ARBORICULTURAL TREE REPORT AND ROOT SURVEY

Assessment of Potential Tree-Related Subsidence, Soil Moisture Depletion and Drainage Interaction

Site address:
Date of inspection: 30-09-2026
Tree species: Silver birch (Betula pendula)
Number of trees: Three
Trees assessed: Two small silver birch trees and one medium-sized silver birch tree
Purpose: Assessment of potential tree-related subsidence, seasonal soil drying, possible root interaction with nearby drainage infrastructure, and recommendations for tree removal and restoration works.

1. Introduction

This report has been prepared following a visual assessment of photographs showing three silver birch trees situated within a restricted front garden area adjacent to a residential property.

The trees comprise two small silver birch specimens and one medium-sized silver birch specimen. All three are located in close proximity to the building, within a narrow strip of ground bounded by the building, paved access areas and roadside fencing.

Concerns have been raised that the trees may be contributing to subsidence affecting the property and may have increased the drying of the surrounding ground during the exceptionally dry summer.

The presence of nearby drainage infrastructure is also relevant, as tree roots may potentially interact with defective drains, particularly where cracks, leaking joints or displaced connections are present.

This report considers the potential contribution of the trees to soil moisture depletion, possible foundation movement and drainage-related issues. It also provides recommendations regarding tree removal and the measures required to support the commencement of appropriate restoration and reinstatement works.

The assessment is based on the supplied photographs and information provided. No intrusive root investigation, soil sampling, drainage inspection or foundation exposure has been undertaken as part of this assessment.

2. Site Description

The site comprises a residential property with masonry external walls and a narrow front garden containing grassed ground, paved access and three silver birch trees.

The trees are positioned between the building and the roadside boundary fence. Their proximity to the property and the restricted nature of the available rooting area are important considerations when assessing their potential influence on the surrounding ground.

The nearby building, paving, boundary structures and drainage infrastructure may influence root distribution and the availability of soil moisture.

The exact distance between each tree and the foundations, the position and depth of the nearby drains, the foundation construction and the underlying soil type have not been established.

3. Tree Survey and Individual Assessments

Tree 1 – Medium Silver Birch

Species: Silver birch (Betula pendula)
Size category: Medium
Location: Front garden, adjacent to the residential building and roadside boundary.

The photographs show an established silver birch with a developed crown and a substantial branching structure. The tree is growing within a confined area of ground close to the property.

Silver birch is a deciduous broadleaf species that takes up water through its root system during the growing season. Depending on the soil type, moisture availability and rooting conditions, this water uptake may contribute to the depletion of soil moisture around nearby foundations.

Given its relative size and proximity to the building, this tree is considered a potential contributor to localised soil drying. If the underlying ground consists of shrinkable clay, water uptake may contribute to clay shrinkage and differential ground movement.

The tree’s root system may also extend towards nearby drainage infrastructure. Where defective joints or cracks are present, roots may enter the drainage system and contribute to blockages or exacerbate existing defects.

No direct evidence of root-related foundation damage or drain damage has been confirmed from the photographs.

Assessment: Potential contributor to seasonal soil moisture depletion and possible subsidence, subject to confirmation of soil and foundation conditions.

Tree 2 – Small Silver Birch

Species: Silver birch (Betula pendula)
Size category: Small
Location: Front garden, within the restricted area adjacent to the building.

The smaller silver birch is situated within the same narrow garden area and forms part of the combined group of trees growing close to the property.

Although smaller than Tree 1, the tree may still contribute to seasonal water uptake and local soil moisture depletion. Its influence will depend on its crown size, root development, distance from the foundations and the characteristics of the underlying soil.

The tree's roots may extend beneath the grassed area and towards nearby structures or drainage infrastructure. Any existing drainage defects could provide access to moisture and create conditions favourable to root ingress.

The tree should therefore be considered as part of the combined vegetation-related influence on the site.

Assessment: Potential additional contributor to soil moisture depletion, with possible root interaction with nearby drainage infrastructure requiring further investigation.

Tree 3 – Small Silver Birch

Species: Silver birch (Betula pendula)
Size category: Small
Location: Front garden, within the same restricted area alongside the property.

The third silver birch forms part of the group of trees occupying the limited garden space adjacent to the residential building.

Its root system may overlap with those of the other trees, increasing the combined area of ground potentially influenced by their water uptake.

During periods of prolonged low rainfall, the combined water demand of the trees may contribute to the drying of the surrounding soil. This is particularly relevant if the underlying soil is shrinkable clay and the foundations are situated within the zone affected by seasonal moisture changes.

The tree may also have roots extending towards nearby drainage infrastructure, although no root ingress or damage has been confirmed.

4. Root Survey and Ground Assessment

The photographs show the three trees growing within a restricted strip of ground between the building and the roadside boundary. The available rooting area is influenced by the proximity of the building, paved access and surrounding boundary features.

No complete root system has been exposed, and the extent, depth and direction of root growth have not been established but there is a few surface roots very close to the house.

4.1 Potential Root Distribution

Silver birch roots may extend laterally beyond the visible crown and beneath grassed areas, paving and other surface features. Root distribution depends on soil conditions, moisture availability, aeration, compaction and physical obstructions.

The proximity of the trees to the building means that roots may extend into ground close to the foundations. However, root presence near a building does not automatically establish that the foundations have been damaged or that subsidence has occurred.

4.2 Potential Effects on Foundations

If the underlying soil is shrinkable clay, tree water uptake can reduce the moisture content of the soil and cause shrinkage. Where this occurs beneath foundations, differential ground movement may contribute to cracking, distortion or other structural symptoms.

The potential influence of the three silver birch trees is therefore relevant to the investigation of suspected subsidence, particularly given their proximity to the property and the exceptionally dry summer.

The contribution of the trees cannot presently be quantified.

Overall assessment: The three silver birch trees are considered potential contributing factors to seasonal soil moisture depletion and possible vegetation-related subsidence.

5 Removal of the Three Silver Birch Trees

It is recommended that the removal of the two small silver birch trees and one medium-sized silver birch tree be considered as part of the overall remedial strategy for the property.

Given their proximity to the building, the restricted rooting area, the reported exceptionally dry summer and the potential for tree-related soil moisture depletion, removal would eliminate the ongoing water uptake of these particular trees.

This may help address a potential contributing factor to further vegetation-related soil drying and may reduce the risk of continued tree-related influence on the surrounding ground.

Tree removal would also eliminate future root growth from these specimens, although existing roots would remain in the ground and any established drainage defects would still require appropriate investigation and repair.

Removal should be coordinated with the structural engineer, geotechnical consultant and suitably qualified arboricultural professional. The underlying soil type and foundation conditions should be considered before works proceed, as removing established trees can itself alter soil moisture conditions and may lead to subsequent ground movement on shrinkable clay soils.

6. Conclusion

The inspection photographs show two small silver birch trees and one medium-sized silver birch tree growing within a restricted front garden area close to a residential building.

Their proximity to the property, together with the exceptionally dry summer, makes their potential contribution to local soil moisture depletion relevant to the suspected subsidence.

If the underlying soil consists of shrinkable clay, water uptake by the trees may have contributed to soil shrinkage and potentially exacerbated foundation movement. The nearby drain also warrants investigation, as root ingress into defective drainage infrastructure may cause blockages or worsen existing defects, while drainage leakage may independently affect local ground conditions.

It is recommended that the removal of all three silver birch trees be considered as part of the overall remedial strategy to eliminate their ongoing water uptake and reduce the potential for further tree-related soil moisture depletion.

The removal of the trees, together with a CCTV drain survey, appropriate drainage repairs, foundation and soil investigations, and structural monitoring, may help address the potential contributing factors and facilitate the commencement of the necessary restoration and reinstatement works.

The proposed tree removal and remedial works should be coordinated with the relevant structural, geotechnical, and drainage.

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