PROJECT: 3033 OLD ROW, BARROW

REPORT: 502A ARBORICULTURAL IMPACT ASSESSMENT & METHOD STATEMENT

PREPARED BY TPM LANDSCAPE LTD
FOR
Mulbury Homes and THT & L & Q Developments LLP
September 2018
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3033 - 101 Tree Survey

3033 - 103 Tree Retention, Protection and Removals Plan

3033 - 501 Tree Survey Report
1.0 INTRODUCTION, BACKGROUND & PURPOSE

Written instructions were received from PWA Planning on behalf of Mulbury Homes and THT & L & Q Developments LLP for TPM Landscape to produce an Arboricultural Method Statement relating to the proposed development of Barrow, near the village of Whalley in Lancashire.

In September 2018, Andrew McLoughlin a qualified arboriculturalist carried out an objective tree survey at the site using the guidance and recommendations set out in BS5837 (2012) Trees in relation to design, demolition and construction.

Prior to the Arboricultural Impact Assessment being carried out, a scheme had been developed by Gallagher Technical & Design LTD. The purpose of this report is therefore to carry out an Arboricultural Impact Assessment between the existing and proposed scenarios and the relationship and impacts to the trees on site and bordering the site. The Arboricultural Method Statement provides an indication of what protection measures should be implemented as part of the development of the site, to ensure the physical protection of the retained trees.

There are 27 individual or groups of trees on site: 1 is A grade, 4 are B grade, 19 are C grade and 3 are U grade.

For more details of the existing trees, refer to:
3033 501 Tree Survey Report
3033 101 Tree Survey Drawing
3033 103 Tree Retention, Protection and Removal

2.0 OBJECTIVES

Our clients objective is to create a new housing development on an empty plot with a mixture of housing types and sizes, with associated landscaping.

Our objectives are as follows:

1. Identify what arboricultural features exist presently within and adjacent to the site and to record and categorise them in line with BS5837:2012;
2. Identify what trees will need to be removed directly as a result of the proposed development of the site;
3. Identify any indirect impacts from the proposed development on trees proposed for retention;
4. Provide an indication of what protection measures should be implemented as part of the development of the site to ensure that the physical protection of the retained trees (both below and above ground);
5. Provide recommendations for mitigation in terms of new planting or enhancement for either landscape or ecological reasons.
3.0 STATUTORY PROTECTION

There are no Tree Preservation Orders (TPO) that affect any trees on site, as confirmed by Ribble Valley Borough Council in September 2018.

British Standard 5837:2012 Trees in relation to design, demolition and construction - Recommendations provides current guidance on the relationship between trees and design, demolition and the construction processes. Its sets out the principles to ensure a sustainable relationship between trees and structures is established.

4.0 SURVEYS AND SURVEY METHODOLOGY

A digital copy of a 2D topographical survey for the site was provided by the client prior to the site visit and assessment. Any features of arboricultural or landscape interest that have been excluded from the topo survey (for example trees off site) and have been added manually.

The survey of the trees within and adjacent to the site was undertaken by a qualified and competent arboriculturalist in accordance with BS5837:2012 in September 2018. The trees were numbered sequentially; however they were not tagged. The trees were categorised in line with the BS standard.

Where relevant and where the mass of shrubs and hedges justified the details were recorded and added to the tree survey plan and tables.

Root protection areas for the trees surveyed have been calculated in accordance with the formulas in section 4.6 of the standard. The tree data tables also contain key abbreviations.
5.0 ARBORICULTURAL IMPACT ASSESSMENT

The following works are indicated on TPM Landscape drawing no. 3033 103

Trees Requiring Removal due to Poor Health or Low Amenity Value:
T1, T2, G9, G12, T13, T18 are recommended for removal due to their poor form and low retention value. These trees will be replaced with alternative suitable tree species.

Boundary Screening:
Trees located along the southern boundary of the site help to assimilate the development into surrounding environment and provide screening to the south. These trees are also mature valuable oak and ash species and they are to be retained as part of the development proposals.

Trees Requiring Removal to Facilitate Development:
Some trees are recommended for removal due to their location within proposed hard standing (parking bays, roads, footways, buildings) to facilitate the proposed layout. The following table lists such instances.

<table>
<thead>
<tr>
<th>Trees to be Removed</th>
<th>Reason for Removal</th>
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<tbody>
<tr>
<td>G9</td>
<td>Overgrown hedgerow covered in ivy proposed for removal to facilitate development</td>
</tr>
<tr>
<td>T10</td>
<td>Proposed for removal in order to facilitate development</td>
</tr>
<tr>
<td>T11</td>
<td>Proposed for removal in order to facilitate development</td>
</tr>
<tr>
<td>G12</td>
<td>Low retention value group of trees proposed for removal in order to facilitate development</td>
</tr>
<tr>
<td>T13</td>
<td>Group of two dead trees proposed for removal in order to facilitate development</td>
</tr>
<tr>
<td>T14</td>
<td>Overgrown tree proposed for removal in order to facilitate development</td>
</tr>
<tr>
<td>G15 (partial)</td>
<td>Proposed for partial removal in order to facilitate development (to be cut back to boundary line)</td>
</tr>
<tr>
<td>G16 (partial)</td>
<td>Poor condition twisted trees proposed for removal in order to facilitate development</td>
</tr>
</tbody>
</table>

Proposed works to trees
T17, T21, T24 are recommended to have deadwood removal.
T23 should have a foliage cut back where indicated to facilitate the development.

Proposed New Fences Within Root Protection Area
Generally the construction of fences within the RPAs of existing trees is not recommended. However, if this is unavoidable, care should be taken during construction of new fence boundaries and if excavation is required it should be undertaken carefully using hand held tools and by compressed air soil displacement. To avoid damage to trees’ roots existing ground level should be retained within root protection area

Proposed Drainage and Services:
At the planning application stage of the project, details of proposed below ground services (gas, electric, surface water etc.) are generally not known. Generally excavation should be avoided within the RPA if possible.
Working Space During the Construction Phase:
The site is of an adequate size that the construction phase works can easily be accommodated throughout the construction phase with little potential impact on the retained trees. It is however fundamental that construction exclusion zones are created around the retained trees to limit any potential negative impacts on the trees. Temporary roads, site storage and staff parking should be located outside of the RPA (within existing non compacted areas) and should only be implemented after the tree protection fencing has been erected.

A Tree Retention, Protection and Removals Plan has been prepared to identify a construction exclusion zone, drawing no. 3033 103

Requirements for an Arboricultural Method Statement:
Drawing no. 3033 103 represents a plan based Tree Protection, Removal and Retention and should be referred to during the construction phase for the purposes of controlling activity around the trees to be retained. Further text narrative is provided in Section 6 - Arboricultural Method Statement.

Tree Works: Pruning etc.
Prior to occupation of the new development all trees on site should have remedial pruning to remove deadwood and identify where further tree works may be required (subject to gaining the LPA comments). Some of the trees may need pruning/crown reducing to facilitate the development. Tree works to be supervised by qualified arboriculturist.

Planning for New Landscaping:
Care should be taken in the design of new landscapes to prevent physical damage to retained trees during the planting process, and to ensure that vegetation are designed to survive and thrive rather than competing for resources. Similarly new trees and shrubs should not be planted where they will cause damage to structures, either directly or indirectly in the future.

Summary of Impacts
The proposed development will directly require the removal of several trees (see table below), partial removal of some tree groups and some specific mitigation measures to protect other trees.

A protection fence is to be installed to protect G16, T17, T19, T20, T21, T22, T23, T24 and G25 from impacts of developments.

The proposals for the development include the planting of a number of new trees to mitigate the loss of removed trees and to create a more diverse landscape structure. Proposed vegetation will be a mixture of native, as well as ornamental trees, shrubs and hedges.

<table>
<thead>
<tr>
<th>Tree No / Group requiring removal</th>
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<tbody>
<tr>
<td>Full removal - T1, T2, G9, T10, T11, G12, T13, T14, T18,</td>
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<tr>
<td>Partial removal - G15, G16, T23, G25, G27</td>
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6.0 ARBORICULTURAL METHOD STATEMENT

This method statement has been produced from current guidelines BS 5837:2012 Trees in relation to Design, Demolition and Construction - Recommendations. If in doubt on any issues relating to the retention and protection of the existing trees on site please contact TPM Landscape (project arboriculturalist) on 0161 235 0600 or the Tree Officer at Ribble Valley Borough Council.

The appointed contractor should consider and follow these recommendations whilst working on the project. The appointed contractor must consult the project arboriculturalist who will oversee any critical operations close to the existing trees and make checks to ensure that the tree protection fence and working methods as described below are adhered to.

Tree Works

All tree works should be carried out by a qualified arboriculturalist prior to any construction works starting on site. Only carry out trees works which are shown on the planning approved drawing, any further works that need to be carried out require written approval from the local authority and should be advised by the project arboriculturalist.

Any areas of scrub, bracken and bramble should be strimmed to 0.1m in Sept-October and the arisings removed to discourage hedgehogs and amphibians from settling in this area prior to heavy machinery entering the site and the full clearance works begin.

Tree works should be carried out outside of the bird nesting season (typically March-August) unless the trees and scrub has been surveyed by a qualified ecologist to look for active bird nests. If identified the area should be left undisturbed and fenced off (in line with ecologists recommendations) until the chicks have fledged.

Fence Installation

This method statement has been produced from current guidelines BS 5837:2012 Trees in relation to Design, Demolition and Construction - Recommendations. All trees as shown to be retained on drawing 3033 103 should be protected by a tree protection fence before any materials or machinery are brought onto the site and before any demolition, development or stripping of topsoil commences. Please refer to drawing 3033 103 for locations of the Tree Protection Fences and Figures 1 + 2 for the specification. All-weather notices should be attached to the barrier with words such as: “TREE PROTECTION AREA KEEP OUT”, please refer to Figure 4, for an example of signage. The protected area should be regarded as sacrosanct, and, once installed barriers (unless identified on the drawing) should not be removed or altered without prior approval by the project arboriculturalist and/or Ribble Valley Borough Council.

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

Any materials whose accidental spillage would cause damage to a tree should be stored and handled well away from the outer edge of its Root Protection Area.

Root Investigations

Roots are unlikely to have extended to their full potential where existing buildings and hard standing fall within their RPA. Investigation is required to determine the actual extent of the roots. If the roots do extend into areas which are proposed hard landscaping, follow recommendations below. If the investigation reveals that there are no roots in the existing hard landscape areas, the tree protection fences can be moved back to the edge of existing hard standing and works can continue as in the rest of the site.

Excavations within Root Protection Area (RPA)

Where excavations works for foundations fall on the edge of the RPA then these should be carried out by a competent contractor with an understanding of trees. Any excavations close to trees should be carried out from within the main body of the site working in (and away) from the tree. Machinery should not encroach into the RPA and land protected by the fencing.

For any trees which require excavations within the RPA then water the tree a few days before works are carried out, making sure the ground is moist within the drip line of the tree (only required during the growing season).

Excavations can be carried out with a mechanical digger however these must be supervised by a grounds man to signal if tree roots >40mm are exposed. If roots are identified on site which encroach into the area to be excavated then these must be cut. Ensure cuts are done with hand tools that will make clean, quick cuts (i.e. chain saw or axe), at no points should roots be ripped or dragged out by a mechanical digger. Make sure cut roots are covered with loose soil or woodchips as soon as possible, DO NOT LEAVE CUT ROOTS EXPOSED. If roots are going to be exposed for more than an hour cover with a damp cloth. Water the tree again thoroughly when job is done (only required during the growing season).
Site Works - Pre Construction Of Development

Temporary roads, site storage and staff parking should be located outside of the RPA (within existing non compacted areas) and should only be implemented after the tree protection fencing has been erected.

Site Works - Post Construction

Tree protection fencing should only be pushed back or removed to allow for the installation of hard/soft surfacing within the RPA once all major construction works have finished and heavy machinery has been removed off site. Refer to drawing 3033 for permanent and temporary fencing locations.

Areas of proposed surfacing over the RPA should be carried out to a ‘No Dig’ construction method in line with detailed construction details from an engineer. For indicative ‘NO DIG’ construction detail refer to Figure 5: Detail 1 and 2. Geotextiles and porous surfaces to be used. Surfacing should be constructed over existing levels to avoid excavations within the main body of the RPA.

Ground Protection

All ground protection methods must be capable of supporting construction traffic entering or using the site without causing ground compaction. There are two different ground protection measures that may be required depending on the site constraints and requirements.

Construction Traffic:
It may be necessary to provide ground protection measures to facilitate construction traffic movement (exceeding 2t gross weight) and access to the proposed development. If this is the case, a proprietary system or pre-cast reinforced concrete slab to engineers specification will need to be designed to accommodate the likely loading.

Light Machinery/ Site Operatives:
The most common method of ground protection is the use of a compressible layer as illustrated in Figure 4 on the following page. This method will support pedestrian-operated machinery up to a gross weight of 2t. It consists of a base geo-textile membrane, a base ground guard layer, approximately 150mm depth of woodchip and a surface ground guard track way.

Other Notes

In addition to the protection fence the site operatives should have regard for the trees and make allowance for:
- All forms of access to the site
- Position of site compound
- Size of vehicles entering the site and any impacts to branches that overhang these routes
- Proposed parking for site personnel
- Phasing of works
- Space required to undertake the works
- Management of waste products within the site
- Any special construction techniques e.g. porous paving
- Time of year for any tree works (e.g. bird nesting season)
- Protection of soil structure within proposed planting beds
- Planting operations within the root protection area of retained trees
- Systems of arboricultural site monitoring / scheduled site visits
- Any special construction techniques e.g. porous paving
- Time of year for any tree works (e.g. bird nesting season)
- Protection of soil structure within proposed planting beds
- Planting operations within the root protection area of retained trees
- Systems of arboricultural site monitoring / scheduled site visits
Key
1. Standard scaffold poles
2. Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3. Panels secured to uprights and cross-members with wire ties
4. Ground level
5. Uprights driven into the ground until secure (minimum depth 0.6 m)
6. Standard scaffold clamps

Figure 1 - Default specification for protective barrier

Figure 2 - Examples of above-ground stabilizing systems

a) Stabilizer strut with base plate secured with ground pins
b) Stabilizer strut mounted on block tray
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS

THE FOLLOWING MUST BE OBSERVED BY ALL PERSONS:-

- THE PROTECTIVE FENCING MUST NOT BE REMOVED OR PUSHED BACK
- NO PERSONS SHALL ENTER THE PROTECTED AREA
- NO MACHINE OR PLANT SHALL ENTER THE PROTECTED AREA
- NO MATERIALS SHALL BE STORED IN THE PROTECTED AREA
- NO SPOIL SHALL BE DEPOSITED IN THE PROTECTED AREA
- NO EXCAVATIONS SHALL OCCUR IN THE PROTECTED AREA

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PREMISSION OF THE LOCAL PLANNING AUTHORITY

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50 mm x 50 mm x 500 mm timber stakes
200 mm x 50 mm timber rails
Geotextile membrane
Base layer of Ground-Guards
Woodchippings
Ground-Guard trackway

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Detail 1 - Concrete kerb edging

Detail 2 - Timber edging

Figure 5 - No-Dig Construction Details over RP

NOTE: No-dig construction details as detailed by Geosynthetics
APPENDIX

TPM Drawings:
3033 - 101 Tree Survey
3033 - 501 Tree Survey Report
3033 - 103 Tree Retention, Protection and Removals