ARBORICULTURAL ASSESSMENT

11 Knowle Green Cottage
Clitheroe

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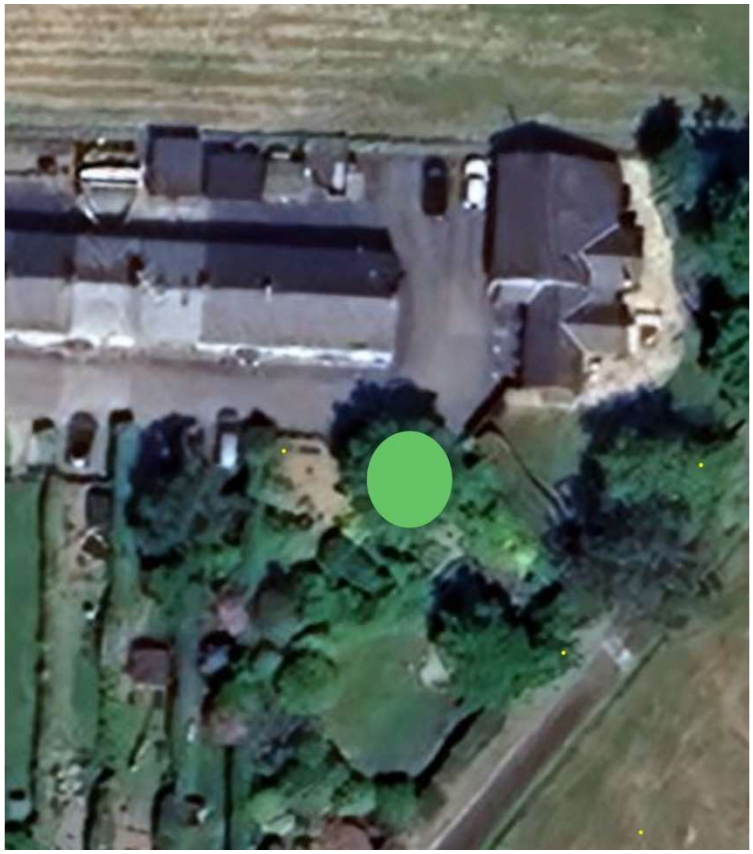
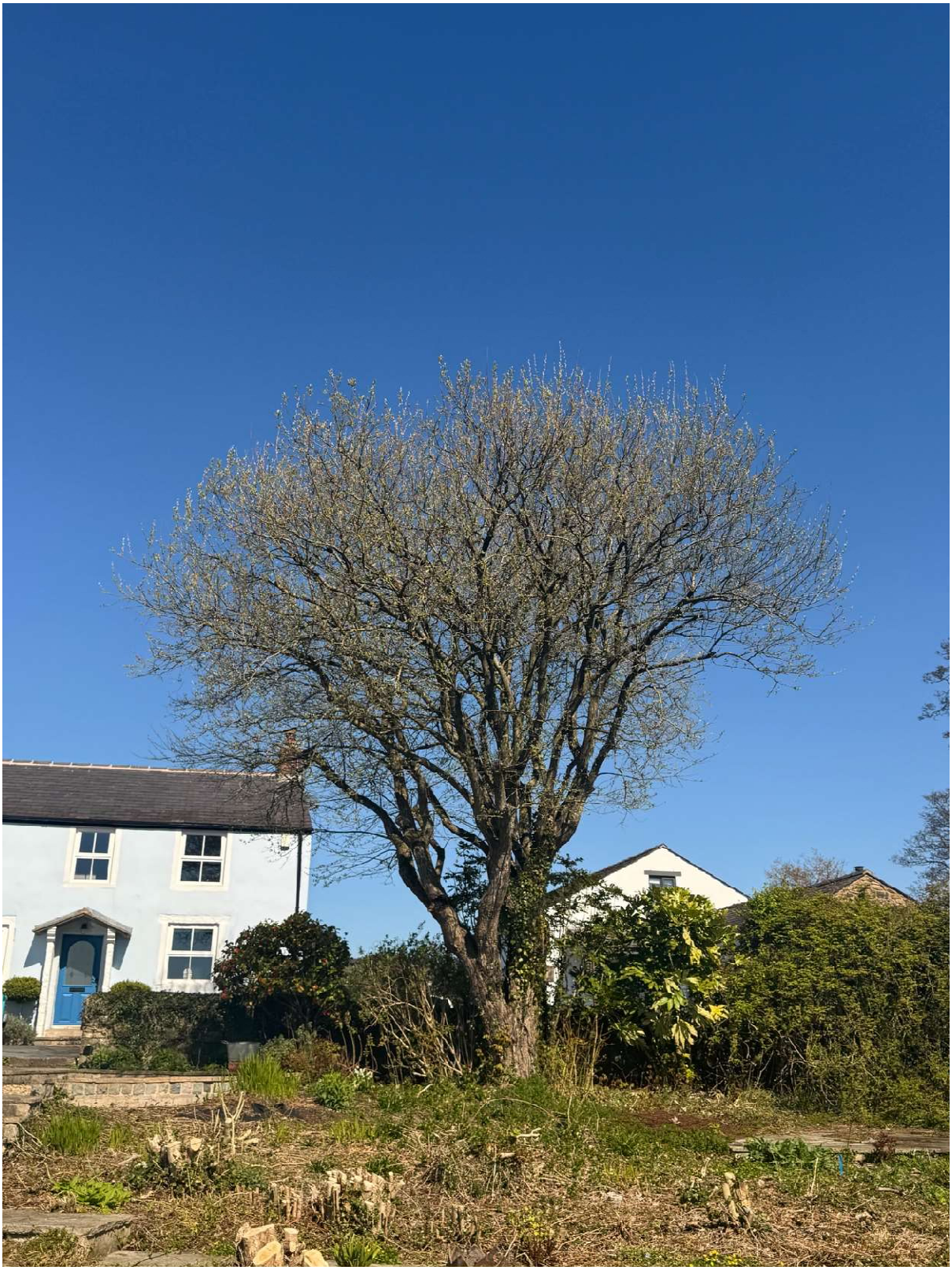
1. Introduction

This report presents the findings of a comprehensive arboricultural inspection and site-specific impact assessment relating to a Goat Willow (*Salix caprea*) located within the curtilage of 11 New Row Cottage, Knowle Green, Clitheroe, Lancashire. The assessment was undertaken following a formal request from the property owner in response to escalating concerns regarding the tree's influence on adjacent infrastructure. These concerns include visible physical damage to hard landscaping features, suspected root intrusion into subterranean utilities, and early indicators of ground movement consistent with subsidence patterns in shrink-swell clay soils.
The inspection was carried out in accordance with industry best practices, including guidance outlined in **BS 5837:2012** (Trees in Relation to Design, Demolition and Construction), **BS 3998:2010** (Tree Work – Recommendations), and contemporary arboricultural risk assessment methodologies. Visual and non-invasive techniques were employed to evaluate the tree's structural integrity, root behavior, physiological condition, and its proximity to vulnerable site features including drainage infrastructure, boundary walls, and property foundations.
The primary aim of this assessment is to determine the extent of the tree's current and potential impact on the built environment, to evaluate associated risks to safety and infrastructure, and to provide informed recommendations regarding future management or removal. This report is intended to support decision-making for both remedial works and long-term site planning, and may be submitted to local planning authorities, insurers, or engineering consultants as required.

2. Tree Identification

- **Species:** Goat Willow (*Salix caprea*)
- **Age Class:** Semi-mature
- **Approximate Height:** 5 metres
- **Stem Diameter (at 1.5m):** ~85cm
- **Crown Spread:** Approx. 4–5 metres radius
- **Previous Management:** The tree has been historically pollarded at approx. 1.8m above ground level, resulting in dense vertical regrowth. This prior intervention has influenced the current structural and physiological characteristics of the tree.





3. Visual Tree Assessment (VTA)

Conducted from ground level following the principles outlined in BS 3998:2010 and using the Visual Tree Assessment methodology.

Health Indicators:

- **Foliage:** Leaf emergence is timely with no signs of chlorosis or pest infestation.
- **Crown Vigour:** The tree exhibits vigorous regrowth from the pollard heads, typical of *Salix* species.
- **Pest & Disease:** No observable fungal fruiting bodies, lesions, or insect activity were noted.

Structural Indicators:

- **Crown Form:** Multiple upright stems with tight unions and included bark—a structural fault increasing risk of vertical stem failure.

- **Woundwood:** Some evidence of historic branch loss and occluded wounds, indicating mechanical stress over time.

- **Base & Root Flare:** Pronounced buttress roots extend toward adjacent built features.

4. Invasive Root System Assessment

Following exploratory works and contractor collaboration, the following issues were identified:

- **Root Intrusion into Drainage:** Structural roots have entered and contributed to the collapse of a waste pipe, causing repeated blockages and water flow restrictions.
- **Boundary Wall Damage:** Roots have displaced the masonry boundary wall, resulting in cracks and deformation.
- **Surface Damage:** Pavement and tarmac surfaces near the tree show uplift and cracking consistent with root expansion.
- **Soil Movement:** Evidence of shrink-swell soil activity, likely linked to excessive moisture extraction by the tree's root system.

These findings confirm direct and active interference with infrastructure, causing both cosmetic and structural damage.

5. Arboricultural Risk & Impact Analysis

Risk Factors Identified:

- **Infrastructure Damage (Active):** Including pipe intrusion, boundary wall displacement, and footpath deformation.
- **Structural Tree Concerns:** Included bark at stem unions increases likelihood of sudden failure in storm events.
- **Public Hazard Potential:** Root-related ground shifts are creating potential tripping hazards.
- **Insufficient Mitigation Options:** The extent of root spread and damage rules out remedial pruning or root barriers as feasible solutions.
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Overall Risk Rating: Moderate to High
Due to its current condition and location, the tree poses a persistent and escalating threat to site stability and public safety.

6. Recommendations

Tree Removal (Urgent):

Fell the Goat Willow to ground level. Removal should be completed by trained arborists using safe and approved methods. A traffic management plan may be necessary depending on proximity to road or pedestrian access.

Stump and Root Treatment:

- Apply systemic herbicide to prevent regrowth.
- Optionally grind the stump to a depth of 300mm+ to allow safe reinstatement of surfaces.

Post-Removal Infrastructure Works:

- Repair or replace the compromised drainage system using root-proof materials.
- Rebuild the boundary wall with reinforced foundations if replanting is anticipated.
- Re-surface affected pavements and ensure underlying soil is re-compacted and stabilised.

Site Monitoring & Replanting Advice:

- Monitor the site for at least 6–12 months for further settlement.
- If replanting is desired, choose non-invasive species and plant at least 5–7m from built structures.

7. Conclusion

This report concludes that the Goat Willow (*Salix caprea*) situated at the above-mentioned site presents a continuing and escalating risk to surrounding infrastructure and public safety. The tree's aggressively spreading root system has already demonstrated the capacity to cause tangible structural damage — including intrusion into drainage systems, displacement of hard landscaping surfaces, and deformation of boundary walls. Its close proximity to buildings, utility services, and pedestrian pathways significantly amplifies the potential for further costly deterioration and liability.

In light of these findings, the complete removal of the tree is **strongly recommended** as a matter of priority. This action is necessary to eliminate the risks associated with root-related damage, unstable regrowth from prior pollarding, and potential trip hazards caused by root uplift. Delay in removal could lead to further deterioration of built structures and an increase in remediation costs over time.

Following removal, **comprehensive site remediation** will be essential. This includes the safe extraction or grinding of the stump, treatment of any remaining root material to prevent regrowth, and the repair or replacement of compromised infrastructure — such as drains, walls, and surfacing. Appropriate backfilling, ground re-levelling, and future planting considerations should be incorporated into the restoration plan to return the site to a safe, stable, and functional condition.