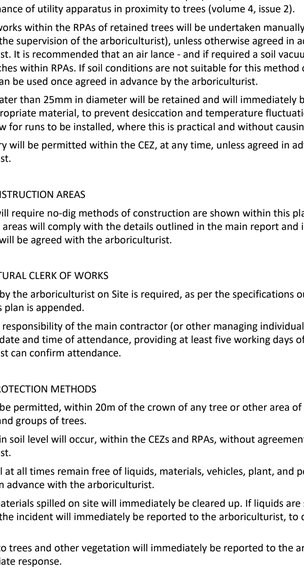
No fires will be permitted, within 20m of the crown of any tree or other area of vegetation that includes hedgerows and groups of trees.

No changes in soil level will occur, within the CEZs and RPAs, without agreement in advance with the arboriculturist.

The CEZs will at all times remain free of liquids, materials, vehicles, plant, and personnel, without agreement in advance with the arboriculturist.

Any liquid materials spilled on site will immediately be cleared up. If liquids are spilled within 2m of any CEZ or RPA, the incident will immediately be reported to the arboriculturist, to determine the appropriate response.

All damage to trees and other vegetation will immediately be reported to the arboriculturist, to determine the appropriate response.



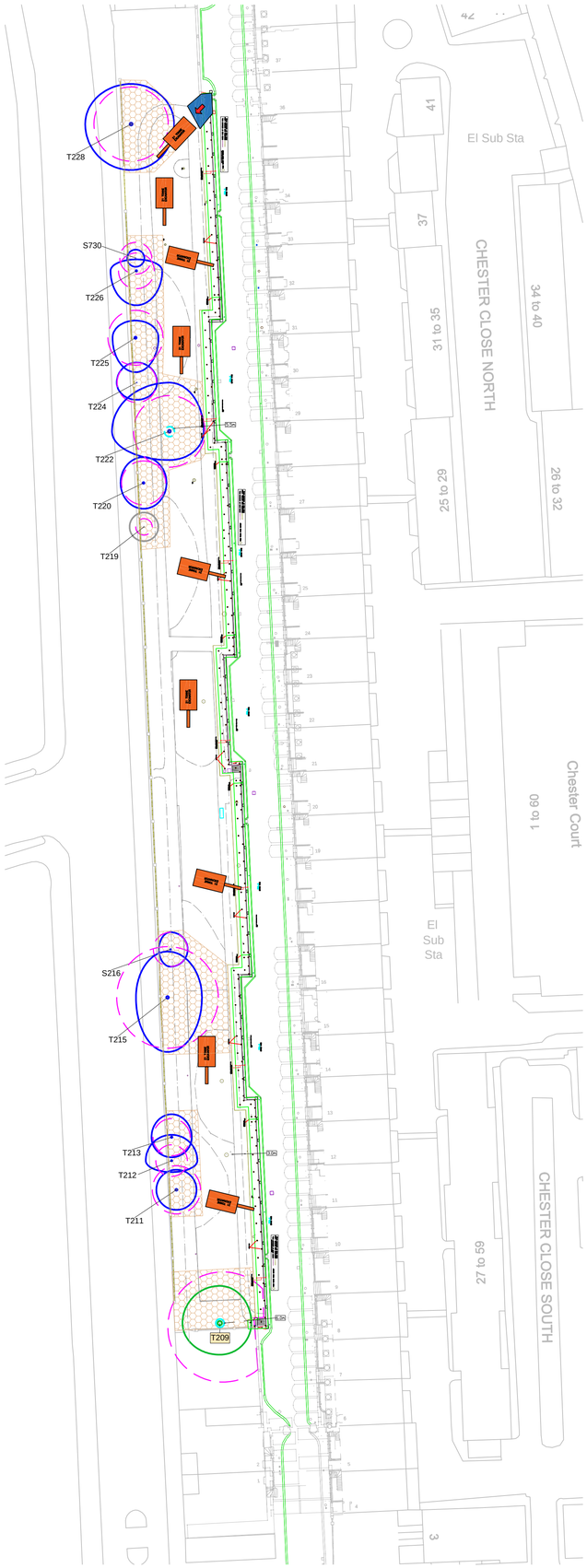
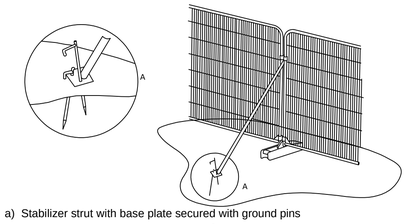
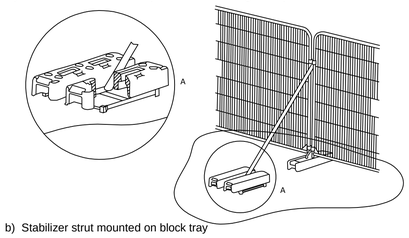


Figure 3 Examples of above-grounds stabilizing systems

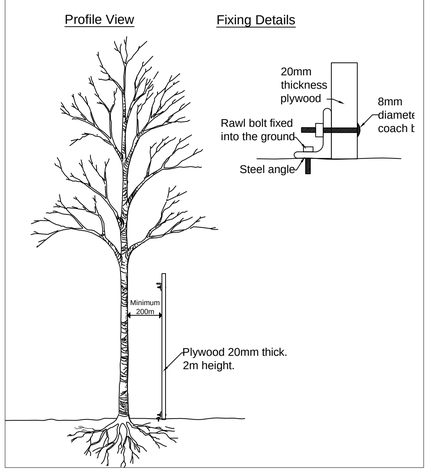


a) Stabilizer strut with base plate secured with ground pins



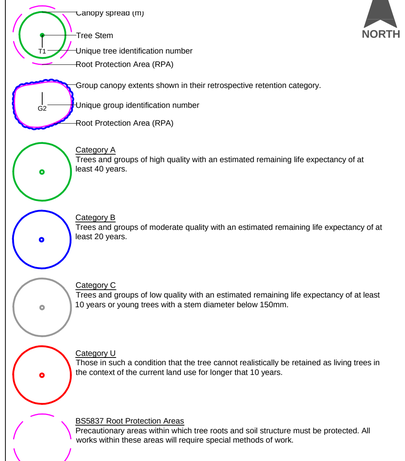
b) Stabilizer strut mounted on block tray

Stem Protection Specification



BS 5837:2012 TREE RETENTION CATEGORIES

NORTH



Category A
Trees and groups of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees and groups of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C
Trees and groups of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm.

Category U
Those in such a condition that the tree cannot realistically be retained as living trees in the context of the current land use for longer that 10 years.

BS5837 Root Protection Areas
Precautionary areas within which tree roots and soil structure must be protected. All works within these areas will require special methods of work.

Outer face of retaining wall

Excavation line (approx. 1.75m from face of retaining wall)

Stem protection to be installed up to a height of at least 1.8m above the existing ground level. Suitable forms of stem protection include the use of the Trunk Protecta product (refer to Appendix C of the Report to which this plan is appended to) or the installation of box protection (refer to the figure provided on this plan). The approach to stem protection will be agreed with the arboriculturist, prior to the commencement of works on Site but once the logistics of works are understood in technical detail.

Areas to be protected with a suitable combination of barrier and ground protection. The approach to tree protection will be agreed with the arboriculturist, prior to the commencement of works on Site but once the logistics of works are understood in technical detail. Where barrier protection (to the specification as provided on this plan) is not able to fully protect RPAs within the Site, ground protection will be installed over the remaining existing surfaces to a specification that fully accommodates the gross applied loads to prevent significant ground damage and compaction - nominally, this will comprise a 150mm-thick layer of woodchip laid upon a geotextile membrane over which heavy-duty ground mats will be laid.

rev	date	description	drawn by
b	21.11.22	removals updated	HR
a	14.11.22	edits to key	HR

Base Drawing: 4509 - 100 to 104 & DRAFT WIP 24509 - 05.10.22

Title
Tree Protection Plan

Client
Crown Estates Paving Commission

Project
Chester Terrace, London, NW1 4RU

Date	Drawn by	Authorised
19.10.2022	HR	CW

Drawing No	Rev	Scale
211130-P-12	b	1:500@A1

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APPENDIX B - Schedules

- 220928-PD-10 Tree Schedule
- 220928-PD-12b Tree Work Schedule

220928-PD-10 Tree Schedule

TIM MOYA ASSOCIATES

220928 - Chester Terrace

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T209	1	Tilia x vulgaris (Common Lime)	16.5	75	1	6.5		5.5		5.5		6.5		2.0		Mature	Structural condition Fair. Physiological condition Fair. Base / stems obscured - Vegetation. Buttresses / buttress roots - Major adaptive growth / strong development. Crown reduction - Historic. Deadwood - Minor. Epicormic growth - Crown. Epicormic growth - Base / bole / principal stems. Fork - Suspected structurally sound. Raised surface roots. Reaction wood / Adaptive growth - Stem / stems. Structural impact - Potential.	12/09/2022	254.5	9.0	40+	A1/A2
Tree T210	1	Castanea sativa (Sweet Chestnut)	9.0	72	1	4.5		2.5		2.5		2.5		2.0		Mature	Structural condition Fair. Physiological condition Fair. Bark exudation. Bark wound - Major. Decay / structural defect - Base. Decay / structural defect - Open cavity / cavities. Decay / structural defect - Principal stems. Decay / structural defect - Bole. Epicormic growth - Base / bole / principal stems. Pollard - Regrown. Pruning wounds - Decayed. Root damage - Mower. Raised surface roots. Reaction wood / Adaptive growth - Stem / stems.	12/09/2022	234.5	8.6	40+	B1/B2
Tree T211	1	Sorbus intermedia (Swedish Whitebeam)	7.0	35	1	3.5		3.5		3.5		3.5		2.0		Mature	Structural condition Fair. Physiological condition Fair. Buttresses / buttress roots - Minor adaptive growth / moderate development. Die-back - Throughout crown. Deadwood - Minor. Fungal fruiting body - structural decay suspected. Girdling roots - Minor. Weak live growth. Decay fungi - Inonotus hispidus brackets on dying branch.	12/09/2022	55.4	4.2	20-40	B1/B2

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

Generated By MyTREES tree management software

220928 - Chester Terrace

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T212	1	Cerasus serrulata (Japanese Cherry)	7.5	23	1	4.5		4.5		2.0		4.5		2.0		Mature	Structural condition Fair. Physiological condition Fair. Deadwood - Minor. Grafted specimen. Pruning wounds - Historic. Rubbing limbs. Raised surface roots. Reaction wood / Adaptive growth - Base. Suppressed crown - Major. Unbalanced crown - Major.	12/09/2022	23.9	2.8	20-40	**B2**
Tree T213	1	Malus sp. (Apple sp.)	7.5	27	1	4.0		3.5		3.5		3.5		2.0		Mature	Structural condition Fair. Physiological condition Fair. Base / stems obscured - Vegetation. Buttresses / buttress roots - Major adaptive growth / strong development. Deadwood - Minor. Epicormic growth - Crown. Fork - Weak with included bark. Rubbing limbs. Nest observed.	12/09/2022	33.0	3.2	20-40	**B2**
Tree T214	1	Aesculus flava (Yellow (Sweet) Buckeye)	16.0	69	1	9.0		8.0		8.0		7.0		3.0		Mature	Structural condition Fair. Physiological condition Fair. Buttresses / buttress roots - Minor adaptive growth / moderate development. Deadwood - Minor. Epicormic growth - Crown. Fork - Suspected structurally sound. Grafted specimen. Pruning wounds - Historic. Reaction wood / Adaptive growth - Base. Structural impact - Footpath / highway / drive disturbance. Shedding limb / limbs - Historic. Shedding limb / limbs - Major. Stems - Co-dominant. Stems - Heavy principal stems. Unable to inspect closely - Dense undergrowth. No overt indications of physiological decline or structural decay observed, ivy/vegetation clearance not considered necessary at time of inspection.	12/09/2022	215.4	8.3	20-40	**B1/B2**

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

Generated By MyTREES tree management software

220928 - Chester Terrace

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T215	1	Aesculus flava (Yellow (Sweet) Buckeye)	13.0	73 COM	3	8.0		6.0		9.5		5.5		3.0		Mature	Structural condition Fair. Physiological condition Fair. Base / stems obscured - Vegetation. Buttresses / buttress roots - Minor adaptive growth / moderate development. Deadwood - Minor. Epicormic growth - Crown. Fork - Suspected structurally sound. Girdling roots - Minor. Grafted specimen. Pruning wounds - Historic. Structural impact - Footpath / highway / drive disturbance. Structural impact - Evident / observed. Stems - Co-dominant. Stems - Heavy principal stems. Damaged wall/footpath. Position estimated - not plotted on the topographical survey.	12/09/2022	246.5	8.9	20-40	**B1/B2**
Shrub S216	1	Laurocerasus lusitanica (Portugal Laurel)	5.0	24 COM	3	3.0		3.0		3.0		2.0		0.0		Mature	Structural condition Fair. Physiological condition Fair. Buttresses / buttress roots - Minor adaptive growth / moderate development. Fork - Weak with included bark. Form - Low canopy. Multi-stemmed. Pruning wounds - Historic. Rubbing limbs.	12/09/2022	28.1	3.0	20-40	**B2**
Tree T217	1	Ligustrum lucidum (Glossy Privet/Chinese Privet)	9.0	71 COM	4	6.0		6.0		5.5		5.5		2.0		Late Mature	Structural condition Fair. Physiological condition Fair. Base / stems obscured - Vegetation. Die-back - Throughout crown. Decline - Suspected. Deadwood - Minor. Epicormic growth - Crown. Fork - Weak with included bark. Pruning wounds - Historic. Stems - Co-dominant. Stems - Heavy principal stems. Weak live growth. Decay fungi on deadwood.	12/09/2022	230.2	8.6	20-40	**B1/B2**

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

Generated By MyTREES tree management software

220928 - Chester Terrace

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T218	1	Acer pseudoplatanus (Sycamore)	16.0	64	1	10.0		8.0		10.0		10.0		3.0		Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Arboricultural work - Recent. Branch weight - Heavy. Buttresses / buttress roots - Major adaptive growth / strong development. Die-back - Mid crown. Die-back - Upper crown. Deadwood - Major. Epicormic growth - Base. Excavation within root zone - Burrowing. Form - Large sail area / crown extent. Pruning wounds - Decayed. Raised surface roots. Sounding mallet/probe test - Suspected intact. Unable to inspect closely - Due to inaccessibility. No overt indications of physiological decline or structural decay observed, access for detailed inspection not considered necessary at time of inspection.	12/09/2022	185.3	7.7	20-40	**B1/B2**
Tree T219	1	Sorbus latifolia (Service Tree of Fontainebleau)	4.0	12	1	2.5		2.5		2.5		2.5		1.0		Early Mature	Structural condition Fair. Physiological condition Fair. Arboricultural work - Historic. Base / stems obscured - Vegetation. Deadwood - Minor. Decay / structural defect - Base. Decay / structural defect - Localised. Grafted specimen. Position estimated - not plotted on the topographical survey.	12/09/2022	6.5	1.4	40+	**C1/C2**
Tree T220	1	Prunus cerasifera 'Pissardii' (Pissard's Plum)	7.0	32	1	4.5		4.0		4.5		4.0		2.0		Mature	Structural condition Fair. Physiological condition Fair. Base / stems obscured - Vegetation. Buttresses / buttress roots - Major adaptive growth / strong development. Deadwood - Minor. Epicormic growth - Crown. Epicormic growth - Base / bole / principal stems. Fork - Weak with included bark. Rubbing limbs. Stems - Co-dominant. Position estimated - not plotted on the topographical survey.	12/09/2022	46.3	3.8	20-40	**B1/B2**

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

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220928 - Chester Terrace

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T221	1	Acer platanoides (Norway Maple)	14.0	55	1	8.5		9.0		7.5		6.5		2.0		Mature	Structural condition Fair. Physiological condition Fair. Branch weight - Heavy. Branch - Suspended. Buttresses / buttress roots - Major adaptive growth / strong development. Die-back - Mid crown. Deadwood - Major. Fork - Suspected structurally sound. Leaning trunk - Minor. Root decay - Small diameter roots. Root damage - Evident / observed. Raised surface roots. Stems - Co-dominant. Coprinus sp. fruiting at base W. Root dysfunction likely. Crown health appears normal.	12/09/2022	136.8	6.6	40+	B1/B2
Tree T222	1	Catalpa bignonioides (Indian Bean Tree)	12.0	52	1	8.5		6.0		5.0		10.0		3.0		Mature	Structural condition Fair. Physiological condition Fair. Branch weight - Heavy. Buttresses / buttress roots - Minor adaptive growth / moderate development. Deadwood - Major. Epicormic growth - Crown. Excavation within root zone - Burrowing. Fork - Suspected structurally sound. Leaning trunk - Minor. Pruning wounds - Recent. Root damage - Mower. Raised surface roots. Suppressed crown - Minor. Unbalanced crown - Minor.	12/09/2022	122.3	6.2	40+	B1/B2
Tree T223	1	Acer pseudoplatanus (Sycamore)	13.0	53	1	4.0		7.5		7.0		5.5		2.5		Mature	Structural condition Fair. Physiological condition Fair. Buttresses / buttress roots - Major adaptive growth / strong development. Crown reduction - Historic. Die-back - Throughout crown. Decay / structural defect in crown limb / limbs - Open cavity / cavities. Deadwood - Major. Fork - Suspected structurally sound. Pollard - Lapsed / Mature stems. Pruning wounds - Decayed. Stems - Co-dominant. Stems - Heavy principal stems. Unbalanced crown - Minor.	12/09/2022	127.1	6.4	40+	B1/B2
Tree T224	1	Ilex aquifolium (Holly)	7.0	28 COM	13	3.5		3.5		3.0		3.5		2.0		Mature	Structural condition Fair. Physiological condition Fair. Arboricultural work - Recent. Buttresses / buttress roots - Major adaptive growth / strong development. Epicormic growth - Base. Multi-stemmed. Stem diameter estimated average of stems. Position estimated - not plotted on the topographical survey.	12/09/2022	37.6	3.5	40+	B1/B2

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

Generated By MyTREES tree management software

220928 - Chester Terrace

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T225	1	Prunus cerasifera 'Pissardii' (Pissard's Plum)	7.0	40	1	3.0		4.0		6.0		4.0		2.0		Mature	Structural condition Fair. Physiological condition Fair. Buttresses / buttress roots - Major adaptive growth / strong development. Deadwood - Minor. Fork - Weak with included bark. Form - Low canopy. Leaning trunk - Major. Pruning wounds - Decayed. Rubbing limbs. Raised surface roots. Stems - Co-dominant. Bird feeder hung from lateral branch. Position estimated - not plotted on the topographical survey.	12/09/2022	72.4	4.8	20-40	B1/B2
Tree T226	1	Cerasus serrulata (Japanese Cherry)	6.0	26	1	2.0		4.5		6.0		4.5		2.0		Early Mature	Structural condition Fair. Physiological condition Fair. Arboricultural work - Historic. Deadwood - Minor. Epicormic growth - Crown. Form - Spreading crown. Grafted specimen. Leaning trunk - Minor.	12/09/2022	30.6	3.1	20-40	B2
Tree T227	1	Fraxinus excelsior 'Jaspidea' (Golden Ash)	12.0	29	1	3.0		4.5		5.0		6.5		2.0		Early Mature	Structural condition Fair. Physiological condition Fair. Arboricultural work - Recent. Buttresses / buttress roots - Minor adaptive growth / moderate development. Deadwood - Minor. Epicormic growth - Crown. Epicormic growth - Bole / principal stems. Pruning wounds - Decayed. Root damage - Mower. Raised surface roots.	12/09/2022	38.0	3.5	20-40	B1/B2
Tree T228	1	Acer pseudoplatanus (Sycamore)	14.5	54	1	7.0		7.5		8.0		8.0		3.0		Mature	Structural condition Fair. Physiological condition Poor. Branch weight - Heavy. Buttresses / buttress roots - Major adaptive growth / strong development. Bark wound - Major. Die-back - Throughout crown. Decay / structural defect - Open cavity / cavities. Decay / structural defect - Bole. End-loaded limb / limbs. Fork - Weak with included bark. Leaning trunk - Minor. Pruning wounds - Decayed. Root damage - Evident / observed. Raised surface roots. Unusually formed main union, limb heavily reduced over footpath. Minor fibre buckling on stem. Historically thinned resulting in unfurnished and end-loaded limbs.	12/09/2022	131.9	6.5	20-40	B2

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

220928 - Chester Terrace

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T229	1	Ilex aquifolium (Holly)	6.0	29	1	2.5		2.0		2.5		2.5		2.0		Mature	Structural condition Fair. Physiological condition Fair. Base / stems obscured - Vegetation. Crown reduction - Recent. Decay / structural defect - Base. Decay / structural defect - Minor. Decay / structural defect - Bole. Fork - Suspected structurally sound. Ivy or climbing plant. Leaning trunk - Minor. Sparse crown. Nest/drey present.	12/09/2022	38.0	3.5	20-40	B1/B2
Tree T486	1	Cerasus serrulata (Japanese Cherry)	4.0	20	1	1.5		2.0		3.5		2.0		2.0		Mature	Structural condition Fair. Physiological condition Fair. Arboricultural work - Recent. Base / stems obscured - Vegetation. Buttresses / buttress roots - Major adaptive growth / strong development. Deadwood - Minor. Decay / structural defect - Localised. Decay / structural defect - Open cavity / cavities. Decay / structural defect - Bole. Foliar / bud damage - Unconfirmed. Grafted specimen. Crown galls present.	12/09/2022	18.1	2.4	20-40	B1/B2
Tree T487	1	Prunus cerasifera 'Pissardii' (Pissard's Plum)	7.0	44	1	4.0		4.5		1.0		1.5		2.0		Late Mature	Structural condition Poor. Physiological condition Fair. Buttresses / buttress roots - Major adaptive growth / strong development. Decay / structural defect - Base. Decay / structural defect - Open cavity / cavities. Decay / structural defect - Bole. Epicormic growth - Crown. Fungal fruiting body - structural decay suspected. Fork - Weak with included bark. Leaning trunk - Minor. Rubbing limbs. Shedding limb / limbs - Major. Suppressed crown - Major. Unbalanced crown - Major. Decay fungi - multiple Ganoderma sp. brackets at base. Sounding mallet/probe test - no indication of significant decay in stem.	12/09/2022	87.6	5.3	20-40	B2

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

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Generated By MyTREES tree management software

220928 - Chester Terrace

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T488	1	Tilia x vulgaris (Common Lime)	18.5	67	1	5.5		5.0		6.5		6.0		1.0		Mature	Structural condition Fair. Physiological condition Fair. Base / stems obscured - Vegetation. Buttresses / buttress roots - Major adaptive growth / strong development. Crown reduction - Historic. Dense crown. Deadwood - Major. Epicormic growth - Base / bole / principal stems. Excavation within root zone - Burrowing. Fork - Suspected structurally sound. Pruning wounds - Decayed. Raised surface roots. Stems - Co-dominant. Stems - Heavy principal stems. Unable to inspect closely - Dense epicormic growth on base/stem. No overt indications of physiological decline or structural decay observed. Sounding mallet/probe test - Undertaken where possible, suspected intact.	12/09/2022	203.1	8.0	40+	A1/A2
Tree T489	1	Cerasus avium (Wild Cherry)	10.0	31	1	6.0		5.5		6.0		5.5		1.5		Mature	Structural condition Fair. Physiological condition Fair. Arboricultural work - Recent. Buttresses / buttress roots - Major adaptive growth / strong development. Die-back - Mid crown. Deadwood - Minor. Excavation within root zone - Burrowing. Girdling roots - Minor. Raised surface roots.	12/09/2022	43.5	3.7	20-40	B1/B2
Tree T490	1	Prunus cerasifera 'Pissardii' (Pissard's Plum)	8.0	50	1	6.5		5.0		6.0		5.5		1.5		Late Mature	Structural condition Fair. Physiological condition Fair. Base / stems obscured - Vegetation. Buttresses / buttress roots - Major adaptive growth / strong development. Crown reduction - Historic. Deadwood - Minor. Epicormic growth - Crown. Fork - Weak with included bark. Form - Spreading crown. Girdling roots - Minor. Pruning wounds - Decayed. Raised surface roots. Stems - Co-dominant. Stems - Heavy principal stems. Decay fungi - Phellinus sp. brackets throughout crown.	12/09/2022	113.1	6.0	20-40	B1/B2

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

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220928 - Chester Terrace

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T491	1	Ligustrum lucidum (Glossy Privet/Chinese Privet)	12.0	88	1	6.0		5.5		6.5		8.0		2.5		Late Mature	Structural condition Fair. Physiological condition Fair. Branch - Suspended. Buttresses / buttress roots - Major adaptive growth / strong development. Die-back - Mid crown. Die-back - Upper crown. Deadwood - Minor. Decay / structural defect - Base. Decay / structural defect - Minor. Epicormic growth - Base. Fork - Weak with included bark. Pruning wounds - Recent. Stems - Co-dominant. Stems - Heavy principal stems. Stem diameter measured at 1 m. Natural openings between buttresses, suspected stable.	12/09/2022	350.3	10.6	20-40	**B1/B2**
Tree T492	1	Quercus ilex (Holm Oak)	8.0	23	1	3.5		3.0		3.5		2.5		0.0		Early Mature	Structural condition Fair. Physiological condition Fair. Coppice stool - Regrown. Decay / structural defect - Localised. Decay / structural defect - Open cavity / cavities. Foliar / bud damage - Insect. Form - Low canopy. Multi-stemmed. Pruning wounds - Decayed. Pruning wounds - Historic. Water pocket. Stem diameter measured at 1m. Pest & Disease - Phyllonorycter messaniella (holm oak leaf miner). Position estimated - not plotted on the topographical survey.	12/09/2022	23.9	2.8	40+	**B2**
Tree T493	1	Prunus sp. (Cherry sp.)	8.5	44 COM	5	5.0		3.0		5.0		4.0		1.0		Mature	Structural condition Fair. Physiological condition Fair. Buttresses / buttress roots - Major adaptive growth / strong development. Epicormic growth - Bole / principal stems. Form - Low canopy. Multi-stemmed. Rubbing limbs. Raised surface roots. Stem diameter estimated average of stems. Sounding mallet/probe test - Suspected intact. Position estimated - not plotted on the topographical survey.	12/09/2022	90.5	5.4	20-40	**B2**
Tree T494	1	Ilex aquifolium (Holly)	5.0	25	1	3.5		2.0		3.0		2.0		1.5		Mature	Structural condition Fair. Physiological condition Fair. Arboricultural work - Recent. Buttresses / buttress roots - Major adaptive growth / strong development. Crown reduction - Historic. Leaning trunk - Minor. Raised surface roots.	12/09/2022	28.3	3.0	40+	**B2**

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

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220928 - Chester Terrace

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T495	1	Buxus sempervirens (Common Box)	6.0	51 COM	3	3.0		2.0		2.0		3.0		1.5		Mature	Structural condition Fair. Physiological condition Poor. Die-back - Throughout crown. Decline - Evident / observed. Deadwood - Minor. Decay / structural defect - Base. Decay / structural defect - Extensive. Decay / structural defect - Bole. Foliar / bud damage - Fungal. Leaning trunk - Minor. Multi-stemmed. Pruning wounds - Recent. Stem diameter estimated at base. Dieback throughout crown, suspected box blight.	12/09/2022	122.1	6.2	40+	B2
Tree T496	1	Ilex aquifolium (Holly)	6.0	37 COM	2	3.0		2.5		3.0		3.0		1.5		Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Restricted / obscured. Base / stems obscured - Structure. Crown reduction - Recent. Twin-stemmed.	12/09/2022	63.7	4.5	40+	B2
Shrub S730	1	Ilex aquifolium (Holly)	3.0	23 COM	11	1.5		1.5		1.5		1.5		0.5		Early Mature	Structural condition Fair. Physiological condition Fair. Multi-stemmed. Stem diameter estimated average of stems. Position estimated - not plotted on the topographical survey.	12/09/2022	24.4	2.8	40+	B2
Tree T731	1	Cercis siliquastrum (Judas Tree)	5.0	8	1	2.5		2.5		2.0		2.5		2.0		Semi Mature	Structural condition Fair. Physiological condition Poor. Die-back - Throughout crown. Deadwood - Minor. Physiological stress. Sparse crown. Position estimated - not plotted on the topographical survey.	12/09/2022	2.9	1.0	10-20	C1/C2

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

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Table 1 of BS5837 (2012) **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 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			**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	Tree 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 arboricutural 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 **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.	**BLUE**
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.	**GREY**

220928-PD-12b Tree Work Schedule

220928 - Chester Terrace

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ID	No. / Species	BS5837 Category	Purpose of works Recommended works	Status
T209	1 *Tilia x vulgaris* Common Lime	A1/A2	To facilitate development Lift low canopy - Specified extent. Crown to be lifted to no higher than 5m above the existing ground level at the appropriate points, to facilitate access beneath its crown for an excavator to be positioned. The pruning will be overseen in its entirety by the arboriculturist in conjunction with the Site Manager of the appointed contractor, to ensure that only the necessary crown elements are pruned.	Proposed
			Good arboricultural practice Management objective. Immediately (i.e., within 3 working days) following the excavation works within the RPA of this tree, the arboriculturist will determine whether it necessary for a dynamic or static load analysis to be undertaken for the purpose of confirming tree stability. Whether the test will occur will depend on the extent to which roots of this tree were observed to be damaged during adjacent excavation works.	Proposed
T210	1 *Castanea sativa* Sweet Chestnut	B1/B2	To facilitate development Fell - Ground level.	Proposed
T214	1 *Aesculus flava* Yellow (Sweet) Buckeye	B1/B2	To facilitate development Fell - Ground level.	Proposed
T215	1 *Aesculus flava* Yellow (Sweet) Buckeye	B1/B2	To facilitate development Lift low canopy - Specified extent. Crown to be lifted to no higher than 5m above the existing ground level at the appropriate points, to facilitate access beneath its crown for an excavator to be positioned. The pruning will be overseen in its entirety by the arboriculturist in conjunction with the Site Manager of the appointed contractor, to ensure that only the necessary crown elements are pruned.	Proposed
T217	1 *Ligustrum lucidum* Glossy Privet/Chinese Privet	B1/B2	To facilitate development Fell - Ground level.	Proposed
T218	1 *Acer pseudoplatanus* Sycamore	B1/B2	To facilitate development Fell - Ground level.	Proposed
T221	1 *Acer platanoides* Norway Maple	B1/B2	To facilitate development Fell - Ground level.	Proposed

ID	No. / Species	BS5837 Category	Purpose of works Recommended works	Status
T222	1 *Catalpa bignonioides* Indian Bean Tree	B1/B2	To facilitate development Lift low canopy - Specified extent. Crown to be lifted to no higher than 5m above the existing ground level at the appropriate points, to facilitate access beneath its crown for an excavator to be positioned. The pruning will be overseen in its entirety by the arboriculturist in conjunction with the Site Manager of the appointed contractor, to ensure that only the necessary crown elements are pruned.	Proposed
			Good arboricultural practice Management objective. Immediately (i.e., within 3 working days) following the excavation works within the RPA of this tree, the arboriculturist will determine whether it necessary for a dynamic or static load analysis to be undertaken for the purpose of confirming tree stability. Whether the test will occur will depend on the extent to which roots of this tree were observed to be damaged during adjacent excavation works.	Proposed
T223	1 *Acer pseudoplatanus* Sycamore	B1/B2	To facilitate development Fell - Ground level.	Proposed
T227	1 *Fraxinus excelsior 'Jaspidea'* Golden Ash	B1/B2	To facilitate development Fell - Ground level.	Proposed
T228	1 *Acer pseudoplatanus* Sycamore	B2	To facilitate development Lift low canopy - Specified extent. Crown to be lifted to no higher than 5m above the existing ground level at the appropriate points, to facilitate access beneath its crown for an excavator to be positioned. The pruning will be overseen in its entirety by the arboriculturist in conjunction with the Site Manager of the appointed contractor, to ensure that only the necessary crown elements are pruned.	Proposed
T229	1 *Ilex aquifolium* Holly	B1/B2	To facilitate development Fell - Ground level.	Proposed
T486	1 *Cerasus serrulata* Japanese Cherry	B1/B2	To facilitate development Fell - Ground level.	Proposed
T487	1 *Prunus cerasifera 'Pissardii'* Pissard's Plum	B2	To facilitate development Fell - Ground level.	Proposed
T488	1 *Tilia x vulgaris* Common Lime	A1/A2	To facilitate development Fell - Ground level.	Proposed
T489	1 *Cerasus avium* Wild Cherry	B1/B2	To facilitate development Fell - Ground level.	Proposed
T490	1 *Prunus cerasifera 'Pissardii'* Pissard's Plum	B1/B2	To facilitate development Fell - Ground level.	Proposed
T491	1 *Ligustrum lucidum* Glossy Privet/Chinese Privet	B1/B2	To facilitate development Fell - Ground level.	Proposed
T492	1 *Quercus ilex* Holm Oak	B2	To facilitate development Fell - Ground level.	Proposed
T493	1 *Prunus sp.* Cherry sp.	B2	To facilitate development Fell - Ground level.	Proposed

ID	No. / Species	BS5837 Category	Purpose of works Recommended works	Status
T494	1 *Ilex aquifolium* Holly	B2	To facilitate development Fell - Ground level.	Proposed
T495	1 *Buxus sempervirens* Common Box	B2	To facilitate development Fell - Ground level.	Proposed
T496	1 *Ilex aquifolium* Holly	B2	To facilitate development Fell - Ground level.	Proposed
T731	1 *Cercis siliquastrum* Judas Tree	C1/C2	To facilitate development Fell - Ground level.	Proposed

Tree work analysis (trees and trees in groups)

	Good arboricultural practice	To facilitate development	Total
Fell - Ground level	0	20	20
Lift low canopy - Specified extent	0	4	4
Management objective	2	0	2
Total	2	24	26

APPENDIX C - Stem protection

- Green Grid Systems - Trunk Protecta

Trunk Protecta®
Green Grid Systems

Mapping a Greener Future for Construction

GREEN GRID SYSTEMS
INNOVATIVE TREE PROTECTION

Trunk Protecta®

The Trunk Protecta® has been developed to provide an easy-to-install and effective solution to protect the trunk from abrasion and accidental damage from vehicles and construction traffic.

The standard level of protection is 1.2m, a higher level protection can be achieved using the 1.8m variant. The product acts as an abrasion and impact resistant protective barrier over the tree bark, stopping wounds and tear injuries that could allow disease and decay to enter the tree.

Trunk wounds that penetrate the bark will damage the cambium layer, a thin layer of vascular tissue, which is vital for the movement of water and nutrients around the tree.

If more than 25% of the bark around the trunk is damaged the tree will struggle to recover. Once a wound occurs, decay-causing fungi can enter the heartwood and the decay process begins.

The Trunk Protecta® is designed for use on trees at roadside site entrances, or on trees located near roadways with passing traffic. These are areas where it is not possible to fence off the tree, or where ground protection and vehicles are present in the root protection area.

The Protecta® is made from waterproof canvas to prevent the unit from holding water and starting rot. The canvas is hi-vis orange and banded with two stripes of reflective tape to ensure it is highly visible, even in low light situations. The Protecta® can be used on trees with a diameter (DBH) between 30-60cm. Quick release straps enable the Protecta® to be tightened for the smaller trees, and multiple Protectas® can be used for trees with a circumference larger than 200cm.

INSTALLATION

1. Unroll the Protecta®, and wrap around the trunk of the tree

2. Connect the top buckle and pull the strap end to moderately tension. Repeat with the bottom buckle to secure the Protecta®.

3. The Protecta® should be released from the tree for a short period once a fortnight.

GREEN GRID SYSTEMS
INNOVATIVE TREE PROTECTION

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