Arboricultural Impact Assessment

BS5837:2012 — Trees in relation to design, demolition and construction

Document Control

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Prepared by	Carl Riva MArborA — Director and Arboricultural Consultant
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Site Summary

Client	Wittington Investment (Properties) Limited
Site Address	1 Balloon Street, Manchester
OS Grid Reference	SJ 84140 98833
Local Planning Authority	Manchester City Council
Trees Within Scope	One — T001, Tree of Heaven (Ailanthus altissima)
Recommended Action	Retention of T001 subject to the mitigation specified within this report and a supporting Arboricultural Method Statement

1. Introduction

1.1 Terms of Instruction

1.1.1 Urban Tree Management has been instructed to prepare an Arboricultural Impact Assessment (AIA) in support of proposed works to the ground-level plant compound at 1 Balloon Street, Manchester. The works comprise the demolition of existing boundary railings, the installation of a new galvanised steel frame and associated mechanical plant, the installation of a new decorative perforated metal screen, and the formation of new reinforced concrete pad bases and screen-post foundations.

1.1.2 This report has been prepared in accordance with BS5837:2012 — Trees in relation to design, demolition and construction — Recommendations. It records the tree resource within the influencing distance of the proposed works, assesses the impacts of the proposals on that resource, and specifies the mitigation required to enable the existing tree to be retained throughout and beyond the construction period.

1.1.3 The site visit and field survey were undertaken on 14 May 2026 by Carl Riva MArborA, Director and Arboricultural Consultant at Urban Tree Management.

1.2 Scope of the Report

1.2.1 This report comprises:

- A site description recording the physical context of the application site and the surrounding townscape;
- A summary of the tree survey carried out within the influencing distance of the proposed works, in accordance with BS5837:2012 Section 4;
- An assessment of the direct and indirect impacts of the proposals on the surveyed tree, including a derivation of the modified Root Protection Area;
- Specification of the tree protection and arboricultural supervision measures required, including the use of temporary ground protection where hard landscaping is removed for the installation of services;
- Conclusions and recommended planning conditions.

1.2.2 A Tree Constraints Plan (TCP) and a Tree Protection Plan (TPP) are issued under separate cover and form an integral part of this report. The TCP records the modified Root Protection Area against the proposed development; the TPP records the position of trunk protection, functional RPA demarcation barriers, the limit of the Construction Exclusion Zone, and any areas of temporary ground protection.

1.2.3 A separate Arboricultural Method Statement (AMS) accompanies this report. The AMS sets out the sequencing, supervision protocols and method-specific safeguards for the works identified at Section 4 of this report.

1.3 Reference Documents

1.3.1 The following documents have been considered in the preparation of this report:

- Architectural and structural plans for the ground-level plant compound at 1 Balloon Street, issued by the design team;
- BS5837:2012 — Trees in relation to design, demolition and construction;
- BS3998:2010 — Tree work — Recommendations;
- National Planning Policy Framework (December 2023), Paragraph 136 / 180 (as relevant);

- NJUG Volume 4 (2007) — Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees;
- Manchester City Council Local Plan policies relating to trees, biodiversity and green infrastructure.

2. Site Description

2.1 Site Address and Setting

2.1.1 The application site is located at 1 Balloon Street within Manchester city centre, at approximate Ordnance Survey grid reference SJ 84140 98833. The Local Planning Authority is Manchester City Council. The site forms part of a high-density commercial quarter and the specific application area comprises the existing ground-level plant compound to the curtilage of 1 Balloon Street, adjacent to Balloon Street itself and immediately abutting a fire escape associated with the Printworks complex.

2.2 Description of the Application Site

2.2.1 The plant compound occupies a small rectangular footprint bounded on one elevation by an existing brick retaining wall (which separates the compound from the surveyed tree), and on the remaining elevations by metal railings which are to be removed under the proposed works. The compound is at street level, on hardstanding of mixed asphalt and concrete construction, and is currently in active operational use serving the wider building.

2.2.2 The surrounding townscape is wholly urbanised, comprising multi-storey commercial buildings, paved public realm, and the carriageway and footway of Balloon Street.

2.3 Existing Trees

2.3.1 The tree survey has been carried out in accordance with BS5837:2012 Section 4. One tree falls within the influencing distance of the proposed works. The tree is recorded in the survey schedule appended to this report and is summarised below.

2.3.2 T001 is a mature Tree of Heaven (*Ailanthus altissima*) located at the northeast corner of the application boundary, immediately adjacent to the existing brick retaining wall enclosing the plant compound. The tree has a recorded stem diameter of 650mm at 1.5m above ground level, an estimated height of 15m, and a crown spread of 7m (N), 4.5m (E), 5m (S) and 6.5m (W). The first significant branch is recorded at approximately 4m above ground level on the eastern (development-facing) bearing.

2.3.3 Recorded defects include bark wounds, areas of exposed heartwood, and a leaning stem with associated lifting of adjacent hard landscaping at the rooting plate interface on the public-facing side of the retaining wall. Crown, stem and basal condition were each assessed as Fair to Good. Physiological condition was assessed as Fair. No visible surface roots or significant structural roots were observed on the development-side interface, and no evidence of major root encroachment, level change attributable to root activity, or root-related structural impact was identified within the proposed footprint.

2.3.4 On the basis of the above, T001 has been assigned BS5837:2012 Category B (subcategory 2 — Landscape Values), with a remaining contribution and life expectancy in the order of 20 to 40 years.

2.4 Landscape Character and Amenity Contribution

2.4.1 Although the tree is a non-native species with known invasive characteristics elsewhere, in this city-centre context it forms a singular and visually prominent specimen within an otherwise wholly hard-paved streetscape. The crown is visible from the public footway along Balloon Street and contributes to the green-infrastructure presence of the immediate area. The tree therefore makes a meaningful, if modest, contribution to the local townscape and to the policy aspiration for tree retention and canopy cover within Manchester city centre.

3. Survey Findings

3.1 Survey Methodology

3.1.1 The survey has been undertaken from ground level by Visual Tree Assessment (VTA) in accordance with BS5837:2012 Section 4 and following the principles of Mattheck and Breloer. The tree was inspected visually for biomechanical and physiological indicators. No internal decay-detection instrumentation was deployed; the recorded condition reflects external visual indicators only at the date of survey.

3.1.2 Tree position was recorded by handheld GPS at Easting 384140.04, Northing 398833.48. The position shown on the accompanying Tree Constraints Plan should be regarded as indicative; if a precise position is required for engineering coordination, a measured topographical fix should be obtained.

3.2 Root Protection Area — Theoretical Calculation

3.2.1 The Root Protection Area for T001 has been calculated in the first instance in accordance with BS5837:2012 paragraph 4.6:

- Stem diameter at 1.5m: 650mm;
- RPA radius (theoretical, circular): 7.80m;
- RPA area (theoretical, circular): 191m².

3.2.2 This theoretical RPA represents the minimum protected area that BS5837:2012 deems necessary to retain sufficient roots and rooting volume to maintain the long-term viability of a tree of this stem diameter, were it growing in unconstrained ground. It is the starting point for the assessment, not its conclusion.

3.3 Site Constraints to Root Development

3.3.1 T001 is not growing in unconstrained ground. The tree is located in a city-centre, fully urbanised context within which the available rooting volume has been demonstrably and substantially restricted by pre-existing built infrastructure. The site constraints affecting the rooting environment are set out below.

3.3.2 Physical barriers to root development:

- An existing brick retaining wall approximately 235mm thick, founded on a continuous concrete strip base, lies immediately between T001 and the application area. The combination of brick wall and concrete foundation forms a continuous vertical barrier that extends below the typical depth of structural rooting in urban soils;
- The principal building foundations of 1 Balloon Street, immediately adjacent to the tree, are the reinforced concrete substructure of the multi-storey building and present a further continuous vertical barrier to root extension;

- An adjacent Printworks fire-escape structure, founded in concrete, restricts the rooting envelope on a further bearing of the tree;
- The Balloon Street kerb line and carriageway sub-base bound the rooting zone on the public side. The carriageway sub-base is heavily compacted and not credibly available for root extension;
- Above the rooting zone on the public-accessible side of the wall, the existing hardstanding (bound asphalt and concrete laid over a compacted granular sub-base) has been in place for sufficient time that it caps the soil profile and acts, in functional terms, as a longstanding no-dig protective layer over the only zone in which rooting has been possible.

3.3.3 Visual evidence consistent with constrained, asymmetric rooting:

- Recorded lifting of hard landscaping on the public-facing side of the retaining wall, at the rooting plate interface, is consistent with concentrated structural root activity in that direction — i.e. roots extending preferentially toward the only direction in which extension is physically possible;
- No visible surface roots or significant structural roots were observed on the development-side interface of the retaining wall, consistent with the absence of root development in that direction;
- No evidence of major root encroachment, root-related level change, or root-related structural impact was identified within the proposed application footprint.

3.3.4 Inference as to functional rooting morphology:

- The tree has, in all probability, developed an asymmetric rooting plate dictated by the constraints above. Root extension toward the application area is precluded by the retaining wall and its concrete base; root extension toward the building is precluded by the building foundations; root extension toward the adjacent fire-escape structure is precluded by that foundation; and root extension on the public side is bounded by the Balloon Street kerb and carriageway sub-base;
- It follows that the tree's available rooting volume is concentrated beneath the existing hardstanding on the public side of the retaining wall, in the corridor of ground bounded by the wall, the fire-escape footing, the building, and the kerb line;
- In standard BS5837 terms, the rooting morphology of T001 is best described as "contained and asymmetric": physically caged by the built infrastructure of the site and unable to develop the broadly circular distribution that the theoretical RPA formula assumes.

3.4 Root Protection Area — Modified (Functional)

3.4.1 In accordance with BS5837:2012 paragraph 4.6.2, the theoretical 191m² circular RPA has been modified by offset to reflect the demonstrable physical constraints to root morphology identified at Section 3.3 above. The modified RPA is referred to in this report as the "functional RPA" — that is, the area which best represents the rooting volume actually available to T001 on this site.

3.4.2 The functional RPA has been plotted on the Tree Constraints Plan as a polygon containing the full equivalent area (191m²) located entirely on the public side of the brick retaining wall, beneath the existing hardstanding which surrounds the tree on that elevation. The hardstanding (bound asphalt and concrete laid over a compacted granular sub-base) caps the rooting zone and bounds it to the south at the Balloon Street kerb line, which is treated as the terminal boundary for root extension on that bearing. The compound side of the wall receives no functional RPA allocation, on the basis that the wall and its concrete strip foundation form a continuous vertical barrier through which roots have not credibly developed. The wall is, in effect, treated as a hard cut: the theoretical circular RPA is divided at the wall line and the area which would otherwise have fallen on the compound side is redistributed beneath the

hardstanding on the public side, where rooting has demonstrably been forced to occur. This approach is consistent with BS5837:2012 paragraph 4.6.2 and reflects the evidence-based inference that the available rooting volume has been wholly concentrated in the only zone where extension was physically possible — beneath the existing hard surfacing on the publicly-accessible side of the tree.

3.4.3 It is acknowledged that the precise extent of the functional RPA cannot be determined with certainty from a non-intrusive ground-based survey alone. The rooting volume available to T001 has been "tightly contained" by the surrounding built infrastructure, and an exact square-metre quantification of available rooting medium would require intrusive investigation (such as Air-Spade root mapping) which is not justified in the context of these proposals. The functional RPA as plotted is therefore an evidence-led best representation, applied precautionarily.

3.4.4 Two further points are necessary to record:

- Whilst the functional RPA has been plotted entirely on the public side of the wall on the basis of the constraint analysis above, the methodology specified at Section 4 of this report nevertheless applies a precautionary hand-dig protocol within the proposed excavation footprints on the compound side. This precaution addresses the residual (but low) possibility that individual roots may have bypassed the wall through construction joints, service penetrations, or beneath the foundation, and ensures that any such root encountered will be identified, supervised and managed without mechanical damage;
- Because of the demonstrable physical barriers identified at Section 3.3, the probability of significant structural root presence within the proposed excavation footprints is materially lower than would be the case for an unconstrained tree of equivalent stem diameter. The precautionary measures specified in this report therefore protect the tree against the residual possibility of root encounter, without applying disproportionate restriction to a development which, on the balance of evidence, is unlikely to encounter significant rooting.

3.4.5 It is on the combined basis of the theoretical RPA calculation (Section 3.2), the site-constraint analysis (Section 3.3) and the functional RPA derivation (Section 3.4) that the mitigation measures at Sections 4.4 to 4.7 of this report are specified — namely continuous arboricultural supervision, hand-excavation only, and the use of a non-permeable membrane against contamination of the rooting zone.

3.5 Tree Schedule Summary

Tree Reference	T001
Species	Tree of Heaven (Ailanthus altissima)
Maturity	Mature
Stem Diameter at 1.5m	650mm
Height	15m
Crown Spread (N / E / S / W)	7.0m / 4.5m / 5.0m / 6.5m
First Significant Branch	East, approximately 4m above ground level
Physiological Condition	Fair
Structural Condition (Crown / Stem / Basal)	Fair / Good / Good

BS5837 Category	B2 — Landscape Values
Life Expectancy	20 to 40 years
RPA Radius (theoretical, circular)	7.80m
RPA Area (theoretical, circular)	191m²
RPA Treatment	Modified / functional — offset polygon (see Sections 3.3 and 3.4)
Recommended Action	Retain with mitigation

4. Arboricultural Impact Assessment

4.1 Summary of the Proposed Works

4.1.1 The proposed works within the application boundary comprise:

- Removal of the existing metal railings and fencing enclosing the plant compound;
- Excavation of a 1.0m × 1.0m trial pit adjacent to the existing fence line to investigate the depth and width of existing foundations;
- Localised break-out of existing brickwork to receive new RC padstones (each 440mm × 215mm × 215mm) and to permit the connection of new steel beams into the existing reinforced concrete wall;
- Installation of a new galvanised steel frame (Grade S355) to form a platform for mechanical equipment;
- Installation of two new chillers, with Chiller 01 sitting on a new metal deck with mesh flooring and Chiller 02 sitting on a new 250mm thick RC concrete slab plinth;
- Installation of new pipework beneath the new decking;
- Installation of new RC concrete pad bases (each 1.0m × 1.6m × 0.4m deep) to support the new plant deck posts, with approximately 0.26m of mass fill from the underside of the new pads to the underside of the existing boundary wall foundation, a minimum of 150mm of well-compacted MOT Type 1 sub-base, and 50mm of GEN 1 concrete blinding;
- Installation of new foundations for the supporting posts of the new decorative perforated metal screen (dimensions to follow the structural engineer's details).

4.2 Identified Impacts on T001

4.2.1 The construction envelope of the new plant frame, chillers, decking and perforated metal screen is confined to the existing compound footprint. The proposed structures lie at or below 3m above ground level on the compound side and do not extend laterally into the recorded crown spread of T001 on the development-facing bearing. No above-ground crown conflict is anticipated, and no crown pruning is required for the development to proceed.

4.2.2 Below ground, the following construction activities encroach into the modified RPA of T001:

- The trial pit (1.0m × 1.0m) adjacent to the existing fence line — investigative excavation only;
- The RC pad-base excavations (each 1.0m × 1.6m × 0.4m deep) for the plant-deck post foundations;

- Screen-post foundations along the line of the existing railings (dimensions per structural engineer's details);
- The 0.26m mass-fill, 150mm MOT Type 1 sub-base and 50mm GEN 1 blinding works beneath new concrete elements;
- Localised break-out of existing brickwork to receive new RC padstones.

4.2.3 The aggregate excavated footprint within the modified (functional) RPA — notionally 2.6m² across the pad bases and trial pit, plus minor screen-post foundations — equates to approximately 1.4% of the theoretical 191m² circular RPA. Against the functional RPA, the works occupy a higher proportion of the development-facing edge; however, the works are concentrated on the side of established structural barriers (the brick retaining wall and concrete foundation, the building substructure, and the fire-escape footing) where, on the basis of the constraint analysis at Section 3.3, the probability of significant structural root presence is materially lower than would be the case in unconstrained ground. Direct root severance, if any, is anticipated to be limited.

4.2.4 On this basis the impact is assessed as Low magnitude on a Category B tree, giving an overall significance of Minor, subject to the mitigation specified at Sections 4.4 and 4.5.

4.3 Removals and Retentions

4.3.1 No trees are proposed for removal. T001 is to be retained, with mitigation, throughout and beyond the construction period. Compensatory planting is therefore not required.

Table 4.1 — Removals and Retentions Schedule

Tree Reference	T001
Species	Tree of Heaven (Ailanthus altissima)
BS5837 Category	B2
Action	Retain
Reason	No conflict with development footprint; works within the modified RPA accommodated through mitigation specified at Sections 4.4 and 4.5
Residual Impact Significance	Minor

4.4 Direct RPA Impacts and Mitigation

4.4.1 The direct impacts identified at Section 4.2.2 above shall be mitigated by the following measures, which form planning-condition-grade requirements and are to be specified in full in the supporting Arboricultural Method Statement:

4.4.2 All excavation within the modified RPA shall be carried out by hand under the direct supervision of the project arboriculturalist. Mechanical excavation within the modified RPA is not permitted.

4.4.3 Where roots of 25mm diameter or greater are encountered, works shall pause and the project arboriculturalist shall determine whether the root can be retained (by bridging or rerouting) or whether severance is unavoidable. Where severance is unavoidable it shall be made with sharp, clean tools to leave a clean wound, in accordance with BS3998:2010.

4.4.4 All open excavations within the modified RPA shall be lined with a non-permeable membrane prior to the placement of the 50mm GEN 1 concrete blinding and any subsequent concrete element, to prevent the leaching of wet concrete, cement washings or other contaminants into the soil profile.

4.4.5 Excavations shall not be left open for more than 24 hours and shall be protected from precipitation; standing water shall not be permitted to accumulate within open excavations. This mirrors the structural engineer's note and is endorsed on arboricultural grounds to prevent root desiccation, ingress of frost, and degradation of soil structure.

4.4.6 Underpinning is not permitted (consistent with the structural engineer's note); this position is endorsed on arboricultural grounds.

4.5 Temporary Ground Protection and Services Installation

4.5.1 Where it is necessary to remove any existing hard landscaping within the modified RPA — for example to install or reroute services beneath the plant compound or to provide working access — temporary ground protection shall be installed across the affected area for the duration of the works. The intent is to maintain the load-bearing capacity of the ground, prevent compaction of the underlying soil profile, and provide a stable working platform without further excavation.

4.5.2 Temporary ground protection shall comprise a proprietary system of interlocking heavy-duty load-spreading boards or mats (such as steel ground-protection plates or equivalent timber bog-mat / composite trackway), laid over a geotextile separation layer. The system shall be specified by the project arboriculturalist and approved prior to installation. The protection shall be installed before any plant or material movement across the affected area and shall not be lifted until all such activity has ceased.

4.5.3 Where new services (electrical supplies, refrigerant pipework, condensate drainage, communications or any other utility) are to be installed within the modified RPA, the installation shall follow the principles of NJUG Volume 4 (2007) — Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees — and BS5837:2012 paragraph 7.7 and Annex E. The following requirements shall apply:

- Service routes shall be planned to avoid the modified RPA wherever reasonably practicable, and the proposed alignment shall be agreed with the project arboriculturalist before excavation commences;
- Where avoidance is not reasonably practicable, services within the modified RPA shall be installed by trenchless techniques (such as directional drilling or pipe-jacking) at a depth sufficient to pass beneath any structural roots;
- Where a trenched method is unavoidable, the trench shall be excavated by hand under direct arboricultural supervision, with the protection-of-roots measures set out at Sections 4.4.2 and 4.4.3 of this report applied throughout;
- No service shall be installed at a depth shallower than 600mm where it crosses the modified RPA, unless otherwise agreed with the project arboriculturalist;
- Backfill shall be granular and free of contaminants; concrete bedding shall not be used within the modified RPA;
- Once the service is installed, the original ground level shall be reinstated without imposing additional loading on the soil profile, and any hard landscaping that was removed for access shall be replaced on a like-for-like basis or with a no-dig porous surfacing system specified by the project arboriculturalist.

4.5.4 For the avoidance of doubt: removal of existing hard landscaping within the modified RPA shall not be carried out without prior notice to and approval from the project arboriculturalist, and any such area shall be subject to the temporary ground protection requirements at Sections 4.5.1 and 4.5.2 above until reinstatement is complete.

4.6 Above-Ground Constraints

4.6.1 As recorded at Section 4.2.1, the proposed structures do not extend laterally into the recorded crown spread of T001 on the development-facing bearing and no crown pruning is required for the development to proceed. Should incidental clearance be required during the installation of the perforated metal screen, the new plant frame or temporary scaffold, any pruning shall be limited to selective tip-reduction of minor branches no greater than 25mm in diameter, carried out in accordance with BS3998:2010 and specified by the project arboriculturalist in advance of execution.

4.6.2 Notwithstanding the absence of any static conflict between the proposed structures and the crown of T001, the works will require the lifting of mechanical plant, chillers, steel beams, screen panels and related components into the compound. These operations introduce a dynamic above-ground risk to the canopy that is distinct from the static built form. A Canopy Protection Zone has accordingly been defined and is plotted on the Tree Protection Plan.

4.6.3 The Canopy Protection Zone comprises the recorded crown spread of T001 (N 7.0m / E 4.5m / S 5.0m / W 6.5m) plus a 1m clearance buffer in all directions, in accordance with BS5837:2012 paragraph 6.3. The following requirements apply within the Canopy Protection Zone:

- No overhead lifting operation — crane slew, telehandler boom traverse, or hoist line — shall pass through the envelope of the Canopy Protection Zone;
- No scaffold tube, transom, mobile elevating work platform, or temporary working platform shall project into the Canopy Protection Zone;
- No materials shall be stored at height within the footprint of the Canopy Protection Zone;
- The Principal Contractor’s lifting plan shall identify crane / telehandler position and slew arc, and shall demonstrate that the load path and recovery position do not breach the Canopy Protection Zone. The lifting plan shall be issued to the project arboriculturalist for review prior to any lift commencing;
- Where a lift cannot be planned to avoid the Canopy Protection Zone, a canopy management method statement shall be prepared in advance, specifying pre-lift crown inspection, selective tip-reduction of overhanging branches no greater than 25mm diameter (in accordance with BS3998:2010), banksman supervision of every lift, and padded sheaths on any branches likely to be brushed during the lift.

4.7 Tree Protection Specification

4.7.1 Pre-construction:

- The Tree Protection Plan (TPP) shall be issued and agreed with the LPA, showing the position of the modified (functional) RPA, all trunk protection, the limit of the Construction Exclusion Zone (CEZ), and any areas of temporary ground protection;
- In light of the constrained nature of the site and the operational requirement to maintain working access throughout the plant compound, Heras-type perimeter fencing of the full Construction Exclusion Zone is not practicable as it would unduly restrict site usage. In accordance with BS5837:2012 paragraph 6.2.2.3, trunk and ground protection has therefore been specified as the primary protective measure for T001;
- Trunk protection shall comprise a padded layer of hessian or breathable membrane wrapped around the full circumference of the stem to a minimum height of 2.0m above ground level, with vertical timber battens (minimum 50mm × 100mm section) bound around the padding using galvanised wire or non-corrosive strapping. The battens shall be spaced at no greater than 150mm centres around the circumference. No fixings of any kind shall penetrate the bark;

- Trunk protection shall be inspected weekly and after any incident of plant or material movement adjacent to the tree, with any displacement, slippage or damage rectified before further works proceed;
- Where the existing brick retaining wall provides a continuous hard separation between T001 and the works (along the eastern elevation of the compound), the wall stands as the protective boundary on that elevation;
- Where any segment of the functional RPA on the public-facing side of the retaining wall is at risk of incursion by site traffic, materials or operatives — for example during delivery, unloading or scaffold erection — temporary ground protection (per Section 4.5) shall be installed and the protected area demarcated by lightweight scaffold-tube barrier or equivalent at the limit of the functional RPA;
- "Tree Protection — Do Not Damage" signage shall be installed on the trunk protection itself and at any point where site personnel enter the vicinity of T001. Signage shall be in durable A4 format and shall not be fixed to the tree;
- All site operatives shall be briefed on tree-protection requirements at induction. The project arboriculturalist shall be named in the construction phase plan, and shall undertake a pre-commencement inspection to confirm trunk protection is correctly installed before any other works commence.

4.7.2 During construction:

- Trunk protection shall remain in place and intact throughout the construction period and shall be inspected weekly by the Site Manager;
- All excavations within the functional RPA shall be hand-dug under arboricultural supervision (Section 4.4.2);
- A non-permeable polythene membrane shall be installed within all excavations prior to placement of the 50mm GEN 1 concrete blinding (Section 4.4.4);
- Temporary ground protection shall be in place across any area within the functional RPA from which hard landscaping has been removed for working access or services installation (Section 4.5);
- No storage of materials, fuels, oils, chemicals, soil, spoil or temporary buildings shall be permitted within the functional RPA, irrespective of the absence of perimeter fencing;
- No site fires, no washing-out of concrete plant, and no mixing of materials within or adjacent to the functional RPA;
- Excavations shall not be left open for more than 24 hours and shall be protected from inclement weather;
- Vehicle and plant movement shall be restricted to existing hard surfaces and shall not approach within the functional RPA other than across approved temporary ground protection.

4.7.3 Post-construction:

- Trunk protection and any temporary ground protection shall be removed only on completion of all works, with authorisation from the project arboriculturalist;
- On removal of trunk protection, the stem shall be inspected for any abrasion, compression bruising or other damage. Any damage shall be recorded and, if material, escalated for further specialist advice;
- A post-construction inspection of T001 shall be undertaken within three months of practical completion and again at 12 months. Findings shall be recorded in writing and supplied to the Client.

5. Planning Policy Compliance

5.1.1 The proposed development has been assessed against the following:

- BS5837:2012 Trees in relation to design, demolition and construction — the design retains T001, applies an evidence-based modification to its Root Protection Area, and specifies mitigation proportionate to the assessed magnitude of impact;
- BS3998:2010 Tree work — Recommendations — referenced in respect of any incidental pruning required during construction;
- NJUG Volume 4 (2007) — referenced in respect of the installation of services within the modified RPA;
- National Planning Policy Framework — the proposal does not result in the loss of any tree of high amenity value and is consistent with the policy intent that decisions should contribute to and enhance the natural environment;
- Manchester City Council Local Plan policies relating to trees, biodiversity, green infrastructure and the historic environment. No TPO is recorded against the surveyed tree at the time of survey.

5.1.2 Subject to the mitigation specified at Sections 4.4 to 4.7 of this report and the production of a supporting Arboricultural Method Statement, the proposed development is considered capable of compliance with the above policies and standards, with a residual significance of Minor on Tree T001.

6. Conclusions and Recommendations

6.1.1 A single tree (T001, Tree of Heaven, Ailanthus altissima) of BS5837:2012 Category B2 lies within the influencing distance of the proposed works at 1 Balloon Street, Manchester. The tree is separated from the application area by an existing brick retaining wall, which has been treated as a credible barrier to root development on the basis of the visual evidence obtained at the time of survey. The Root Protection Area has been modified by offset to reflect this constraint, in accordance with BS5837:2012 paragraph 4.6.2.

6.1.2 The proposed works are confined to the existing compound footprint and require modest below-ground intervention within the modified Root Protection Area in the form of foundation pads, a trial pit, screen-post foundations and associated sub-base. The impact on T001 has been assessed as Low magnitude / Minor significance, subject to the mitigation specified within this report.

6.1.3 It is recommended that the following be secured by planning condition or equivalent mechanism:

- Hand-dug excavation only within the modified RPA, under arboricultural supervision;
- Installation of a non-permeable membrane within all excavations within the modified RPA prior to placement of concrete;
- Installation of temporary ground protection where any hard landscaping is removed within the modified RPA, until reinstatement is complete;
- Installation of services within the modified RPA in accordance with NJUG Volume 4, by trenchless methods where reasonably practicable, and by hand-dug trench under arboricultural supervision where not;
- Installation of padded trunk protection (BS5837 paragraph 6.2.2.3) and demarcation of the functional RPA by temporary barrier where construction activity approaches, in lieu of Heras perimeter fencing which is not practicable given the constrained nature of the site;
- Submission and discharge of a detailed Arboricultural Method Statement prior to the commencement of works;
- Post-construction inspection of T001 at three months and twelve months following practical completion.

6.1.4 Subject to the above, no objection on arboricultural grounds is raised to the proposed development.

7. Author and Professional Standing

7.1.1 This report has been prepared and authorised by Carl Riva MArborA, Director and Arboricultural Consultant at Urban Tree Management. The author holds professional membership of the Arboricultural Association and undertakes consultancy work in accordance with the Association's Code of Ethics and Standards of Service.

8. Caveats and Limitations

8.1.1 The findings, observations and recommendations made in this report are based on a ground-based visual assessment carried out at the time of the site visit. Whilst all reasonable skill, care and diligence has been applied in accordance with industry best practice and the relevant British Standards, the report does not account for the effects of subsequent extreme weather events, vandalism, accidents, or any other changes to the site or its trees that occur after the date of the survey.

8.1.2 No warranty is given in respect of changes to site conditions or to the tree stock that may take place after the date of the survey. Where site conditions are altered, or where works are undertaken to any tree referenced in this report that fall outside the scope of the recommendations made herein, the comments and observations contained within this report should not be relied upon.

8.1.3 The contents of this report shall be considered valid for a period of 12 months from the date of the survey, or until such time as site conditions change or works are carried out to any tree referenced herein, whichever is the sooner. Any reliance placed on this report beyond that period or following such changes is not the responsibility of Urban Tree Management.

8.1.4 Unless expressly stated otherwise in the relevant caption, all photographs reproduced within this report were taken by the author at the time of the site visit and are intended for illustrative purposes only.

8.1.5 Tree positions shown on plans accompanying this report are indicative only. Where no topographical survey has been provided, tree locations have been recorded using handheld GPS equipment, which is less accurate than a measured topographical survey. No warranty is given as to the absolute accuracy of tree positions plotted on this basis.

8.1.6 This is an arboricultural report. Its scope is limited to the identification and assessment of arboricultural features within the site in accordance with BS5837:2012. It does not constitute, and should not be relied upon as, an ecological assessment, a landscape appraisal, a structural or engineering assessment, a soil investigation, or advice on the suitability of foundations in proximity to trees. Where any of these matters are referenced within this report, comments are general in nature and the reader is advised to obtain professional advice from a suitably qualified specialist.

8.1.7 This report does not constitute a tree risk assessment. Where concerns regarding tree condition or risk are identified, separate detailed inspections should be commissioned using an appropriate methodology (such as QTRA or equivalent).

8.1.8 This report has been prepared for the exclusive use of the named Client and their agents in connection with the project to which it relates. It may not be relied upon by any other party, nor used for any other purpose, without the prior written consent of Urban Tree Management.

8.1.9 Information obtained from third parties (including, but not limited to, local authority mapping, planning portal records, the Woodland Trust Ancient Tree Inventory, MAGIC mapping and Ordnance Survey data) is believed to be accurate at the time of consultation. However, Urban Tree Management accepts no liability for any inaccuracy, omission, or subsequent change in such third-party information.

Appendix 1: Glossary of Terms

The following definitions apply to terms used throughout this report. Definitions are based on BS5837:2012 and standard arboricultural consultancy practice.

Term	Acronym	Definition
Ancient Tree	—	A tree that has passed beyond maturity into its third age and shows aged characteristics in comparison with others of the same species. Often of biological, cultural, or aesthetic significance.
Ancient Woodland	AW	A wooded area that has had continuous tree cover since at least 1600 AD in England and Wales, or 1750 in Scotland.
Arboricultural Impact Assessment	AIA	A formal assessment of the direct and indirect impacts of a proposed development on existing trees, prepared in accordance with BS5837:2012.
Arboricultural Method Statement	AMS	A document setting out the working methods to be applied where development activity has the potential to affect retained trees, including any works within or near Root Protection Areas.
Arboriculturist	—	A person who, through relevant qualifications, training and experience, has gained professional expertise in the cultivation, management and study of trees.
BS5837:2012	—	The current British Standard "Trees in relation to design, demolition and construction — Recommendations" providing guidance on integrating trees into the development process.
Construction Exclusion Zone	CEZ	The area, established by Tree Protection Fencing and based on the Root Protection Area, from which all construction activity is excluded for the duration of works.
Crown	—	The foliage-bearing portion of a tree, formed by its branches and excluding the clear stem or trunk.
Crown Lift	—	The selective removal of the lowest branches of a tree to provide vertical clearance beneath the crown, often expressed as a height above ground level.
Crown Reduction	—	A pruning operation that reduces the overall height and/or spread of a tree's crown by shortening branches back to suitable growth points, while retaining the main framework.
Dead Wood	—	Non-living branches or stems within a tree, occurring as a result of natural ageing, shading, or external influences. Retention of dead wood is often beneficial for biodiversity where safe to do so.
Fungi	—	Multicellular organisms that grow within dead organic matter or living organisms. Wood-decay fungi are specialised forms that have co-evolved with woody plants and are an important consideration in tree assessment.
Included Bark	—	Bark that becomes trapped between two adjacent parts of a tree, typically at a tight fork or branch union. Creates a structural weakness because the parts are not bound together by woody tissue.
Local Planning Authority	LPA	The local government body responsible for determining planning applications and discharging planning conditions in a given area.
Occlusion	—	The progressive closure of a wound on a woody plant by the formation of new wood and bark around it.
Quantified Tree Risk Assessment	QTRA	A method for the systematic, quantified assessment of the risk of harm posed by trees, expressed as a probability of significant harm in a given timeframe.

Term	Acronym	Definition
Root Protection Area	RPA	The minimum area around a tree, calculated in accordance with BS5837:2012, deemed to contain sufficient roots and rooting volume to maintain the tree's viability. Treated as a priority for protection during development.
Stem	—	The principal woody trunk of a tree, or one of several such trunks of similar size and status.
Subsidence	—	In relation to soil or structures: a downward movement of the ground, sometimes associated with the extraction of moisture from shrinkable clay soils by tree roots. In relation to branches: a progressive downward bending due to increasing weight.
Tree	—	For the purposes of BS5837:2012, a woody plant which typically has a single stem and which, at maturity, attains a height of at least 4 metres and a stem diameter at 1.5m above ground level of at least 75mm.
Tree Constraints Plan	TCP	A plan illustrating the above- and below-ground constraints presented by trees on or adjacent to a site, used to inform the design of a proposed development.
Tree Preservation Order	TPO	A written order made by a local planning authority that protects specific trees, groups, areas or woodlands from being cut down, topped, lopped, uprooted, wilfully damaged or wilfully destroyed without the authority's written consent.
Tree Protection Fencing	TPF	Robust fencing erected at the limit of the Root Protection Area to enclose the Construction Exclusion Zone and physically protect retained trees during demolition and construction.
Tree Retention and Removal Plan	TRRP	A plan illustrating which trees are to be retained, which are to be removed, and where tree protection measures are to be installed during development.
Veteran Tree	—	A tree which exhibits features of biological, cultural or aesthetic value characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species.
Visual Tree Assessment	VTA	A method for the assessment of tree condition through the visual identification of body-language indicators of mechanical and physiological stress, developed by Mattheck and Breloer.
Vitality	—	In tree assessment, an overall appraisal of physiological function. High vitality is associated with healthy growth, full foliage, and resilience to environmental stresses.
Vigour	—	The rate of shoot extension, leaf production, or diameter increment in a tree, used as one indicator of overall vitality.

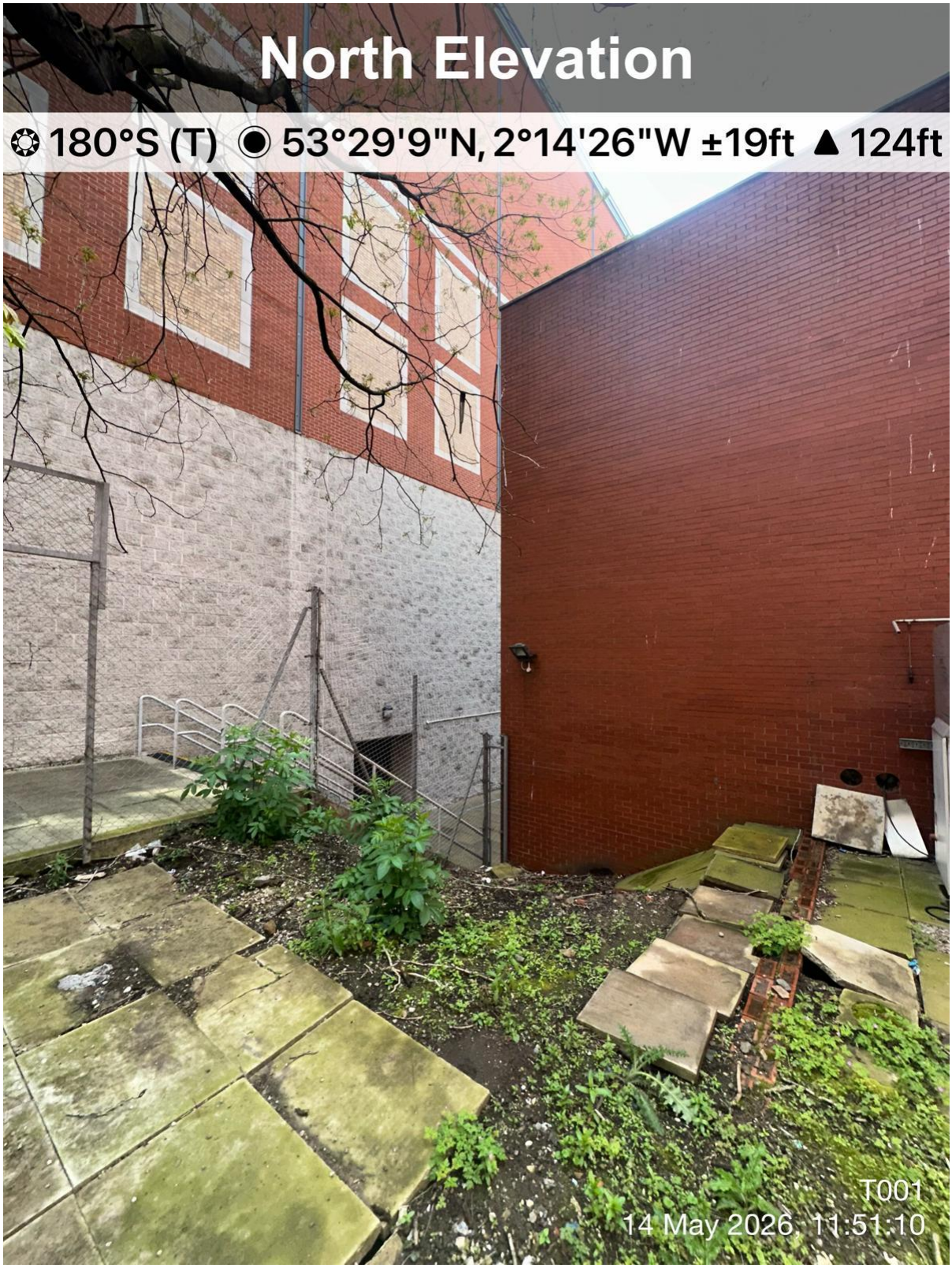
Appendix 2: Photography

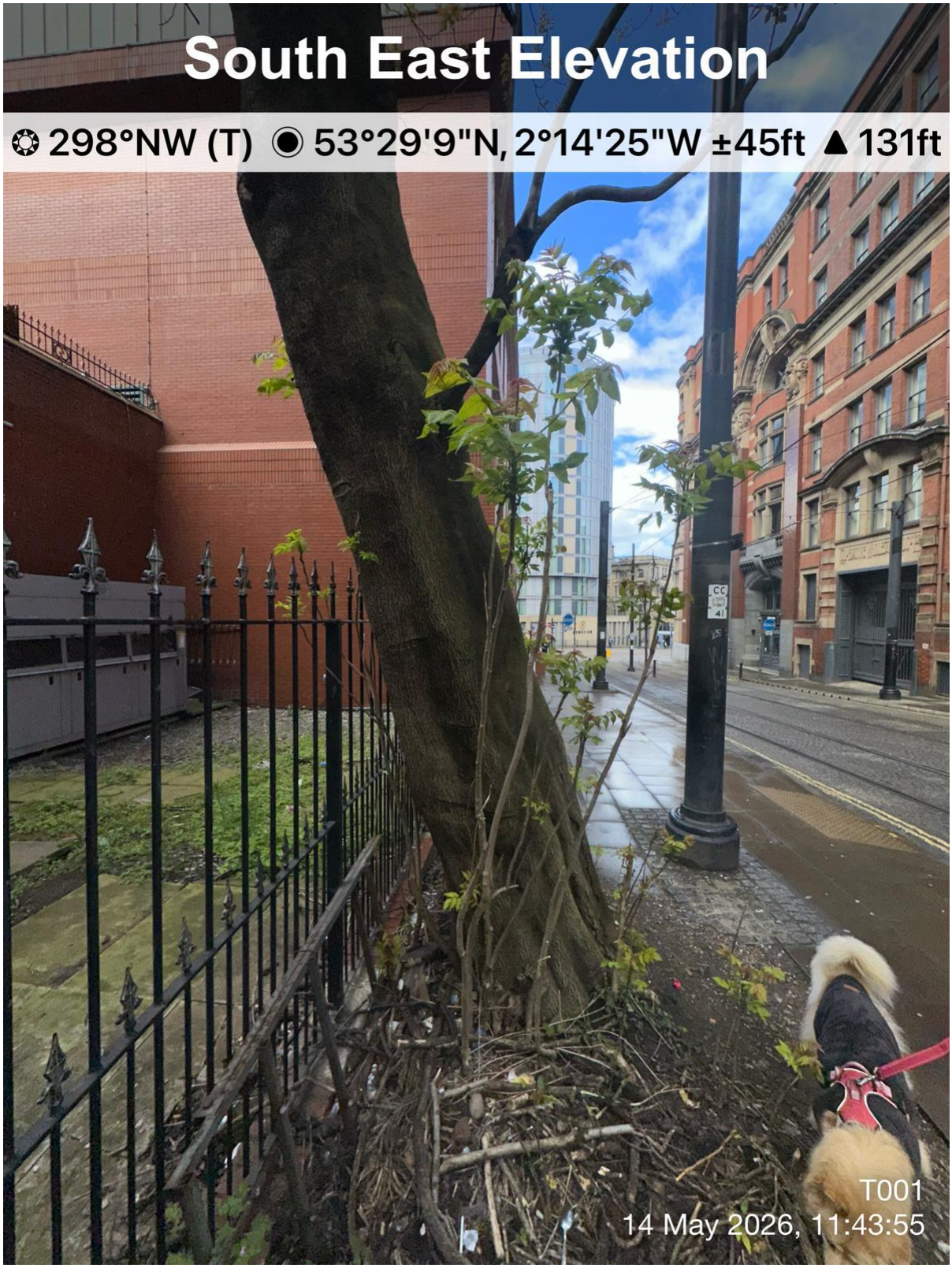



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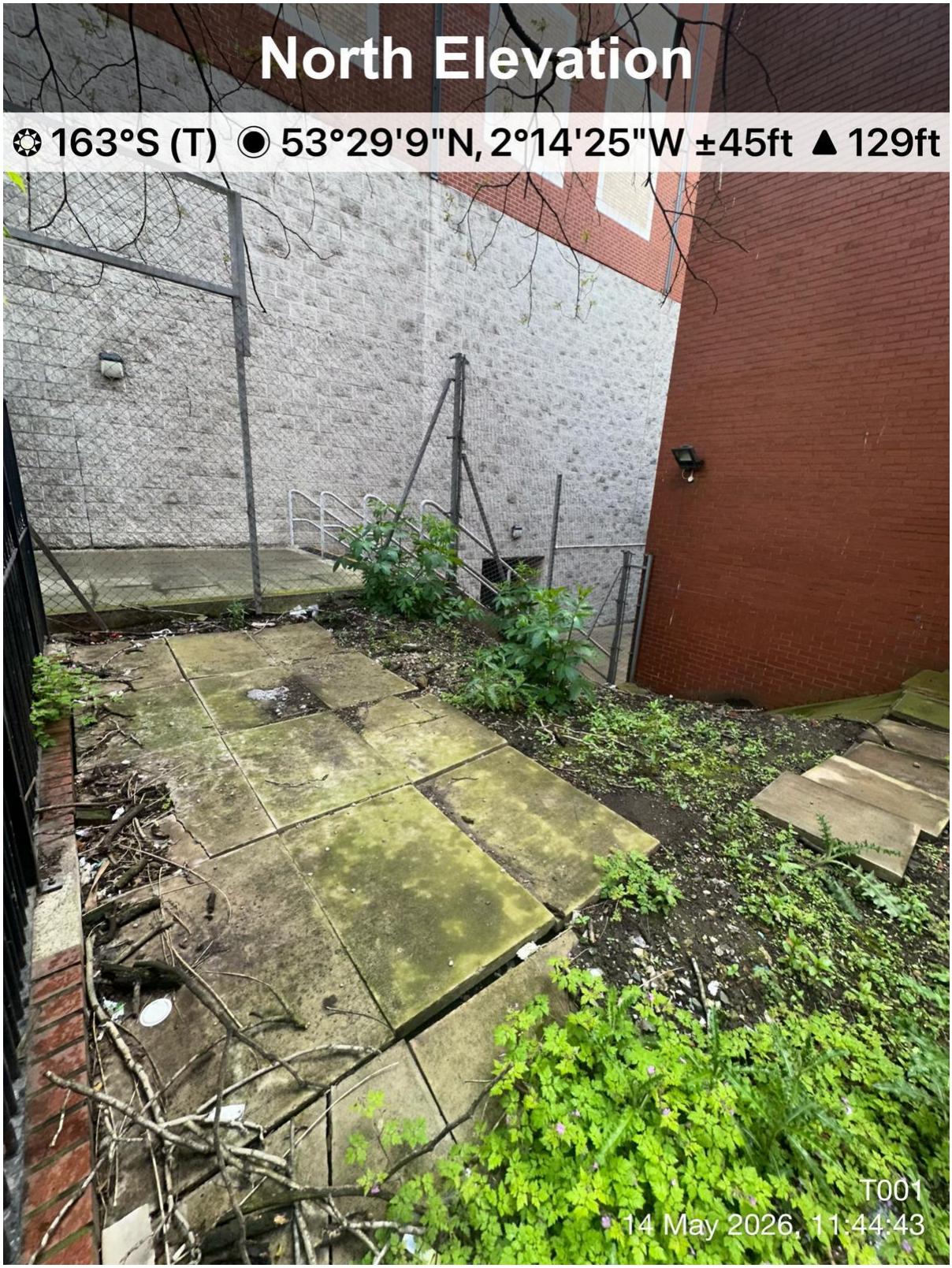

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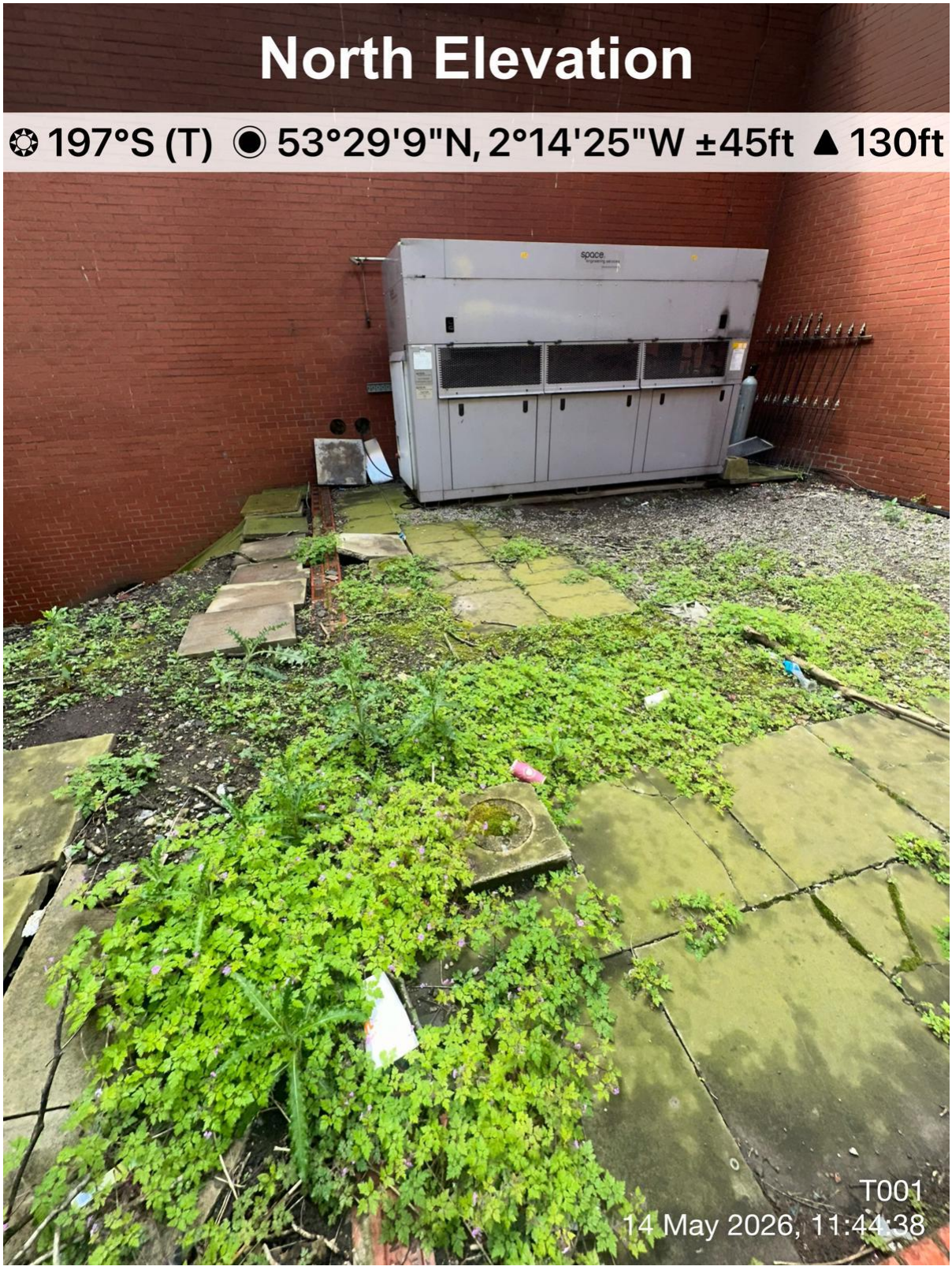

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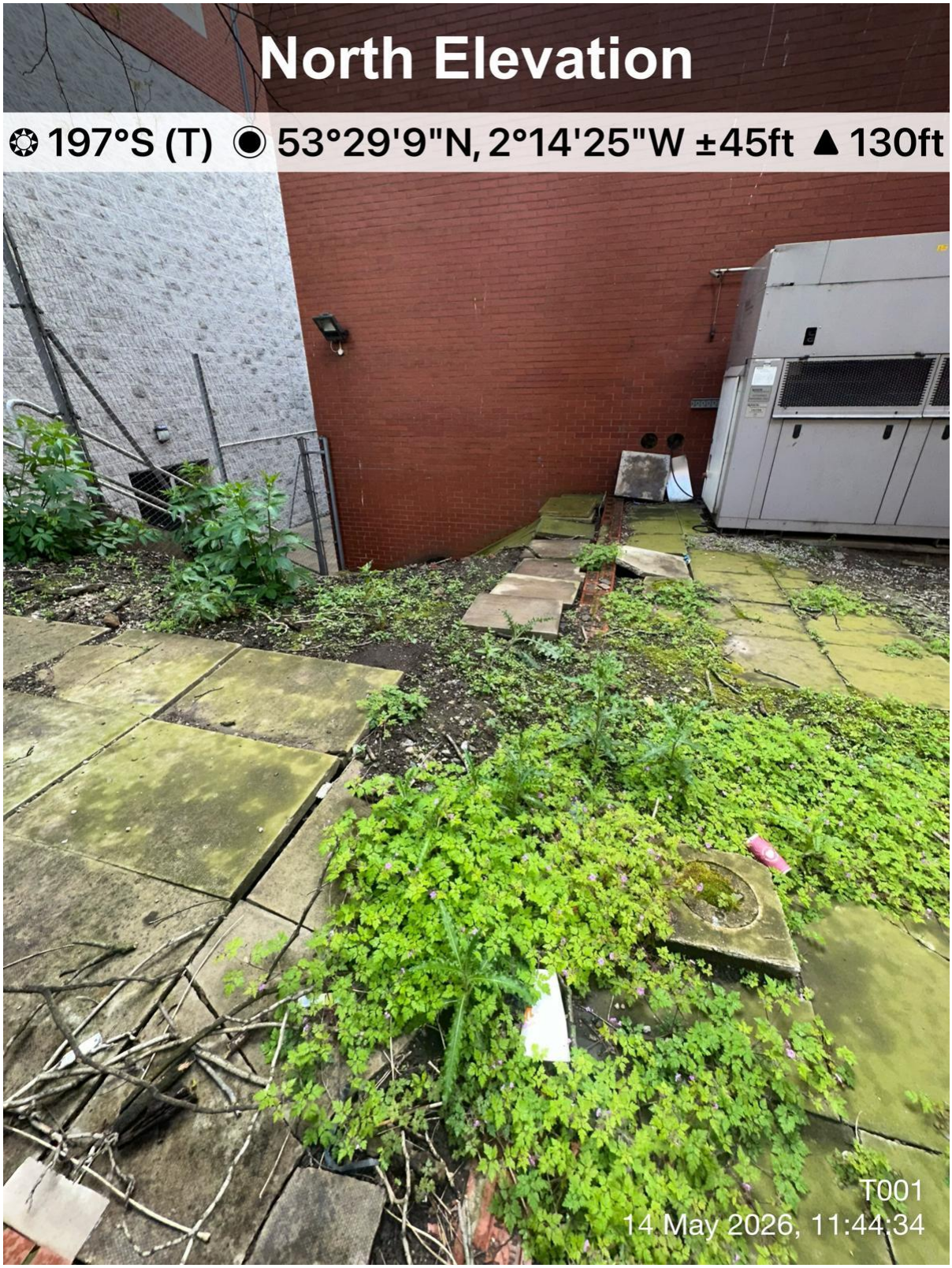

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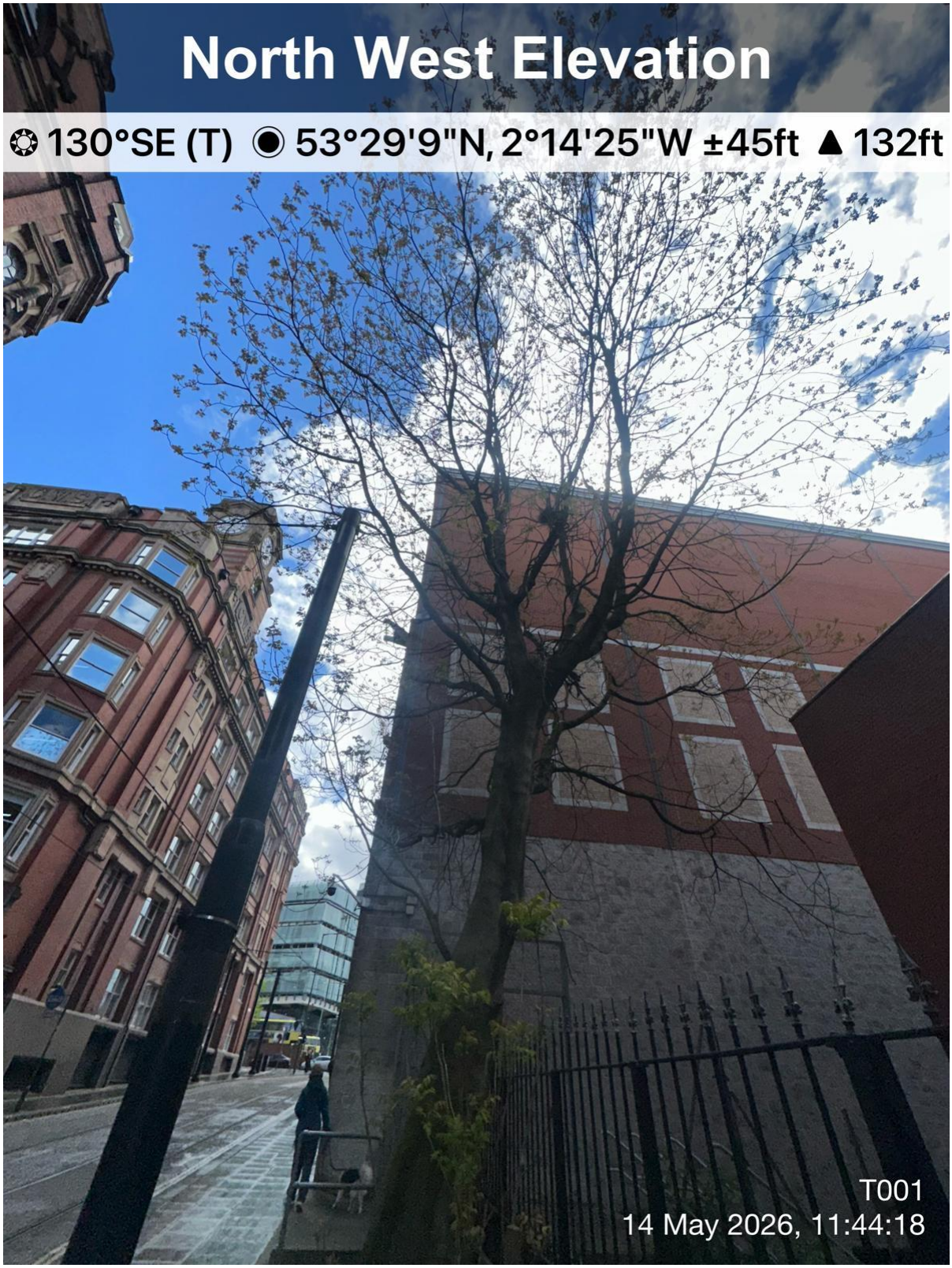

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North West Elevation
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T001
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North Elevation
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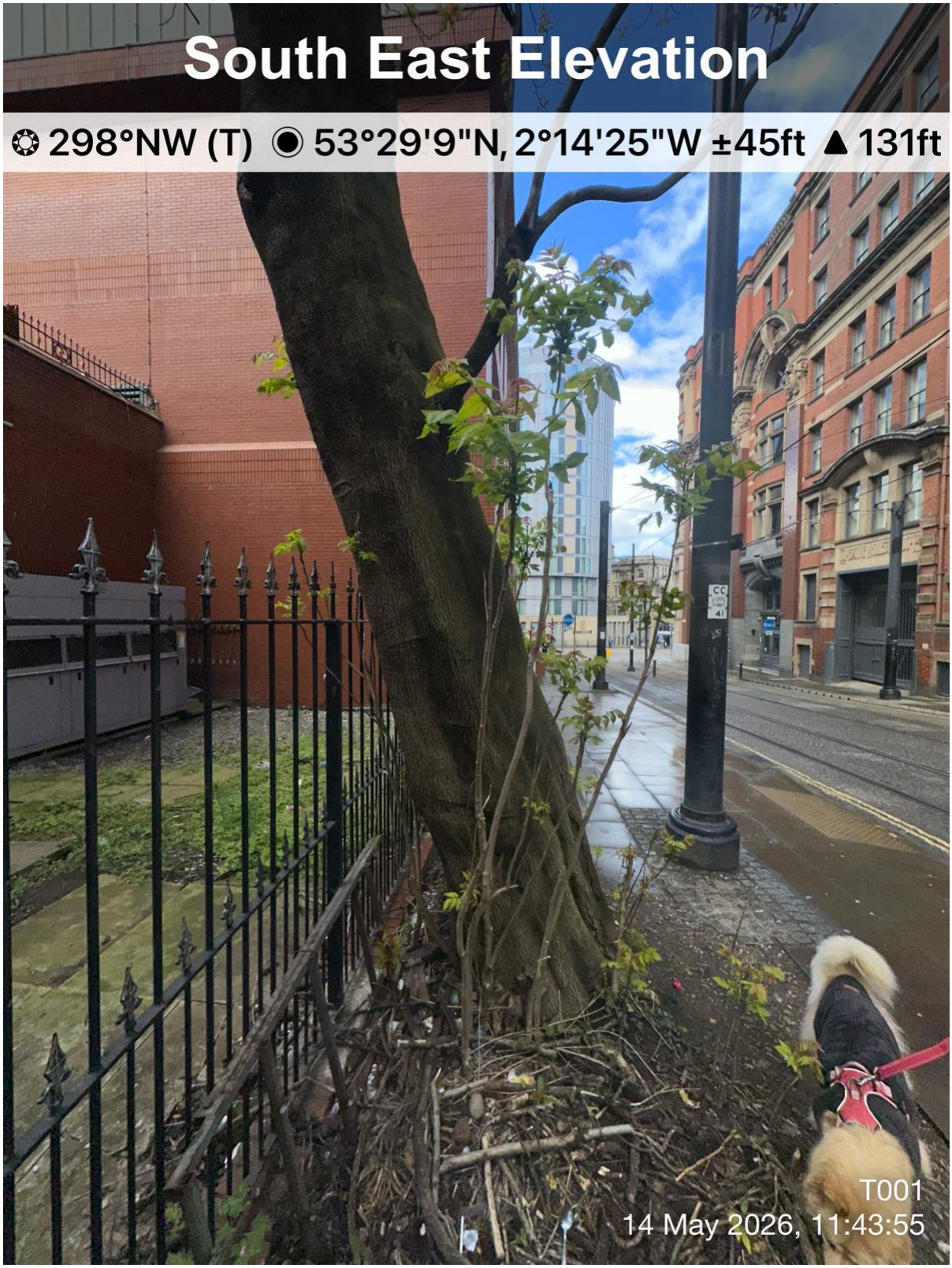

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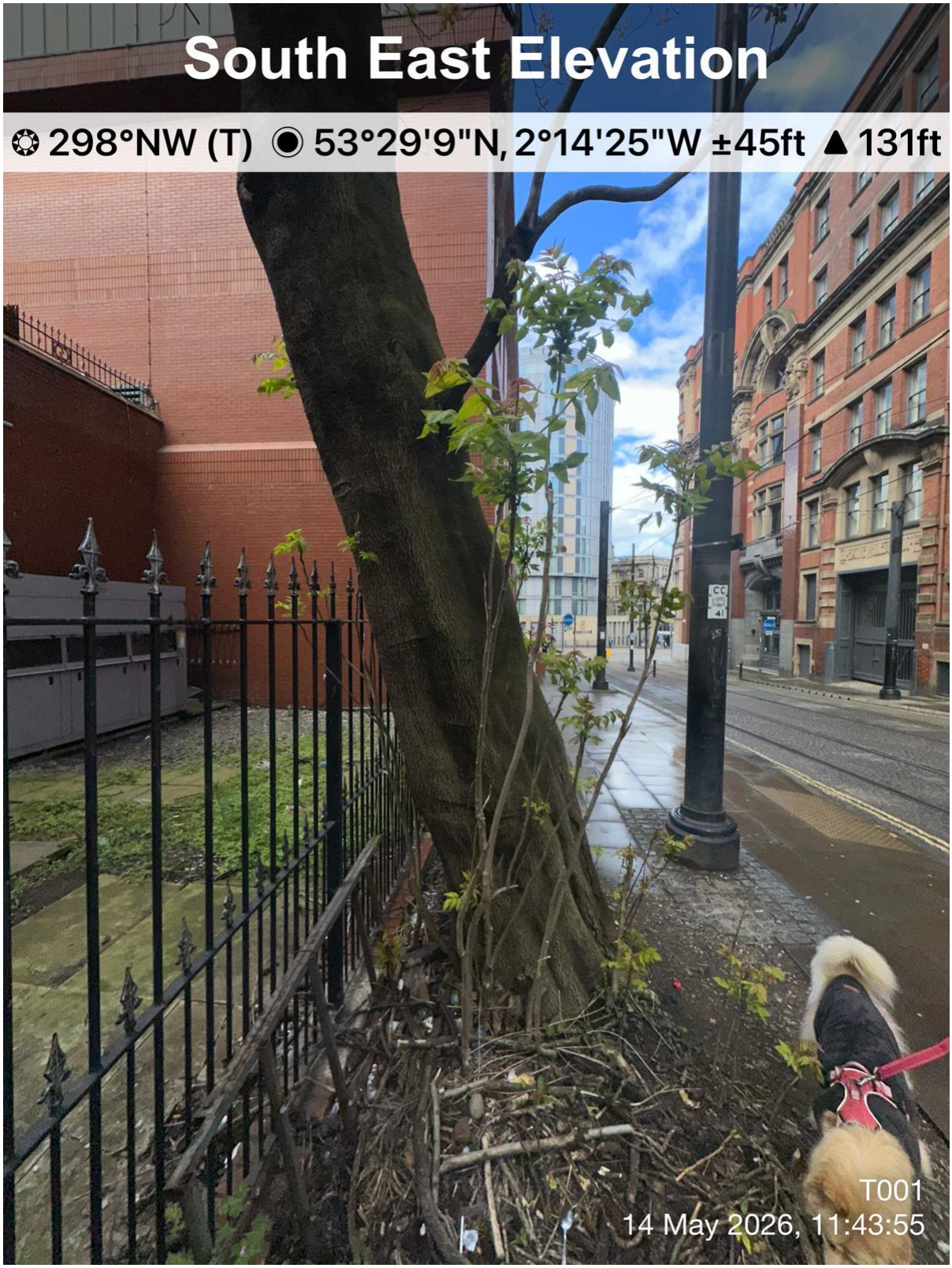

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North West Elevation
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T001
14 May 2026, 11:44:11


North East Elevation
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South East Elevation
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T001
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South East Elevation
298°NW (T) 53°29'9"N, 2°14'25"W ±45ft 131ft
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