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Ms F Whitbread
Property Risk Inspection
2 The Courtyards
Colchester
CO49PE

Our Ref: 220014/TPO
Your Ref:

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17 February 2022

Your contact
is: Sarah Hanson, Planning

Dear Ms Whitbread

**RE: PROPOSED FELLING OF ONE JAPANESE PAGODA TREE AT 10A BROOKLYN DRIVE,
READING - SUBJECT TO TREE PRESERVATION ORDER NUMBER 25/12**

Thank you for your application of 6 January 2022 regarding the above. Your application to fell the tree is due to alleged tree related subsidence to the neighbouring property to 12 Brooklyn Drive, hence the application was accompanied by the following reports:

Arboricultural Assessment Report from Property Risk Inspection
Engineering Appraisal Report from Sedgewick 17/12/21
Level Monitoring results from January-December 2021
Root ID Report from Richardson's Botanical Identifications
Site Investigation Report from Auger
Geotechnical Testing Analysis Report from Auger
Statement of Reasons from Property Risk Inspection

A site visit was carried out on 24 January 2022 with our consultant engineer Tim Pither of Subtilis Consulting. The evidence obtained during that visit has been assessed alongside the contents of the submitted reports and we have the following comments:

Vegetation

The fully mature Japanese Pagoda tree provides a high degree of amenity value to the locality, contributing to the verdant nature of the area. It is a rare species in the Borough, which adds to its value. No concerns about the tree's condition are highlighted

within the Arboricultural Report and during my visit there was no obvious concerns such as fungal fruiting bodies - no full inspection was carried out. As a mature, large canopy tree, it will provide multiple environmental benefits, hence its retention contributes to the Council's response to its climate emergency declaration. As such, and as with any application to fell, the Council has to assess the amenity value of the tree and the likely impact of the proposal on the amenity of the area, and in the light of that assessment consider whether or not the proposal is justified, having regard to the reasons put forward in support of it.

The Arboricultural report identified various vegetation (trees and shrubs) both in the front and back garden. The removal of one Laurel hedge and one Photinia in the rear garden, and part of a second Laurel hedge and one Willow tree in the front garden were recommended, alongside the felling of the TPO tree in question (ref 4.2 of the report). The householder advised that the recommended vegetation removal of that within his control, i.e. all but the TPO tree, was undertaken in March/April 2021 - this was noted during our visit.

Description of damage

In terms of the damage, the Engineering Appraisal report describes this as:

'The principal damage is to the right-hand side of the property, taking the form of cracks to render externally with corresponding cracking to plaster finishes internally. The pattern of damage indicates a mechanism of downwards movement towards the front and right-hand side of the property. A secondary area of less significant damage is to the left-hand side of the property, manifesting itself as plaster cracking, with a possible indicated mechanism of movement towards the front of the site. The level of damage is slight and is classified as category 2 in accordance with BRE Digest 251 - Assessment of damage in low-rise buildings.

Mr Hamilton-Bowker has advised that damage first commenced historically but has worsened within the last three months. We consider that the damage has occurred recently. It is likely that movement will be of a cyclical nature with cracks opening in the summer and closing in the winter.

During our visit, the cracking damage observed of the building generally concurred with that described by Sedgewick. However, in respect of the damage to the front right-hand side of the property, it is suggested that the pattern of movement is more indicative of downward settlement / subsidence towards the centre of the front living room window.

In relation to the level of damage, it is worth noting that the BRE classification of damage has been advised as Category 2 in reference to the BRE Digest 251 Assessment of damage in low rise buildings. In terms of ease of repair, the BRE Digest provides the following commentary;

'Cracks easily filled. Recurrent cracks can be masked by suitable linings Cracks not necessarily visible externally; some external repointing may be required to ensure weather-tightness. Doors and windows may stick and require easing and adjusting'.

Some of the external cracking, and particularly the vertical and horizontal cracking to the external render, may be due to thermal as opposed to foundation subsidence movement.

Site investigations

In relation to the investigations carried out by Auger, the results of the soil analysis tests confirm that the modified plasticity index of the soil is 21 (TP/BH1) and between 18 and 44 (TP/BH2). BRE Digest 240 provides classification for the volume change potential for over consolidated clays and Table 1 within the digest classifies the clay as having a low to high potential for volume change. Soils of this classification can suffer volume change due to variations in the moisture content and such changes can result in damage to buildings bearing on such a clay subsoil. It should be noted that in respect of shallow founded properties, volume changes and subsequent damage can occur without the influence of vegetation.

Moisture content values were obtained for each of the samples at 0.5m increments to a depth of 3.0m (TP/BH1) and 2.9m (TP/BH2). The sample from TP/BH2 at 1.9m was recorded to be in a desiccated state at the time the investigations were undertaken. This is 0.5m below the deepest root level recorded during the investigations undertaken and suggests the influence of vegetation on the moisture content of the clay at that time.

The Root ID report confirms the presence of one (dead) root in TH/BH2 at 1.4m depth, likely to be from the Japanese pagoda tree, in the absence of the other potential species listed.

Level Monitoring

This investigation is critical in determining whether the pattern of movement can be attributed to vegetation related subsidence or likely to some other cause.

Level monitoring was undertaken over the period between 21st January 2021 and 17th December 2021, which includes the period after the recommended vegetation removal (as detailed above) took place. The results of this monitoring exercise show no significant movement being recorded. The majority of the monitoring results show vertical movements of less than 2mm with only monitor station 6 (front, right) showing very minor seasonal movement in the range of 2mm. The magnitude of movement recorded on the level monitoring would not give rise to concern in respect of structural movement to the property. The range of movement of 2mm is well within that expected for a property built on clay irrespective of whether vegetation exists. One would normally expect level monitoring to show movements of a greater range before consideration is given to whether this will have a structural effect on the property. Such minimal movement should not be reasonable cause to remove a significant tree, particularly if other recommended vegetation removal appears to have stabilized the property to within what could reasonably be considered as normal seasonal movement.

Other matters

A rainwater pipe is located adjacent to the front right-hand corner of the property in the

location of the damage. No comment is provided as to whether the drains have been checked for leakage. Given the presence of a chalk subsoil below the foundations, it would seem appropriate for the drainage to be checked to minimize the potential for roots to be drawn to the building due to any leakage. In addition, any leakage from drainage within a chalk subsoil can contribute to softening or dissolution of the chalk subsoil.

Conclusion

On balance, the damage to the front right-hand section of the property is likely to have resulted from an episode of subsidence. Given the presence of roots, proximity of original vegetation and the presence of a layer of shrinkable clay below the foundations, the likely cause of the foundation movement is due to clay shrinkage subsidence.

It is considered that the vegetation management works undertaken at No. 12 were sufficient to achieve stability to No. 12 hence that the felling of the Pagoda tree is not justified. The tree is not expected to exceed its current size, hence going forward, it is not considered reasonable to conclude that subsidence attributed to this tree is a certainty.

Superstructure repairs incorporating robust repairs including re-bonding of any fractured masonry should also provide greater resilience to withstand any minor seasonal foundation movement in the future. These are repairs which we assume the Insurers on No. 12 will consider.

In conclusion, the proposed felling of the Japanese pagoda tree is refused. If you wish to appeal against the Council's decision on this matter, please contact the Planning Inspectorate within 28 days of receipt of this letter to obtain the relevant forms. Because of coronavirus (COVID-19), you currently can only make a planning appeal online. You cannot currently apply by post.

For more information go to:

<https://www.gov.uk/government/publications/tree-preservation-order-appeal-form>

E-mail to: treeandhedgeappeals@planninginspectorate.gov.uk

Telephone: 0303 444 5570

If you/your client suffer any loss or damage as a result of this refusal of consent, you may be entitled to recover compensation from the Council. If you wish to make a claim you must do so within 12 months from the date of this decision (or, if you appeal to the Secretary of State, within 12 months from the date of his decision). Claims should be made in writing to the Insurance Section, Reading Borough Council, Civic Centre, Bridge Street, Reading, RG1 2LU.

Given the high amenity and environmental value the Pagoda Tree offers, if it is implicated in movement to the property in the future then consideration should first be given to other alternatives to felling and demonstration obtained that these aren't appropriate prior to re-submitting an application to fell the tree.

If you require any further assistance, please do not hesitate to contact me on the above number.

Yours sincerely

Sarah Hanson

Sarah Hanson
Natural Environment Officer

C.c. Mr & Mrs Wall, 10A Brooklyn Drive
Mr Hamilton-Bowker, 12 Brooklyn Drive