

## John Cromar's Arboricultural Company Limited

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S1822-J1-R1

# REPORT

on trees in relation to  
2 West Lane, Pirton, Hitchin, SG5 3RA

on behalf of: Richard Godfrey



John Cromar, Dip. Arb. (RFS), F. Arbor A.



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# 1 Introduction and instructions

This is a tree and building subsidence matter. I am instructed by Richard Godfrey (insured). I consider my instructions in essence to be to report on the applicability of tree pruning or removal to control a reported subsidence problem at 2 West Lane, Pirton, Hitchin, SG5 3RA . Accordingly, I visited the property on 9 April 2026 in order to carry out an inspection.

# 2 Executive Summary

To the balance of probabilities, tree 1 is likely involved in subsoil drying near the structure.

# 3 Sources and documents

## 3.1 Matters reported by documents supplied

| Factor                                                                                                                              | Footing, trial pit/<br>borehole                                                                                                           | Comments                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                     | F= underside of footing<br>depth<br><br>R= roots encountered to<br><br>Borehole (BH)<br><br>To= finished at [value in<br>metres] below GL |                                                                                                                                                                                                                                                                                                                                                                                                      |
| Structural<br>factors<br><br>Report by<br>Wilson<br>Architectural<br>Engineering<br>Ltd, ref. JS23<br>dated 9th<br>February<br>2026 |                                                                                                                                           | Dwelling built - not stated -.<br><br>The single-storey front extension has undergone differential foundation movement and rotated away from the original dwelling. ..<br><br>..The form and alignment of the crack are consistent with structural movement rather than cosmetic surface cracking...<br><br>..The pattern observed in the photograph is consistent with foundation-related movement. |
| Date of onset                                                                                                                       |                                                                                                                                           | (No report received)<br><br>a photograph taken prior to purchase in June 2025, confirms that cracking was present at the structural interface at that time                                                                                                                                                                                                                                           |
| Monitoring                                                                                                                          |                                                                                                                                           | Noted crack monitoring recommended.<br><br>Informal monitoring reported by owner.                                                                                                                                                                                                                                                                                                                    |

## 4 Appraisal of reported factors

### 4.1 Mechanism

A consideration of the matter of trees and the subsidence of buildings requires some discussion of the processes involved.

*Evapo-transpiration* is the process by which water is lost to the atmosphere from living plants. This process demands water uptake from the subsoil into the roots, from where it passes into the vessels of the plant, is conducted to various parts of the plant, and is finally lost to the plant mainly through pores in the leaves.

This process can dry clay subsoils so that they shrink and allow foundations resting on them to sink or move. (This can be termed 'indirect damage'). There is a higher risk of this happening in very low rainfall periods. The buildings constructed on those footings may then crack.

Removal of trees involved in subsidence almost always arrests further cracking, whereafter the previously dried clay will, usually fairly rapidly (i.e. within a season or two) return to its normal proportions by the natural action of rainfall, and consequently will lift the footings back to the position they were in prior to the damage, thus closing or nearly closing the cracks. Redecoration internally is often all that is required.

By contrast, what may be termed 'direct damage' is caused by physical pressure of parts of a tree, such as roots or trunk, on a structure, and this can occur on any subsoil type.

### 4.2 Footings

On heavily-worked agricultural clay subsoils, obvious cracking related to drying can open up to a metre or perhaps more in depth during droughts, but this depth of cracking is rarely seen in other circumstances. In this case the subsoil below the structure is, according to British Geological Survey information, West Melbury Marly Chalk Formation. I note the BGS description :

Buff, grey and off-white, soft, marly chalk and hard grey limestone arranged in couplets.

I understand this to be part of the Lower Chalk. From direct personal experience on another site some years ago this was found to have a very low plasticity and some shrinkage was inferred from the monitoring of the structure.

I therefore consider it possible that subsoil drying could have resulted in structural movement and damage, via the involvement of the roots of vegetation.

### 4.3 Root identification

No root identification is to hand. It is reasonable to suspect that items of vegetation, by reason of their proximity, nature and size, have the capability to affect subsoil moisture below the footings. Questions therefore arise over how such vegetation could be managed in order to reduce subsoil drying near the footings.

### 4.4 Monitoring

If crack monitoring confirms a seasonal pattern of damage with cracks opening in summer and closing in winter, or level monitoring show levels falling in summer and rising in winter, it can be concluded that vegetation is definitely involved in the damage.

## 5 Remedy

### 5.1 Amenity and causal assessment

Certain items are of moderately high public amenity value. These include tree 1, Norway maple, the probable sole cause, within the matrix of fairly shallow footings, a clay subsoil and possibly climatic changes, of damage to the structure.

### 5.2 Pruning

Pruning to trees to reduce subsoil drying near buildings is generally unreliable unless repeated frequently. It is most likely to be effective when there is considerable separation between the affected building and the tree.

*A very regular pruning regime to trees near buildings over an extended time and at close intervals may reduce both the likelihood of damage and limit the scale of damage if it does occur. Norway maples in this part of the country are usually of high vitality, able to regenerate new leaves very quickly and in considerable density and numbers. This means that although transpiration and subsoil drying associated with it will be reduced temporarily by a severe pruning, it will very rapidly recover as new leaves grow, which can in summer be a matter of a very few weeks. Research has demonstrated that a 50% loss of leaf does not reduce the water uptake by as much as 50% as remaining leaves generally transpire greater amounts than previously.*

A single heavy pruning will not succeed in my view in remedying the situation reliably. Sometimes a single pruning may be followed by a period of normal or wet weather, which may allow more credit to be given to the pruning as having effected a 'cure' than is strictly due. 'Hortlink' project 212 'Controlling Water Use of Trees to Alleviate Subsidence Risk' (2004) established that the reduction in water use following heavy pruning of trees is lost after two seasons. However, in this case given the likely very low plasticity of the subsoil, although there cannot be any absolute guarantee that pruning will produce absolute stasis in the building in this case particularly in prolonged dry summer weather, pruning alone, provided the tree is treated regularly, might limit subsoil drying usefully. Rainfall of course is relevant. Regular pruning would be required.

### 5.3 Pollarding

In view of all the above, I consider that maintaining tree 1 on a biennial basis as a pollard at around 6 metres in height is likely to be successful in controlling subsoil drying close to the tree.

## 6 Conclusions

- Prospects for control by vegetation management are good if the vegetation assessed to be involved can be pollarded regularly.
- Further information is needed via crack or level monitoring in order both to confirm causation and to determine the response of the building to any initial tree control measures.

## 7 Tree data and summary of recommendations

### 7.1 Tree data table

Please read the table in conjunction with the plan S1822-J1-P. All dimensions are approximate and are in metres/millimetres.

| Tree number | Tree type       | Height (m) | Stem diameters (mm) | Proximity (m)  | Comments                                                                                                                                                                                                                        |
|-------------|-----------------|------------|---------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1           | Norway maple    | 11         | 405, 328            | 10.5*          | *To house. Reduced to about 6m in height last about eight years ago, hence 2018. Recommend reducing to just above the old pollard points, not less frequently than biennially.                                                  |
| H2          | beech hedge     | 6          | <150*               | <0.5 to garage | *Nominal. Reduce to old reduction points about 2m above ground level as a precaution. The hedge was once maintained at this height apparently regularly but the reduction has been neglected for about five years or more.      |
| H3          | beech hedge     | 6          | <200                | 4.4            | *Nominal. Maintain hedge around the present dimensions if easy. The main aim is to prevent the plants developing into trees in their own right, which they have every capability of doing if not maintained as part of a hedge. |
| 4           | Irish yew       | 4          | 70,70,70, 70,70     | 2.5            | As a species, in my experience (35 years+), has a very low incidence of involvement in vegetation-related subsidence damage cases.                                                                                              |
| 5           | Wisteria        | 3          | 20, 20,20           | 0.2            | Maintain annually at about 3m in height.                                                                                                                                                                                        |
| 6           | domestic apple  | 5          | -                   | -              | Unstable. Badly cankered. Remove including stump.                                                                                                                                                                               |
| S7          | Japanese quince | 1.8        | multi               | 0.2            | Maintain at less 1m in height.                                                                                                                                                                                                  |

*Proximity* is the distance from the specified property or structure.

## 8 Compliance and re-inspection

### 8.1 Tree work standards

Any tree work should be carried out to BS 3998:2010 'Tree work—Recommendations'.

### 8.2 Statutory constraints

The site is within the administrative area of North Hertfordshire District Council.

The site borders the Pirton Conservation Area. T1 may be within it :



*The Conservation Area is shown as pink cross hatching.*

I recommend that a formal notification of intent is given to the local planning authority and the notification period allowed to expire, before carrying out work to any such protected trees.

Please note that Councils may impose TPOs without warning (for obvious reasons).

### 8.3 Re-inspection

All trees growing close to life and property require regular inspection and sometimes maintenance to minimise conflict between the arboreal and human spheres of existence. This should be carried out yearly by a properly qualified arboriculturist, such as a Fellow of the Arboricultural Association.

## 9 Report limitations

### 9.1 Client use

This is a report for the sole use in connection with the above matter only of the client named above and the client's professional advisors. It may be copied and used by the client. Its reproduction or use in whole or in part by anyone else without the written consent of the writer is expressly forbidden. The appended schedule of tree work, and the plan, may, without the written consent of the writer, be reproduced to contractors for the sole purpose of tendering.

### 9.2 Preliminary nature

This report is preliminary in nature in that further investigations may be identified as necessary in order to reach firm conclusions and/or recommendation(s) for action.

### 9.3 Not a full safety survey

This is primarily an arboricultural report. Whilst comments relating to matters involving built structures or subsoil data may appear, any opinion thus expressed should be viewed as qualified, and confirmation from an appropriately qualified professional sought. Such points are usually clearly identified within the body of the report.

This is not a full arboricultural safety survey. This can be supplied but will be subject to a further fee. Where matters of tree condition with a safety implication are noted during an inspection they will of course appear in the report.

### 9.4 Tree management recommendations

It will be appreciated, and deemed to be accepted by the client, that the formulation of recommendations for the management of trees will be guided by:

1. the need to address reasons for damage;
2. the cost-benefit analysis (cost being in terms of amenity), of tree work that would remove all risk of tree related damage; and
3. the arboricultural considerations—safety, good practice and aesthetics.

### 9.5 External sources

The client is also deemed to have accepted the limitations placed upon any recommendations by the sources quoted in section 3 above, and, especially in view of the inherent uncertainties of climate to accept recommendations in respect of indirect damage as formulated to reduce risk rather than as a guarantee of zero risk. Where sources are limited by externally imposed time or cost restraints this will be identified in the report and may lead to an incomplete quantification of risk. No responsibility can be accepted for the consequences in such a case.

### 9.6 Re-inspection timescale

Conclusions and recommendations in respect of trees retained on site are valid for a period of three years from the date of inspection, after which a re-inspection is recommended. This is important if new risks such as from trees growing from wind-sown seeds are to be identified, and risks that may be developing as a result of changes to the site, e.g. trees that start to grow at an increased rate due to alterations in immediate environs. Re-inspect using a properly qualified and experienced arboriculturist, such as a Fellow of the Arboricultural Association, within three years of the date of this report, unless there is cause to consider an earlier re-inspection of that nature prudent, for example if obvious deterioration, gale or other damage has taken place, or fungal fruiting bodies (mushrooms or bracket-type) appear on or close to the tree.

## 10 Bibliography

Biddle, P. G. (1998). *Tree Root Damage to Buildings* (Vol. 1).

Biddle, P. G. (1998). *Tree Root Damage to Buildings: Patterns of Subsoil Drying in Proximity to Trees on Clay Subsoils* (Vol. 2).

Cutler, D. F., & Richardson, I. B. (1989). *Tree Roots and Buildings*.

Gasson, P. E., & Cutler, D. F. (1998). Can We Live With Trees in Our Towns and Cities? *The International Journal of Urban Forestry*, 22(1).

## 11 Signature

Date of completion: 20th April 2026

Signed:

A handwritten signature in black ink, reading "John C. M. Cromar". The signature is fluid and cursive, with a long, sweeping underline that extends to the right.

**John C. M. Cromar, Dip. Arb. (RFS), FArborA**

on behalf of John Cromar's Arboricultural Company Limited.

## 12 Schedule – 2 West Lane, Pirton, Hitchin, SG5 3RA

Please read in conjunction with appended plan

Trees in relation to 2 West Lane, Pirton, Hitchin, SG5 3RA ref: S1822-J1-P

An item apparently outside the curtilage of the property is included (H2). ***As applicable, the consent/acquiescence to and communication of the timing of the recommended remedial works, as far as the relevant owner(s) is / are concerned, should be checked before any such trees are treated.***

| Tree number | Tree type       | Height (m) | Stem diameters (mm) | Proximity (m)  | Comments                                                              |
|-------------|-----------------|------------|---------------------|----------------|-----------------------------------------------------------------------|
| 1           | Norway maple    | 11.0       | 405, 328            | 10.5*          | *To house. Reduce to 6m in height, just above the old pollard points. |
| H2          | beech hedge     | 6.0        | <150*               | <0.5 to garage | *Nominal. Reduce to old reduction points about 2m above ground level  |
| 6           | domestic apple  | 5.0        | -                   | -              | Remove, including stump.                                              |
| S7          | Japanese quince | 1.8        | multi               | 0.2            | Reduce to 1m in height                                                |

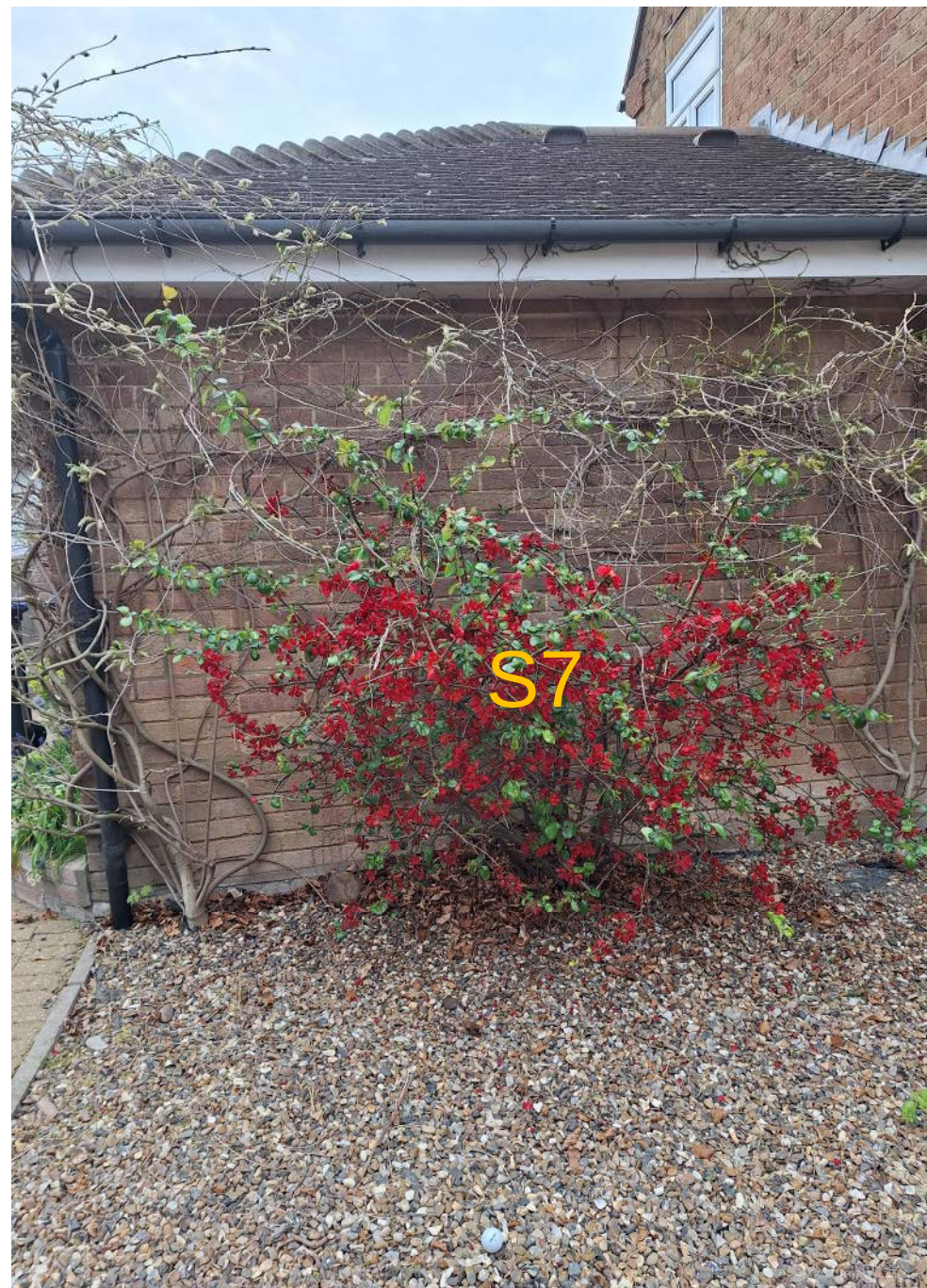
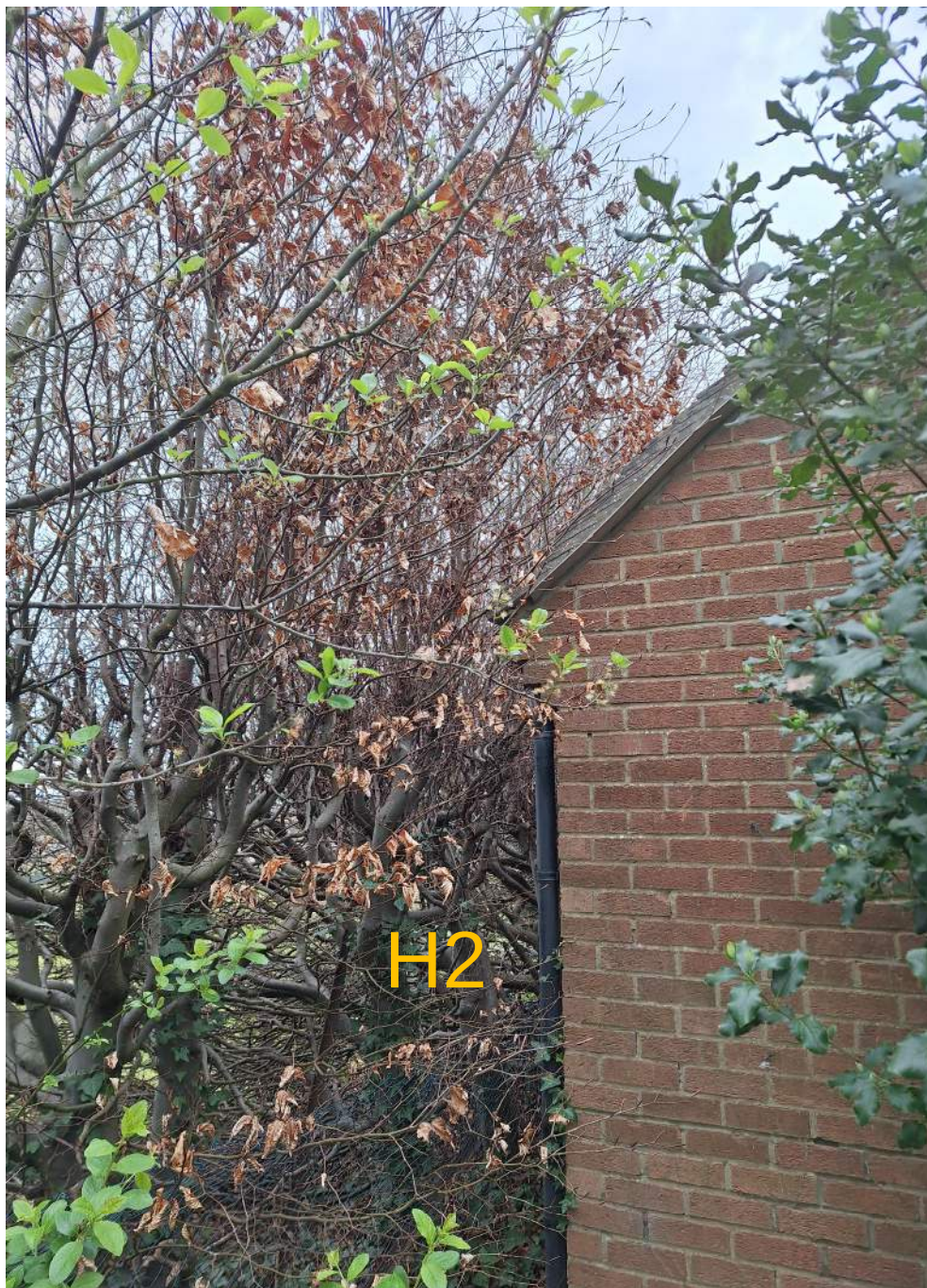
### NOTES:

- All tree work should be carried out to BS 3998:2010 'Tree Work – Recommendations'.
- The Wildlife and Countryside Act 1981 protects (with certain exceptions) all birds and their nests. It is an offence to destroy such nests or take or injure such birds in the course of tree works operations.
- If a tree is a bat-roost, a licence to work on the tree must first be obtained from the relevant Statutory Nature Conservation Organization (in England: Natural England<sup>1</sup>.) Acting without a licence is likely to be justifiable only in acute emergencies threatening human life and where all other legally available options such as footpath diversion, fencing and warning signs cannot be applied. I saw no sign of bat occupation.
- 'Crown cleaning' – an umbrella term now covered by several separate sections in BS3998:2010 – should be understood to mean:
  - removal of foreign objects (section 7.13)
  - removal of ivy to the extent needed to facilitate inspection (section 7.12), typically trimming back (e.g. with a hedge cutter or secateurs) to near the line of the trunk or branches, and/or removing selected stems so that the structure of the tree can be seen sufficiently
  - with respect to dead wood (which can be an important ecological feature): if safe to do so, shortening and retaining, thus preserving some resource for invertebrates, etc. (section 7.3.2)

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<sup>1</sup> Natural England can be contacted on 0300 060 3900. Their website is: <https://www.gov.uk/government/organisations/natural-england>

## 13    Photos





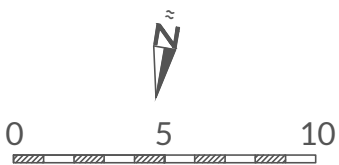
Reduction guide

## 14 Plan

Reference: S1822-J1-P

The site plan illustrates a residential development layout. Key features include:

- Buildings:** A large central building labeled 'G+1' (Ground Floor + 1st Floor). To its left is a smaller building labeled 'G' (Ground Floor). Below the 'G+1' building is a 'G+1 extension'. To the right of the 'G+1' building is a 'double garage'.
- Parking and Driveways:** A parking space labeled 'S5' is located near the 'G' building. A driveway labeled 'S7' connects the 'G' building to the 'double garage'. A parking space labeled '4' is located near the 'double garage'. A parking space labeled '6' is located near the 'G+1' building.
- Landscaping and Greenery:** A 'wild cherry' tree is located near the 'double garage'. A 'hazel' bush is located near the 'G+1 extension'. A 'silver birch' tree is located near the bottom right corner.
- Other Features:** A 'H3' (Hedge) is located on the left side. A 'H2' (Hedge) is located on the right side. A '1' (Path) is located near the top center.



**Trees in relation to 2 West Lane, SG5 3RA**  
**S1822-J1-P v1**



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