

Demolition of the Former Norton Lea Hospital, Boston

Arboricultural Inspection Report - November 2021

B027289

First Issue

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Prepared on behalf of Vinci Construction UK

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Prepared by: Guy Morrison <i>Arboriculturist</i>		Checked by: Marcus Pinker <i>Landscape Architect</i>	Approved By: Emily Jones <i>Landscape Architect</i>
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1.0 INTRODUCTION

- 1.1.1 Tetra Tech were commissioned to visit the former Norton Lea Hospital site to provide advice on a mature cork oak tree in relation to proposed demolition works. Advice was also sought on several other trees on the site, which is located off London Road, Boston.
- 1.1.2 The inspection visit was carried out on 8 November 2021 by Arboriculturist Guy Morrison DipArb(RFS) MICFor MArborA.
- 1.1.3 A meeting was held at the same time to discuss the trees. The meeting was attended the by a representative of Boston Borough Council's Planning Department and the Demolition Site Manager from Vinci Construction UK.
- 1.1.4 Trees were assessed visually from ground level. No climbed inspection, removal of ivy or detailed investigation of decay was made. Tree condition can change significantly over a relatively short period of time, and therefore the results and recommendations of this survey can only be held to be valid for a period of 18 months following the survey date.

2.0 BACKGROUND

- 2.1.1 It is proposed to demolish all the buildings on the site in advance of redevelopment. All roads, paths and hardstandings will also be removed, except for the main access from London Road and some internal roads leading from this.
- 2.1.2 The Council have confirmed that the demolition does not require prior approval (LPA ref. B/21/0156).
- 2.1.3 Tetra Tech carried out a tree survey of the site in April 2021 and produced an Arboricultural Report (V1.0, October 2021). This included an Arboricultural Method Statement and Tree Protection Plan (drawing no. B027289 TPP1 Rev.P1) with proposals for tree protection during the demolition. These include measures for protective fencing to protect trees during demolition works and monitoring during excavation works close to trees.
- 2.1.4 The recommendations in the submitted tree protection details comply with BS5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'.
- 2.1.5 Boston Borough Council have confirmed (emails 26/04/21 and 13/05/21) that several trees on the site are protected by Tree Preservation Order (TPO). These trees are:
 - T20 Lime (Boston TPO No. 42 ref. T5)
 - T21 Cedar (Boston TPO No. 42 ref. T6)
 - T22 Cedar (Boston TPO No. 42 ref. T7)
 - T37 Cork oak (Boston TPO No. 29 ref. T1)
 - T44 Sycamore (Boston TPO No. 42 ref. T3)
 - T45 Sycamore (Boston TPO No. 42 ref. T2)
 - T46 Ash (Boston TPO No. 42 ref. T1)
 - T49 Sycamore (Boston TPO No. 42 ref. T4)

- 2.1.6 Permission is required from the local planning authority (LPA) to fell or prune trees protected by TPO, subject to several statutory exemptions. It is an offence to carry out this work, or to kill or damage a protected tree, without consent except where an exemption applies.
- 2.1.7 This report makes recommendations for works to the protected trees T37 and T49, and it is recommended that it is sent to the LPA to determine if formal consent is required or an exemption applies.
- 2.1.8 The cork oak tree T37 is identified as a Veteran Tree in the Woodland Trust's Ancient Tree Inventory (ref. 183185).
- 2.1.9 The Arboricultural Method Statement specifies that an appointed Arboricultural Consultant shall visit the site at the following stages:
- a) Prior to the commencement of works to specify the repair of the propping and pruning of tree T37,
 - b) Following the erection of the protective fencing,
 - c) During the demolition of buildings adjacent to tree T37,
 - d) During the lifting of hard surfaces close to retained trees,
 - e) Every three months during the demolition period, and
 - f) Following completion of demolition and removal of protective fencing.
- 2.1.10 This report is based on a visit to specify the repair of the propping and pruning of T37 (Stage a).

3.0 OBSERVATIONS & DISCUSSION

3.1. CORK OAK TREE T37

- 3.1.1 The cork oak (*Quercus suber*) tree T37 was inspected in detail. The tree is a large mature tree of considerable character. It was identified as a tree of high quality and value (BS5837 A category) in the previous survey. The tree is of spreading form with heavy lateral branches, with some supported by steel props.



Image 1. Cork oak tree T37.



Image 2. Cork oak tree T37, showing heavy lateral branches with props.

COLLAPSED STEM

- 3.1.2 A secondary stem on the north side of the tree has partially collapsed, causing a crack at the union with the main stem at 1m. The stem was previously supported by two props, and appears to have collapsed once their support was removed. One of the props has fallen and the other failed with the rusting of plates forming the support cradle at the top.
- 3.1.3 The partially collapsed northern stem is partially resting on the ground and appears to be stable. Part of the crown to the north-west deriving from this collapsed stem is supported by unions in adjoining semi-mature sycamore and laurel trees. The crack in the union has retained a significant strip of intact cambium and the branches beyond appear to be healthy and vigorous. Removal of the partially collapsed stem by cutting at the main stem would create a large wound on the main stem, and it is recommended that the partially collapsed

stem is retained in-situ as it appears to be healthy and stable. The fallen stem may root where it is in close contact with the ground, which will increase its long-term stability and health.



Image 3. Collapsed northern stem on tree T37 resting on building.

BRANCH PROPS

- 3.1.4 Two props remain intact supporting branches and are located at approximately 4.0m south-south-east (2.3m tall) and 3m south-south-west (2.7m tall). The props are welded steel with a 90x90mm square section upright welded to a foot approximately 460x460mm in size. The branches are supported by a V-shaped cradle formed by two plates approximately 380x195x90mm in size. The foot and cradle are formed of 8mm sheet. The props appear to be covered with red oxide or similar protective covering. Strips of car tyres have been placed between the props and branches to form a cushion.
- 3.1.5 The props were examined and appeared to be stable, with no sign of significant or deep rusting, although some rust patches are present. The branches have distorted around the prop cradles.
- 3.1.6 Trees adapt to secondary supports and it is very likely that the currently supported branches would collapse if the props were removed. They should therefore remain. No replacement or adjustment of the props is considered necessary at the moment, but they should be regularly reinspected alongside the tree.



Image 4. Branch of tree T37 supported by prop.

TREE PRUNING

- 3.1.7 Branches from the cork oak overgrow buildings to the north-east and west which are to be demolished. These branches require pruning to allow the demolition to proceed without damage to the tree. The branches overgrowing the single-storey buildings are:
- Branch to north-east, derived from fallen stem, and branch resting on building.
 - Branch to north-west, derived from fallen stem and supported by semi-mature trees.
 - Branch to the west, resting on and supported by building.
 - Branch to the west-south-west, overgrowing but not supported by the building.
- 3.1.8 Each of these branches overgrows the buildings by 2-3m.



Image 5. Branches from T37 lying across the roof to west.

- 3.1.9 The semi-mature trees providing support to the branch to the north-west should be retained during demolition to provide support during the phase when the branch is most at risk. It is unlikely that the branch will require permanent support.
- 3.1.10 The branch to the west is slender and appears to gain significant support from the building. It is at risk of collapse following removal of this support and it is recommended that it is provided with a temporary support following pruning (which will remove this support) to gauge whether a permanent prop is required.

TREE PROTECTION DURING DEMOLITION

- 3.1.11 The Arboricultural Method Statement sets out precautions to be following during demolition of the buildings near the cork oak. These include proposals for an excavator to be sited on the existing building floor slabs and pull the walls inwards, towards the excavator and away from the tree. The Method Statement also includes proposals for the removal of the slab and foundations near the tree. At the meeting it was confirmed that it is likely that future development proposals will retain the tree in open space corresponding with the root protection area, and it will not be necessary to remove foundations and other material below ground where the buildings abut the tree's root protection area (RPA). This will reduce the risk of damage to the tree.

3.2. LIME TREE T15

- 3.2.1 The common lime (*Tilia x europaea*) tree T15 on the eastern boundary was observed to be in a poor condition and in decline in the tree survey reported in the previous Arboricultural Report. At the current inspection it was observed that it had declined further in condition and over 95% of the crown was dead. There was no access to the base of the tree due to a fence, and the view of it was obstructed by the line of cypress trees. The tree appears to be in irreversible decline and it is almost certain that it will die over the next 1-5 years. The tree is located adjacent to the busy A16 Spalding Road and should be felled as soon as possible. The tree is not covered by TPO.



Image 6. Dying lime tree T15.

3.3. BIRCH TREE T26

- 3.3.1 The silver birch (*Betula pendula*) tree T26 was proposed for retention in the previous Arboricultural Report, but was observed to have been uprooted and fallen at the current inspection. The root plate was inspected and root decay was observed. This will have been the main contributor to the windthrow of the tree in recent autumn winds.



Image 7. Windthrown birch tree T26.

3.4. SYCAMORE TREE T49

- 3.4.1 The sycamore tree (*Acer pseudoplatanus*) T49 is dead, as identified in the previous Arboricultural Report. The tree is located adjacent to London Road and should be felled as soon as possible as it represents a potential risk to road users.
- 3.4.2 The tree is covered by TPO. Permission is not required to fell trees covered by TPO where they are dead, but landowners are encouraged to contact the local planning authority and provide five days written notice so the exemption can be agreed. The Council officer inspected the tree during the meeting and agreed that it was dead and could be felled under his exemption.



Image 8. Dead sycamore tree T49.

3.5. LEYLAND CYPRESS TREES G3

- 3.5.1 The previous Arboricultural Report identified several dead and dying trees in the row of Leyland cypress trees (*x Cupressocyparis leylandii*) along the northern boundary with London Road (group G3), and proposed their felling. The current inspection identified three dead cypress trees and five cypress trees in poor condition. These represent all the cypress trees in this group. The trees in poor condition have suffered significant crown thinning and dieback. The tree appears to be in irreversible decline and it is very unlikely that they will recover. They should be removed.



Image 9. Dead and dying Leyland cypress trees in group G3.

3.6. LEYLAND CYPRESS TREES G5

- 3.6.1 The previous Arboricultural Report identified several collapsed trees in the row of Leyland cypress trees along the eastern boundary with Spalding Road (group G5), and proposed their felling. The current inspection identified two collapsed trees are present to the north of the lime tree T15. These trees have collapsed due to splitting at weak forks. The trees will not recover to form attractive stable trees and should be removed.
- 3.6.2 A beech (*Fagus sylvatica*) tree is growing nearby in the row of trees, but is suppressed by the cypress and ivy growth. Removal of the failed cypress and ivy would allow the tree to flourish.



Image 10. Beech tree growing among failed Leyland cypress trees in group G5.

3.7. TREE PROTECTION FENCING

- 3.7.1 The tree protection fence was not in place as vegetation removal operations were underway at the time of the inspection, and demolition is not due to start until January 2022.

4.0 RECOMMENDATIONS

4.1. CORK OAK TREE T37

- 4.1.1 Tree and shrub saplings growing beneath the cork oak tree should be removed, cutting stems to ground level. This operation should be carried out by hand, taking care to avoid damage to the tree.
- 4.1.2 Semi-mature sycamore and laurel trees proving support to the branch to the north-western branch of the cork oak should be retained during demolition. They should be removed on the completion of demolition, subject to further assessment by the Arboricultural Consultant.

COLLAPSED STEM

- 4.1.3 The partially collapsed stem on the cork oak tree T37 should be retained.

BRANCH PROPS

- 4.1.4 The two remaining branch props should remain in-situ. In order to maximise their life span, they should repainted with a suitable red oxide paint, as advised by the contractor in liaison with the Arboricultural Consultant.
- 4.1.5 Once the site works are complete, the branch props should be reinspected every 18 months, on the same reinspection cycle as the tree.

TREE PRUNING

- 4.1.6 Branches that overhang the adjacent buildings should be pruned back to at least 1.0m beyond the building line. The branches should cut at the first side branch available beyond this point.
- 4.1.7 The pruning should be carried out by competent arboricultural contractors, and be carried out in accordance with BS3998:2010 'Tree Work – Recommendations'.
- 4.1.8 The branch to the west should be provided with temporary support (Acro prop or similar with foam padding as advised by the contractor in liaison with the Arboricultural Consultant) before it is pruned as it is currently strongly supported by the building and may be at risk of collapse once this support is removed. The branch will be reinspected by the Arboricultural Consultant at the next visit to determine whether permanent support is required.
- 4.1.9 Prior to carrying out the works, the LPA should be consulted to determine whether the proposed pruning requires an application for consent to prune a tree protected by TPO, or whether they consider the works exempt from the need to make a formal application.

TREE PROTECTION DURING DEMOLITION

- 4.1.10 The cork oak tree should be protected during construction in accordance with the proposals detailed in the Arboricultural Method Statement and shown on the Tree Protection Plan.
- 4.1.11 The Arboricultural Method Statement includes proposals for an excavator to pull the walls inwards onto the building footprint and away from the tree. Walls adjacent to the tree should be demolished by hand if this cannot be achieved successfully and there is risk of walls falling towards the tree.

- 4.1.12 The Arboricultural Consultant should be consulted on redevelopment proposals to advise if proposals in the Arboricultural Method Statement can be amended. Where possible, the building foundations and other below-ground structures should be left in-situ where they abut the tree's RPA. These should be removed to just below the existing ground level (<50mm), before being lightly covered with topsoil.

4.2. LIME TREE T15

- 4.2.1 The dying lime tree T15 should be felled as soon as possible.

4.3. BIRCH TREE T26

- 4.3.1 The fallen birch tree T26 should be removed.

4.4. SYCAMORE TREE T49

- 4.4.1 The dead sycamore tree T49 should be felled as soon as possible. The LPA should be provided with five days written notice of the work as the tree is protected by TPO.

4.5. LEYLAND CYPRESS TREES G3

- 4.5.1 All eight dead and dying Leyland cypress trees in group G3 should be felled. The broadleaved trees within the group should be retained.

4.6. LEYLAND CYPRESS TREES G5

- 4.6.1 The two collapsed Leyland cypress trees in group G5, located to the north of tree T15 should be felled.
- 4.6.2 Ivy growing on the beech tree adjacent to the felled trees should be cut at the base of the tree, removing sections of one inch from each ivy stem to kill the growth above in the crown.

4.7. TREE PROTECTION FENCING

- 4.7.1 Tree protection fencing should be erected and be in place before demolition works start. The location and specification of fencing is set out in the Tree Protection Plan and Arboricultural Method Statement in the previous Arboricultural Report.

4.8. NEXT ARBORICULTURAL INSPECTION

- 4.8.1 The next arboricultural inspection should be carried out once the tree protection fencing is set out, but before demolition works have started (section 2.0 – Stage b).

APPENDIX A – REPORT CONDITIONS

Arboricultural Inspection Report – September 2021

– Former Norton Lea Hospital, Boston

This report is produced solely for the benefit of Vinci Construction, and no liability is accepted for any reliance placed on it by any other party unless specifically agreed by us in writing.

This report is prepared for the proposed uses stated in the report and should not be relied upon for other purposes unless specifically agreed by us in writing. In time technological advances, improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of Tetra Tech using reasonable skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented accordingly within the scope for this report.

Reliance has been placed on the documents and information supplied to Tetra Tech by others, no independent verification of these has been made by Tetra Tech and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst reasonable skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal, budget and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

November 2021

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