Arboricultural impact assessment, method statement and tree protection plan

PJC

St Clare Business Park Hampton Hill Richmond TW12 1QQ

17th June 2022

PJC ref: 6071/22-01 Rev 01

This report has been prepared by PJC Consultancy Ltd on behalf of Notting Hill Home Ownership Ltd

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EXECUTIVE SUMMARY

PJC Consultancy has been instructed by Notting Hill Home Ownership Ltd to provide an arboricultural impact assessment and arboricultural method statement to support a full planning application at St Clare business Park for the demolition of existing buildings and erection of 1no. mixed use building between three and five storeys plus basement in height, comprising 98no. residential flats (Class C3) and 1,172sq.m of commercial floorspace (Class E); 1no. three storey building comprising 893sq.m of commercial floorspace (Class E); 14no. residential houses (Class C3), and associate access, external landscaping and car parking.

This report complies with the planning policies of the London Borough of Richmond upon Thames Council and complies with the recommendations of British Standard BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations.

The survey was carried out on 9th June 2022. The tree constraints plan and tree survey schedule can be found at Appendix 1 and Appendix 2 respectively.

The proposed layout has been overlaid with the tree constraints plan in order to identify the impacts to the trees to inform this impact assessment and this information has formed the basis of the tree retention plan at Appendix 3, the root protection area incursions plan at Appendix 4 and the tree protection plan at Appendix 5.

Six individual trees and three tree/shrub groups require removal to facilitate the proposals. Of these, three trees and three groups are assessed to be category C and three trees are assessed to be category U. All of the category A and B trees will be retained and extensive new planting is indicated on the Landscape Masterplan. The detailed planting plan could readily be secured by appropriate planning condition.

The proposals include the excavation of building footings within the root protection areas of T6/T7, replacing existing hard standing within the root protection areas of T4, T6, T7, T18, T20-T22, T25 and T26, as well as constructing a small area of new hard standing and extending a garden wall within the root protection area of T25. Sympathetic construction methodology to mitigate the potential harm caused by the above works will need to be implemented as described in this report.

Subject to the generic and specific tree protection measures recommended within the arboricultural method statement at section 3 of this report being adhered to, I consider that the proposals represent a minor impact on the amenity of the locality in so far as it is

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contributed to by trees. Furthermore, as the proposed new planting establishes it will progressively make a positive contribution to the age and species diversity of trees in the area, the extent of local canopy cover and the amenity of the locality.

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1 INTRODUCTION

1.1 Instruction

- 1.1.1 PJC Consultancy has been instructed by Notting Hill Home Ownership Ltd to provide an arboricultural impact assessment and arboricultural method statement to support a full application for demolition of existing buildings and erection of 1no. mixed use building between three and five storeys plus basement in height, comprising 98no. residential flats (Class C3) and 1,172sq.m of commercial floorspace (Class E); 1no. three storey building comprising 893sq.m of commercial floorspace (Class E); 14no. residential houses (Class C3), and associate access, external landscaping and car parking.
- 1.1.2 This report complies with the planning policies of the London Borough of Richmond upon Thames Council and complies with the recommendations of British Standard BS5837: 2012 Trees in relation to design, demolition and construction Recommendations (the British Standard).

1.2 Objectives of report

- 1.2.1 This report has been undertaken with the following objectives:
 - To identify the tree removals and pruning works that will be required as a result
 of the proposed development and to assess the impact of the tree works.
 - To assess the potential impact the proposed construction works will have on retained trees and provide recommendations for mitigation measures to reduce the impact on the trees.
 - To provide a protection methodology for retained trees throughout the demolition and construction period, including the above ground and below ground parts of the trees as well as their rooting medium.

1.3 Contents of report

- 1.3.1 This report includes:
 - A tree constraints plan and tree survey schedule at Appendices 1 & 2 respectively.
 - An arboricultural impact assessment at section 2, a tree retention plan at Appendix 3 and a root protection area incursions plan at Appendix 4.
 - An arboricultural method statement at section 3 and a tree protection plan at Appendix 5.

1.4 Documents and information provided

- 1.4.1 The following documents were used to aid the preparation of this report:
 - Landscape Masterplan ref: 3522-LB-XX-00-DR-L-200000 Rev P1
 - Proposed Drainage Layout (provided in DWG format only)

1.5 Limitations of report

1.5.1 The following arboricultural impact assessment and method statement have been prepared for the proposal stated in section 1.1 and using the plans and information listed in section 1.4. The report should not be relied upon if the stated

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proposal or proposed design changes unless the author confirms the changes do not have a bearing on the arboricultural impacts or recommended mitigation measures.

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2 ARBORICULTURAL IMPACT ASSESSMENT

2.1 Site visit

2.1.1 A tree survey was originally undertaken in November 2017 and was updated on 9th June 2022 to ensure the tree survey data is relevant and up to date. The tree constraints plan and tree survey schedule can be found at Appendix 1 and Appendix 2 respectively.

2.2 The proposals

2.2.1 The proposed layout has been overlaid with the tree constraints plan in order to identify the impacts to the trees to inform this impact assessment and this information has formed the basis of the tree retention plan at Appendix 3, the root protection area incursions plan at Appendix 4 and the tree protection plan at Appendix 5.

2.3 Tree removals

2.3.1 Trees to be removed for the proposed development are shown with dashed outlines on the tree retention plan at Appendix 3 and are shaded to indicate their BS5837 tree category. A summary is listed at Table 1 below.

Table 1: Tree removals summary

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Tree number	Species	Category	Reason for tree removal
Т8	Leyland cypress	U	Poor condition makes retention inappropriate.
G9	Pyracantha	С	To enable construction and use of new parking area.
T10	Leyland cypress	U	Conflict with new building and poor condition.
G13	Mixed shrubs	С	Conflict with buildings and landscaping throughout site.
T15	Cypress	U	Standing dead tree.
T16	Cotoneaster tree	С	Conflict with new building.
T17	Cherry	С	Conflict with new parking area.
T19	Lawson cypress	С	Conflict with new garden wall.
G24	Mixed shrubs	С	Conflict with new building.

2.3.1 All the trees requiring removal have been awarded category C or U due to their small size and/or poor condition. All the category A and B trees surveyed for this report will be retained and protected. The proposed tree removals will not be detrimental to the surrounding landscape and replacement tree/shrub planting is proposed throughout the site as indicated on the Landscape Masterplan.

2.4 Access facilitation pruning

2.4.1 A summary of the proposed pruning required to enable the proposals is shown at Table 2 below.

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Table 2: Summary of access facilitation pruning

Tree number	Species	Works required	Reason for works				
T2	Goat willow	Reduce crown laterally over site by approximately 3m and raise crown to provide 2m clearance from existing building.	To provide adequate clearance during the demolition period and avoid excessive overhang of new garden.				
T4	Oak	Remove overhanging branches resting on roof.	To provide adequate clearance during demolition period.				
G5	Mixed	Reduce to site boundary.	To provide adequate clearance during demolition period.				
T11	Sycamore	Reduce to site boundary.	To provide adequate clearance during demolition period.				
G12	Oak	Reduce to site boundary.	To provide adequate clearance during demolition period.				

- 2.4.1 All tree works are to be carried out in accordance with BS3998: 2010 Tree works Recommendations.
- 2.4.2 Tree T2 was not directly accessible during the 2022 update tree survey, therefore the pruning specification will need to be reviewed when the site clearance works have commenced.
- 2.4.3 Based on the information currently available, it is anticipated that the crowns of all remaining retained trees will be located a sufficient distance from proposed construction activities and expected construction access routes so as not to require pruning.
- 2.4.4 Any additional requirements for pruning that cannot be predicted at this stage in the design process (e.g. for contractor compound or movement of large or specialist plant machinery) shall be discussed at the pre-commencement meeting with the project arboriculturist and agreed with the local authority tree officer.
- 2.4.5 In addition to the above, it is also recommended that dead and dying branches from T6 that overhang the site are removed as these will overhang the proposed new parking area. It is also recommended the T18 is reduced to the historic pruning points to create adequate clearance from the third party house.

2.5 Building footings in proximity to trees

- 2.5.1 A proposed new building will partially encroach the root protection areas of T6 and T7 in the area hatched red on the root protection area incursions plan. The encroachment of building footings into each root protection area is minor (1.3% of the root protection area of T6 and 1.1% of the root protection area of T7), and is expected to have a negligible impact on the trees, provided the remainder of the root protection areas are adequately protected. The above percentages are based on the approximated tree positions. It is important that within the root protection areas of T6 and T7 that the existing ground level between the new building and the north-western site boundary is maintained. Excavation of the footings within the root protection areas must occur sensitively as described in the arboricultural method statement.
- 2.5.2 All remaining proposed buildings will be located outside the root protection areas of retained trees, therefore use of specialist foundations for root protection is not deemed necessary.

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2.5.3 NHBC guidelines on foundation depth in proximity to trees should be followed. This will be determined by a structural engineer and should be guided by information in this report as well as appropriate sampling to determine soil profiles at the site.

2.6 Hard standing in proximity to trees

- 2.6.1 Existing hard standing will be replaced within the root protection areas of T4, T6, T7, T18, T20, T21, T22, T25 and T26 in the areas hatched pink on the root protection area incursions plan. Where hard standing is replaced, the new hard standing must be located at the same level or higher than the existing. Wherever possible, it should also utilise the existing sub-base (augmenting as required). Replacing hard standing within root protection areas must occur as described in the arboricultural method statement.
- 2.6.2 The hard standing adjacent to T25 will also be extended slightly into the existing shrub bed on the site boundary and will partially encroach the root protection area as indicated in blue hatch on the root protection area incursions plan. It is anticipated that this will not be of a 'no-dig' specification as it will need to tie into the level of the existing driveway, however the level of encroachment will be minor (1.6% of the root protection area) and will occur on the periphery of the root protection area where it should avoid the main structural roots. Construction of this new hard standing must occur as described in the arboricultural method statement.

2.7 Services

- 2.7.1 The proposed drainage layout is shown on the root protection area incursions plan. This includes the installation of a surface water drainage run within the root protection area of T6, in the area hatched orange on the plan. Due to the proximity to T6, it is essential to install the pipe sensitively without severing any significant roots, as described in the arboricultural method statement.
- 2.7.2 Details of the routing of utility services for the proposed development are not currently available. All underground services should be located outside the root protection areas of retained trees and above ground services should be located outside the anticipated mature crown spreads. Sympathetic methodology to enable the installation of services within root protection areas (in certain instances) is available, however there will always be a potential arboricultural impact and arboricultural advice must be sought regarding the suitability of these methods before they are relied upon. If it is achievable, root protection areas should always be completely avoided.
- 2.7.3 Once details of the routing of new utility services become available, prior to commencement, these shall be reviewed by the project arboriculturist. The arboriculturist shall then confirm either that no works will be carried out within root protection areas or provide details of the methodology required to ensure the works are carried out in accordance with NJUG4 'Guidelines for the planning, installation and maintenance of utilities in proximity to trees' and BS5837: 2012.

2.8 Landscaping in proximity to trees

2.8.1 The existing boundary adjacent to tree T25 is to be extended within the trees root protection area. Within the root protection area the wall must be constructed in a manner that avoids the pruning of significant roots.

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2.8.2 Within the root protection area, a preliminary root investigation shall be undertaken and verified by the project arboriculturist. Significant roots that are identified by the arboriculturist shall be retained below the wall, by use of concrete lintels (installed to an engineer's specification). Further guidance on protecting roots beneath the wall is included in the arboricultural method statement.

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3 ARBORICULTURAL METHOD STATEMENT

3.1 General requirements

- 3.1.1 The arboricultural method statement and tree protection plan shall remain on site for the duration of demolition, construction and landscaping works and be available to site operatives at all times. All operatives at the site shall be briefed about tree related factors as part of their site induction.
- 3.1.2 Any variation from the methodology described in this method statement shall be discussed with the supervising arboriculturist and agreed with the local authority arboricultural officer.

3.2 Phasing of works

3.2.1 To ensure trees are protected throughout the development, the proposed development shall occur in the following order:

Table 3: Phasing of works

Works Order	Operation	Notes
1	Initial tree works.	The tree works contractor shall undertake the tree removals and access facilitation pruning specified in the arboricultural impact assessment.
2	Installation of tree protection barriers.	Tree protection fencing and temporary ground protection shall be installed in the locations shown on the tree protection plan and to the specification described in this method statement.
3	Pre- commencement meeting.	The project arboriculturist shall attend a site meeting with the site manager. The local authority arboricultural officer shall be notified so they may also attend. The above prestart arboricultural works shall be signed off by the project arboriculturist during the meeting. The meeting shall occur before any plant activity, ground works or demolition/construction activities begin.
4	Demolition phase.	The tree protection barriers shall be maintained, and the construction exclusion zones observed throughout the demolition phase. Additional temporary ground protection shall be installed following removal of existing hard standing within the root protection areas of T6, T18, T20-T22 and T25.
5	Construction phase.	The tree protection barriers shall be maintained, and the construction exclusion zones observed throughout the construction phase. The ground protection within the root protection areas of T6, T18, T20-T22 and T25 may be removed when the new hard standing is constructed.
6	Soft landscaping phase.	The remaining tree protection barriers shall be dismantled when external construction and hard landscape operations have been completed and plant machinery or excess construction materials have been removed from site. Soft landscape operations shall occur sensitively as described in this method statement.

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3.3 Initial tree works

- 3.3.1 The tree removals and access facilitation pruning specified in the arboricultural impact assessment shall be carried out as the first stage of development. Any requirements for access facilitation pruning which have not been anticipated on the date of this report shall be discussed at the pre-commencement meeting with the project arboriculturist and be communicated to the local authority arboricultural officer.
- 3.3.2 Tree stumps and vegetation located within the root protection areas of retained trees shall be cleared with controlled hand tools (e.g. stump grinder/brush cutter). Plant machinery shall not be used to scrape vegetation, 'grub out' stumps within root protection areas, or access the site until the tree protection barriers have been installed.
- 3.3.3 If bonfires are lit to dispose of arisings from the vegetation or tree clearance works, an assessment of wind direction and strength shall be made to ensure flames cannot extend within 5m of any part of a retained tree. No bonfires shall be lit within a root protection area.
- 3.3.4 Trees should be checked for protected species before works are undertaken. It is against the law to disturb bats or their roosts under the Conservation of Habitat and Species Regulations. Nesting birds are protected by the Wildlife and Countryside Act. If protected species are discovered, Natural England should be contacted for advice.
- 3.3.5 The tree works contractors should carry out all tree works to BS3998: 2010 Tree works recommendations as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance.
- 3.3.6 It is suggested that an Arboricultural Association approved contractor carry out all tree works. Approved contractors are expected to work to industry best standards. The Arboricultural Association website (www.trees.org.uk) contains contact details and information on engaging a suitable contractor.

3.4 Tree protection barriers

- 3.4.1 The root protection areas of retained trees must be left free from disturbance, and protected from contamination or compaction during the proposed works. Protection shall comprise a combination of tree protection fencing and temporary ground protection.
- 3.4.2 All of the tree protection fencing along with the temporary ground protection adjacent to T2, T4 and T7 shall be installed and signed off by the project arboriculturist before any plant activity, ground works or demolition/construction activities commence at the site. They shall be maintained in situ until the soft landscaping phase of development when all other construction activities in the vicinity have been completed, and excess construction materials and plant machinery have been removed from site. The temporary ground protection adjacent to T6, T18, T20–T22 and T25 shall be installed following the removal of existing hard standing and maintained until the replacement hard standing is constructed.
- 3.4.3 Any damage that occurs to the tree protection barriers during the construction period must be rectified immediately, prior to other construction activities recommencing in the vicinity.

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- 3.4.4 The specification for tree protection fencing shall be metal welded mesh panels (e.g. Heras panels), in concrete or rubber feet. The panels shall be supported by metal stabiliser struts mounted on either a base plate secured by ground pins, or in a block tray (refer to Appendix 6). Any variation from this specification for tree protection fencing shall be discussed with the project arboriculturist and agreed in writing with the local authority arboricultural officer.
- 3.4.5 Signs shall be affixed to the fencing as shown in Appendix 7 to explain its purpose. The signs shall be affixed at a reasonable size and frequency to ensure they are easily visible to operatives at the site.
- 3.4.6 The temporary ground protection shall be installed in the locations shown on the tree protection plan. Depending on the required loading the specification for ground protection shall be:
 - For pedestrian loads: a single thickness of scaffold boards (or equivalent boards), on a compressible layer (100mm woodchip or sharp sand), spread across a geotextile membrane.
 - For loading of up to 2 tonnes: interlocking proprietary ground protection boards (e.g. IsoTrack L Ground Protection Mat or equivalent product signed off by the project arboriculturist) on a compressible layer (150mm woodchip or sharp sand), spread across a geotextile membrane.
- 3.4.7 If larger loads need to be supported, a more robust ground protection specification shall be agreed with the project arboriculturist based on one of the following:
 - A cellular confinement system (CellWeb TRP or similar product agreed with the project arboriculturist) installed to the manufacturers specification.
 - A heavy-duty proprietary ground protection system adequate to support the anticipated range of construction traffic (provided by IsoTrack or similar product).
 - Pre-cast reinforced concrete slabs.
 - A bespoke ground protection system made to an engineer's specification and signed off by the project arboriculturist.
- 3.4.8 The areas protected by tree protection fencing (highlighted yellow on the tree protection plan) or temporary ground protection shall be referred to as the construction exclusion zones. The following restrictions shall apply within the construction exclusion zones:
 - No vehicular access shall be permitted unless on adequate temporary ground protection measures that have been agreed with the project arboriculturist.
 - Regular pedestrian access shall be restricted unless on suitable ground protection measures agreed with the project arboriculturist.
 - No storage of construction materials shall occur.
 - No storage of building spoil or construction debris (including short-term temporary stockpiling) shall occur.
 - No harmful chemicals shall be stored or handled.
 - No fires shall be permitted.
 - No mechanical excavation including regrading of levels shall occur.
 - There shall be no change in ground level unless undertaken under the supervision of the project arboriculturist.

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3.5 Storage and handling of harmful chemicals

- 3.5.1 Provision must be taken to prevent the storage and handling of harmful chemicals within the root protection areas of retained trees. Harmful chemicals include fuels, oils, bitumen, builder's sand (which has a high salt content) and cement. Provision shall also be made to prevent the storage and handling of harmful chemicals in areas proposed for further planting if the existing soil is intended to be retained.
- 3.5.2 Cement mixing shall always occur outside the construction exclusion zones. If cement mixing is to occur close to the construction exclusion zones, or there is the potential for cement washings to leech into a root protection area, adequate, bunded ground protection measures must be used. This could comprise impermeable plastic sheeting under wooden boards (to prevent tears) surrounded by a raised lip.
- 3.5.3 All other chemicals that are harmful to trees must be stowed in suitable containers and stored away from the construction exclusion zones unless adequate, bunded ground protection measures are implemented to prevent spillages leeching into root protection areas.

3.6 Contractor facilities

3.6.1 A suitable location for site cabins, contractor parking and site facilities for operatives shall be agreed with the project arboriculturist during the precommencement meeting if not already specified in a construction management plan that has been signed off by the project arboriculturist. These facilities must be located outside the root protection areas of all retained trees unless on adequate ground protection measures that have been signed off with the project arboriculturist (potentially including existing hard standing). Provision must be taken to prevent exhaust fumes or hot air from generators or kitchen facilities from damaging foliage within the crowns of retained trees.

3.7 Demolition of existing building adjacent to trees

3.7.1 Demolition of the above ground parts of the buildings adjacent to T2, T4, T11, G12 and T20-T22 must occur carefully to avoid accidental contact with the trees. Where possible the building shall be dismantled by hand, however if plant machinery is used, a banksman must always be present to spot overhanging branches that are not visible to the machine operator. The machine must be of a reasonable size so it can be controlled safely in proximity to the trees, and must always be operated from outside the construction exclusion zones. Debris from the demolition works must also be stockpiled outside the construction exclusion zones.

3.8 Excavating building footings within root protection areas

3.8.1 A new building encroaches the root protection areas of T6 and T7 in the area hatched red on the tree protection plan. The excavation in this area shall occur by hand to a depth of 600mm (unless significant roots are revealed near the base of the excavation). Roots revealed shall be cleanly pruned using secateurs to leave the smallest feasible wound. Small clean pruning wounds require less energy from the tree to heal and reduce the chance of infection by tree pathogens. Roots over 25mm diameter must not be pruned unless the project arboriculturist has first been consulted to assess the potential impact on the tree.

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3.9 Replacing existing surfacing within root protection areas

- 3.9.1 Existing hard standing will be replaced within the root protection areas of T4, T6, T7, T18, T20, T21, T22, T25 and T26 in the areas hatched pink on the tree protection plan. Vehicular access across the root protection areas shall be prohibited between the time the existing surface is removed and the new surface is installed unless adequate temporary ground protection measures are provided.
- 3.9.2 Within the root protection areas the existing wearing course shall be broken up using controlled hand tools (e.g. pneumatic breaker) and removed from the root protection areas by hand. If it is deemed impractical or unsafe to achieve this using hand tools only, plant machinery operated under the supervision of the project arboriculturist may be used instead. The machine must be fitted with a grading bucket (without teeth) and be operated from outside the root protection areas unless on a retained area of hard standing. If roots are revealed during this operation, use of the machine must immediately cease and the operation shall be continued by hand.
- 3.9.3 The existing sub-base shall be reused (augmented as necessary) for the new surfaces. If it is deemed necessary to remove any of the sub-base to enable the correct levels for the finished surface (these must first be signed off by the project arboriculturist), removal of the sub-base must occur carefully in shallow increments following the same methodology required for removing the wearing course.
- 3.9.4 Any excavation required to install the new hard standing within the root protection areas of T25 (area hatched light blue on the tree protection plan) must occur by hand. Roots revealed shall be cleanly pruned using secateurs to leave the smallest feasible wound. Roots over 25mm diameter must not be pruned unless the project arboriculturist has first been consulted to assess the potential impact on the tree.

3.10 Extending boundary wall within root protection area of T25

- 3.10.1 The existing boundary wall is to be extended within the root protection area of T25. It is important that the wall is constructed in a manner that avoids the pruning of significant tree roots, therefore the use of a standard strip footing will not be appropriate. As such an engineered solution to protect tree roots must be implemented.
- 3.10.2 A preliminary root investigation (verified by the project arboriculturist) shall be undertaken along the length of the wall within the root protection area, so that significant tree roots can be identified and retained beneath the wall. The project arboriculturist shall determine which roots are significant, therefore no roots above 25mm diameter may be pruned unless the project arboriculturist is present and confirms it is alright to do so.

3.11 Installing surface water rain within root protection area of T6

3.11.1 A new surface water drain encroaches the root protection area of T6 in the area hatched orange on the tree protection plan. Within the root protection area, all excavation shall occur carefully using hand tools or an airspade. Roots revealed under 25mm diameter may be cleanly pruned using secateurs to leave the smallest feasible wounds. Roots over 25mm shall not be pruned unless the project arboriculturist has first been consulted.

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- 3.11.2 Revealed roots that are to be retained shall immediately be wrapped in hessian cloth. This will help protect the delicate root bark during remaining excavation works and help prevent desiccation or frost damage if the excavation is left exposed for prolonged periods. The hessian cloth shall be removed when the trench is backfilled.
- 3.11.3 When the trench is backfilled, roots that are retained shall be surrounded by a small amount of inert granular material mixed with sharp sand or topsoil. This will help prevent damage to the roots if the soil is compacted when the trench is backfilled.

3.12 Soft landscaping within root protection areas

- 3.12.1 Soft landscaping within the root protection areas of retained trees shall occur as the final phase of development, when all other construction activities in the vicinity have been completed and it is safe to dismantle the tree protection barriers. The detailed specification for soft landscaping is to be confirmed but is expected to include turfing and tree/shrub planting within root protection areas.
- 3.12.2 All planting stock, topsoil and other soft landscaping materials shall be stockpiled outside the root protection areas of retained trees. When the tree protection barriers have been dismantled, the extents of the root protection areas shall be made clear to operatives at the site by other means (e.g. ground marker paint or similar). The standard restrictions to works within the construction exclusion zones will still apply during the soft landscaping phase of development.
- 3.12.3 Where new turf or grass seed is to be laid within the root protection areas of retained trees, topsoil will likely need to be imported. The existing soil may be lightly tilled by hand but use of rotavators or plant machinery will be prohibited. A maximum increase of 100mm of topsoil may be introduced to a root protection area to avoid suffocating existing root growth. Care must be taken to prevent soil being piled against tree buttresses or buttress roots.
- 3.12.4 When soil or other materials are transported across a root protection area in wet conditions, scaffold board pathways must be used to prevent compaction of the rooting medium. It should be noted that even pedestrian traffic can compact the soil in wet conditions.
- 3.12.5 All planting pits within root protection areas shall be individually hand excavated (no trench planting). Care must be taken to avoid severing or damaging roots with a diameter greater than 25mm.

3.13 Pre-commencement arboricultural consultancy input

- 3.13.1 Prior to the commencement of works, arboricultural input will be required for the following aspects of development:
 - 1) The construction management plan.
 - 2) The routing of new utility services.
- 3.13.2 If these aspects of the project have a material impact on the guidance in this method statement, the arboricultural method statement shall be updated and the revised information submitted to the local authority tree officer for approval.

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3.14 Pre-commencement meeting

- 3.14.1 A pre-commencement meeting shall be held between the contractors and the project arboriculturist. The local authority arboricultural officer shall be given reasonable notice of the pre-commencement meeting so they may also attend. The purpose of the pre-commencement meeting shall be:
 - 1. To clarify the tree protection methodology with the site manager.
 - 2. To discuss the chronology and phasing of the project with the site manager.
 - To sign off that the pre-commencement tree works have been completed as specified in the arboricultural impact assessment, and to discuss any requirements for any further pruning which had not been anticipated prior to the meeting.
 - 4. To sign off that the tree protection fencing and ground protection have been installed in the correct locations and to the agreed specification. To agree revised locations subject to the phasing of the development.
 - 5. To agree with the local authority arboricultural officer the type and timings of arboricultural monitoring necessary.
- 3.14.2 Following this meeting, if the local authority arboricultural officer has not been able to attend, an email outlining the actions discussed will be sent to the tree officer for approval. If necessary, a revised tree protection plan and method statement will be issued for approval.

3.15 Arboricultural supervision

- 3.15.1 The project arboriculturist shall supervise:
 - Excavation of the building footings within the root protection areas of T6 and T7 if roots over 25mm diameter are revealed.
 - The removal of existing hard surfacing within root protection areas of T4, T6, T7, T18, T20-T22, T25 and T26 if plant machinery is used.
 - Installation of the surface water drain within root protection area of T6 with roots over 25mm diameter are revealed that cannot be retained.
 - Installation of new hard standing within the root protection area of T25 if roots over 25mm diameter are revealed.
 - The preliminary root investigation for the extended wall within the root protection area of T25.

3.16 Arboricultural monitoring

- 3.16.1 The site manager shall provide a monthly update to the project arboriculturist including photographic evidence that the tree protection barriers are intact and that the construction exclusion zones have been observed.
- 3.16.2 In addition to the above, a system and programme of onsite monitoring by the appointed arboricultural consultant shall be agreed with the Local Authority Arboricultural Officer. The form and frequency of site monitoring shall be agreed at the pre-commencement meeting.

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3.17 Process if an unforeseen issue relating to trees arises

- 3.17.1 If significant root growth is disturbed during construction activities that are not within the scope of this report, the work shall cease until the project arboriculturist has been consulted. Roots greater than 25mm in diameter or dense/matted fibrous roots shall be considered significant root growth. It should be remembered that whilst root protection areas are part of industry best practice, tree root growth is influenced by a number of factors and may not conform to expected ideals.
- 3.17.2 If at any time during the construction process, damage is inadvertently caused to a tree, the project arboriculturist shall be notified to assess the likely implications and to prescribe potential remedial measures to be implemented. Damage can be in the form of chemical or fuel spillage, mechanical damage to either the above ground parts of the tree or the roots, fire or any other unforeseen circumstance.
- 3.17.3 The supervising arboriculturist shall be appointed by the contractor. It will be necessary for the arboriculturist to report to the local planning authority on the outcome of the site visits as well as any unforeseen tree related issues.

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PJC Ref: PJC/6071/22-01 Rev 01



Appendix 1: Tree Constraints Plan

PJC Ref: PJC/6071/22-01 Rev 01







Key: Root protection area for category A* tree Root protection area for category B* tree Root protection area for category C* tree Root protection area for category U* tree Tree canopy

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Tree survey schedule contained within the arboricultural report ref. PJC/6071/22-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/6071/22/A Rev: -Sheet number: 3 of 3

St Clare Business Park

Drawing title: Tree Constraints Plan

Checked by: LW





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Appendix 2: Tree Survey Schedule

PJC Ref: PJC/6071/22-01 Rev 01

St Clare Business Park Survey date: 22/11/2017 (updated 09/06/2022)

Surveyor: Peter Davies



Tree ref.	Species	Height (m)	Stem diameter (mm)	Brar spre (n	ead	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m²)	Root Protection Radius (m)
G1	Leyland cypress (Cupressus X leylandii)									Third party trees removed since the 2017 tree survey.				
Т2	Goat willow (Salix caprea)	10	600 est	N: E: S: W:	6 3 7 7	Crown: 2 south Branch: 2 south	Over mature	Good	Fair	Third party tree. Dense bramble prevented close access during 2022 survey. Multi-stemmed and reduced on east side. Stem pushing against fence.	Remove branches resting on roof to enable access to demolish building. Reduce crown laterally by 3m on south side.	B2	162.9	Refer to Tree Constraints Plan
Т3	Sycamore (Acer pseudoplatanus)	9	250 est	N: E: S: W:	1 2 1 0	Crown: 3 east Branch: 3 east	Semi mature	Good	Fair	Third party tree. Dense bramble prevented close access during 2022 survey. Suppressed form.	No action required.	C1	28.3	3.0
Т4	Pedunculate oak (Quercus robur)	10	500, 300 est	N: E: S: W:	5 5 4 4	Crown: 4 average Branch: 2 east	Early mature	Good	Fair	Third party tree on railway embankment. Ivy encroaches crown. Branches resting on adjacent roof.	Remove overhanging branches that are resting on the roof.	B1	153.8	7.0 (amended on tree constraints plan)
G5	Mixed (plum, blackthorn, Norway maple, Pyracantha)	2-6 average	Up to 100 average	1- avera		0-2 average	Semi mature	Fair	Fair	Sporadic third party scrub and self set trees on railway embankment. Norway maple limbs overhang building within site.	Reduce to site boundary.	C2	4.5 average	1.2 average
Т6	Norway maple (Acer platanoides)	14	570	N: E: S: W:	5 6 6	Crown: 4 east Branch: 2 north	Mature	Fair	Good	Located inside boundary fence. Dieback on south side of crown only.	Remove dead or dying limbs overhanging site.	C1	147.0	6.8

Survey date: 22/11/2017 (updated 09/06/2022)

St Clare Business Park

Surveyor: Peter Davies



Tree ref.	Species	Height (m)	Stem diameter (mm)	Brar spre (n	ead	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m²)	Root Protection Radius (m)
				N:	7	Crown:				Third party tree on railway				
T7	Pedunculate oak	18	800 est	E:	8	1 south	Mature	Good	Good	embankment. Large specimen.	No action required.	A1	289.5	9.6
. ,	(Quercus robur)	10	000 001	S:	7	Branch:	Mataro			Under-storey inhibits view of tree.	No action required.	7	200.0	0.0
				W:	7	1 south				rree.				
				N:	3	Crown:				Previously topped and ivy				6.0
Т8	Leyland cypress (Cupressus X	12	500 est	E:	3	6 average	Over	Fair	Fair	severed. Sparse crown exhibiting dieback throughout. Appears to	Fell and remove stump.	U	113.1	(amended on tree
10	leylandii)	12	500 est	S:	3	Branch:	mature	Fall	Ган	be Coryneum canker. Short	ren and remove stump.	U	113.1	constraints
	,			W:	3	N/A				potential only.				plan)
G9	Pyracantha (Pyracantha coccinea)	4-6 average	Up to 150 average	1- avera		0-2 average	Semi mature	Good	Fair	Shrubs likely planted as hedgerow but largely unmanaged. Provides visual screening from railway cutting. Heavily reduced over site since	Fell and remove stumps.	C2	10.2 average	1.8 average
T10	Leyland cypress (Cupressus X leylandii)	12	400 est	N: E: S: W:	2 2 3 2	Crown: 4 south Branch: 4 south	Over mature	Poor	Fair	Sparse crown smothered by ivy and various climbers. Under- storey inhibits inspection. Almost no visible crown and short potential in current form.	Fell and remove stump.	U	72.4	4.8
				N:	3	Crown:								
T11	Sycamore (Acer	4.0	000	E:	4	2 west	Early	0 1	F .	Third party tree on railway	D 1 1 11 1	D.O.	40.7	0.0
111	pseudoplatanus)	12	300 est	S:	4	Branch:	mature	Good	Fair	cutting. Slender growth habit. lvy clad.	Reduce to site boundary.	B2	40.7	3.6
				W:	3	2 average								
			Up to	N:	4					Five third party oaks on railway				
040	Pedunculate oak	16-18	350	E:	7	2-5	Early		0 1	cutting. Only viewed from	D 1	Direc	55.4	4.0
G12	(Quercus robur)	average		S: W:	5 5	average	mature- mature	Good	Good d	distance due to building. Crowns partially overhang site.	Reduce to site boundary.	B1+2	average	4.2 average

Survey date: 22/11/2017 (updated 09/06/2022)

St Clare Business Park

Surveyor: Peter Davies



Tree ref.	Species	Height (m)	Stem diameter (mm)	Bran spre (m	ad	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m²)	Root Protection Radius (m)
G13	Mixed predominantly ornamental shrubs	1-6 average	Up to 100 average est	1-: avera		0-1 average	Young- early mature	Fair	Fair	Mixed shrubs (predominantly non- native) planted in beds throughout the site. Generally unmanaged and in poor condition.	Fell and remove stumps.	C1	4.5 average	1.2 average
G14	Pear (Pyrus calleryana 'chanticleer')	4-5 average	Up to 100 average est	0.5- avera		2 average	Young	Good	Good	Row of small third party trees planted in row along site boundary.	No action required.	C1+2	4.5 average	1.2 average
T15	Cypress (Cupressus spp,)	7	230	N: E: S: W:	2 1 1 1	Crown: N/A Branch: 2 average	Dead	Poor	Poor	Dead tree, partially failed and hung up in adjacent G13.	Fell and remove stump.	U	23.9	2.8
T16	Cotoneaster tree (Cotoneaster frigidus 'Cornubia')	4	180 est	N: E: S: W:	2 3 1 3	Crown: 0 west Branch: 1 average	Mature	Good	Fair	Low spreading habit. Located in raised planter.	Fell and remove stump.	C1	14.7	2.2 (amended on tree constraints plan)
T17	Flowering cherry (Prunus spp.)	5	180	N: E: S: W:	1 2 4 4	Crown: 2 average Branch: 1 west	Semi mature	Good	Fair	Low spreading habit. Reduced over neighbours garden.	Fell and remove stump.	C1	14.7	2.2
T18	Norway maple (Acer platanoides 'Crimson King')	13	460	N: E: S:	4 4 3 5	Crown: 4 north Branch: 4 north	Mature	Good	Good	Small deadwood in crown. Crown previously lifted over access road and reduced from building.	Reprune to historic pruning points to provide clearance from third party building.	B1+2	95.7	5.5 (amended on tree constraints plan)

Survey date: 22/11/2017 (updated 09/06/2022)

St Clare Business Park

Surveyor: Peter Davies



Tree ref.	Species	Height (m)	Stem diameter (mm)	Brai spr (n	ead	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m²)	Root Protection Radius (m)
	Lawson cypress			N:	1	Crown:								2.4
T19	(Chamaecyparis	6	200 est	E:	1	0 average	Early	Good	Good	Typical example of species. No	Fell and remove stump.	C1	18.1	(amended on tree
113	lawsoniana	U	200 631	S:	1	Branch:	mature	dood	dood	major visible defects.			10.1	constraints
	'Ellwoodii')			W:	1	0 average								plan)
				N:	4	Crown:								4.4
T20	Norway maple (Acer platanoides	10	370	E:	2	2 average	Early	Good	Fair	Asymmetric crown due to suppression and past crown	No action required.	B2	61.9	(amended on tree
120	'Crimson King')	10	370	S:	3	Branch:	mature	aooa	ιαπ	reductions.	No action required.	DZ.	01.9	constraints
				W:	4	2 average								plan)
				N:	2	Crown:								4.6
T21	Norway maple (Acer platanoides	13	380	E:	3	2 south	Early	Good	Fair	Small deadwood in crown. Asymmetric crown due to	No action required.	B2	65.3	(amended on tree
121	'Crimson King')	10	000	S:	4	Branch:	mature	dood	T dil	reduction from building.	ac	52	00.0	constraints
				W:	4	3 north								plan)
				N:	2	Crown:								4.3
T22	Norway maple (Acer platanoides	11	360	E:	3	2 south	Early	Good	Fair	Small deadwood in crown. Asymmetric crown due to	No action required.	B2	58.6	(amended on tree
122	'Crimson King')		000	S:	3	Branch:	mature	aoou	ı alı	reduction from building.	No action required.	52	30.0	constraints
				W:	2	2 south								plan)
				N:	3	Crown:								Refer to
T23	Flowering cherry	6	150 est	E:	3	2 west	Semi	Fair	Poor	Small third party tree. Historically heavily reduced but	No action required.	C1	10.2	Tree
120	(Prunus spp.)	0	100 631	S:	3	Branch:	mature	ı alı	1 001	not recently pruned.	No action required.	01	10.2	Constraints
				W:	4	2 average								Plan
G24	Mixed (ornamental shrubs and bramble)	Up to 6 (3 average)	Up to 120 average	1- aver		0 average	Semi mature	Good	Fair	Unmanaged shrubs/scrub surrounding small courtyard area. Small multi-stemmed walnut in corner.	Fell and remove stumps.	C1	6.5 average	1.4 average

Survey date: 22/11/2017 (updated 09/06/2022)

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Surveyor: Peter Davies



Tree ref.	Species	Height (m)	Stem diameter (mm)	Brand sprea (m)	ad o	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m²)	Root Protection Radius (m)
				N:	5	Crown:				Decayed branch with cavity				
T25	Walnut (Juglans	12	640	E:	5	4 east	Mature	Good	Poor	extending to primary branch iunction on north side (not	Sever ivy and reinspect.	C2	185.3	7.7
120	regia)	12	040	S:	5	Branch:	Mature	Good		visible in 2022 survey due to very	Sever ivy and remspect.	O2	100.0	1.1
				W:	4	2 east				dense ivy).				
				N:	1	Crown:								Refer to
T26	Elder (Sambucus	4	150	E:	2	0 average	Early	Fair	Fair	Heavily reduced from access	No action required.	C1	10.2	Tree
	nigra)	·		S:	1	Branch:	mature			road.	dellen required			Constraints Plan
				W:	0 (0 average								ı iaii
				N:	2	Crown:				Annears to be self set conline				
T27	Walnut (Juglans	5	90, 100,	E:	2	0 average	Young	Good	Poor	Appears to be self set sapling. 3x stems from base. Reduced	No action required.	C1	12.7	2.0
	regia)		100	S:	1	Branch:				from road.				
				W:	2	1 average								
					1	Crown:				Third party sapling growing				
T28	Pedunculate oak	3	100 est		0	0 west	Young	Good	Poor	through chain-link fence. Primary	No action required.	U	4.5	1.2
	(Quercus robur)			_	1	Branch:				stem previously removed.				
				W:	1	0 west								
T29	Elder (Sambucus nigra)									Removed since 2017 tree survey.				
	mgra/													
				N:	1	Crown:								
	Plum (Prunus		120, 120		3	1 north	Early			Third party tree in private				
T30	domestica)	5	est		2	Branch:	mature	Fair	Fair		ck No action required.	C1	13.0	2.0
						1 average	mature							
				•••	•									

Survey date: 22/11/2017 (updated 09/06/2022)

St Clare Business Park

Surveyor: Peter Davies



Tree	Species	Height (m)	Stem diameter (mm)	Brand sprea (m)	ad	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m²)	Root Protection Radius (m)
T31	Grey willow (Salix cinerea)	6	80, 80, 80, 60	N: E: S: W:	1 3 2 2	Crown: 0 average Branch: 1 average	Semi mature	Good	Fair	Likely self seeded tree. Multi- stemmed from base.	No action required.	C1	10.3	1.8



Appendix 3: Tree Retention Plan

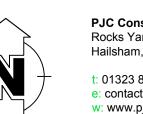
PJC Ref: PJC/6071/22-01 Rev 01





Root protection area for category A* tree to be retained Root protection area for category B* tree to be retained Root protection area for category C* tree to be retained Root protection area for category U* tree to be retained Canopy of category B* tree to be removed Canopy of category C* tree to be removed Canopy of category U* tree to be removed * Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'. Tree survey schedule contained within the arboricultural report ref. PJC/6071/22-01 contains further information for each tree. Tree numbers suffixed with PA indicate the tree position is approximate.

Sheet number: 2 of 2



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Appendix 4: Root Protection Area Incursions Plan

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Root protection area for category A* tree to be retained Root protection area for category B* tree to be retained Root protection area for category C* tree to be retained Root protection area for category U* tree to be retained

Existing hard standing replaced within root protection

Tree survey schedule contained within the arboricultural report ref.



Appendix 5: Tree Protection Plan

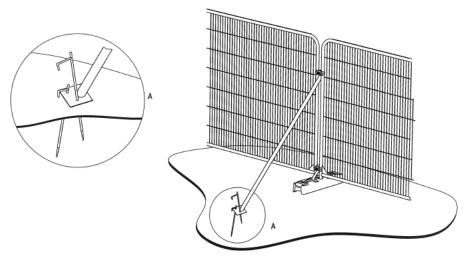
PJC Ref: PJC/6071/22-01 Rev 01



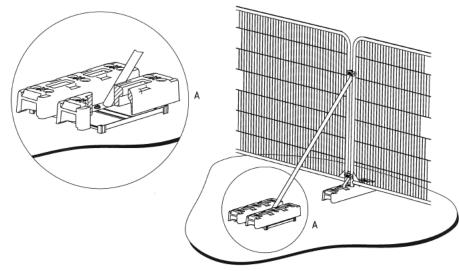




Appendix 6: Tree Protection Fencing Specification



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

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Appendix 7: Example Protective Fencing Sign





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