Arboricultural Assessment

(Tree survey)

To assess the trees

On the site at

Evan's House
Barrack Lane
Kilkenny
Co. Kilkenny

February 2011

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Introduction

The purpose of this report is to set out the findings following the inspection of trees on the site at, **Evan's Home, Barrack Lane, Kilkenny, Co. Kilkenny** and set out their condition. The following categories have been used within the tree report tables and, where appropriate, the criterion used to define each category is defined. This report has been prepared as part of a planning application. The survey was undertaken 26th January 2011, by the undersigned a qualified Arboriculturalist.

Terminology

The following categories have been used within the tree report tables and, where appropriate, the criterion used to define each category is defined.

- **Tree No.** : refers to the identification tag attached to a tree [also identified as such on the accompanying survey drawing]
- **Species** **:** refers to the common and scientific name given to the tree.
- **Stem diameter:** refers to the diameter of the tree stem in millimetres, as measured at 1.5 metres above ground level and above the root flare for multi-stemmed trees.
- **Height** : refers to the total height of the tree in metres**.**
- **Crown spread :** refers to the width of the crown in metres, measured at each cardinal point on the compass.
- **Age** **:**An estimation of the age of the tree described as;
  V- Veteran**,** trees, which by recognized criteria, showing features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to individuals surviving beyond the typical age range for the species concerned.
  OM – Over Mature, trees reaching the end of their life, in decline and senescent.
  M – Mature, fully grown, with only small annual increments.
  EM – Early Mature, one-third to two thirds of total life expired.
  Y – Young, recent planting, with up to one third of total life expired**.**

- **Condition** : refers to the physiological condition of the tree as a whole described as;
  Good – Full healthy canopy but possibly including some suppressed or damaged branches.
  Fair – Slightly reduced leaf cover, minor dead wood or isolated major dead wood.
  Poor – Overall sparse leafing or extensive dead wood.

- **Estimated remaining contribution in years (ERC):** Expressed as less than 10, 10-20, 20-40, more than 40

- **Remarks:** Descriptive comments about the health (physiological) or form (structural) of the tree, its environment or external influences and may include preliminary management recommendations**.**

- **Category Grade**
  R **-**Those trees in such a condition that any existing value would be lost within 10years and which should be in the correct context, be removed for reasons of sound arboricultural management.
  A –Those trees of a high quality and value in such a condition as to be able to make a substantial contribution.
  B - Those trees of a moderate quality and value in such a condition as to be able to make a significant contribution.
  C- Those trees of a low quality and value currently inadequate condition to remain until new planting could be established, or young trees with a stem diameter below 150mm

Glossary of terms used:

Basal*:* The base of the tree close to the ground, (basal shoots are those emanating from the base).

Crown (canopy)*:* The leaves and branches of a tree.

Co-dominant: Stems or branches of near equal diameter, often weakly attached.

Decay*:* Degradation of wood by fungi and/or bacteria.

Defect: Any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment.

Dieback*:* The death of part of a plant, usually starting from a distal point and often progressing in stages.

Epicormic : Pertaining to shoots or roots, which are initiated on mature woody stems; shoots may form in this way from dormant buds or they may be adventitious.

Included Union*:* bark of adjacent parts of a tree (usually in forks, acutely angled branches or basal flutes), which is in face-to-face contact, so that there is weakness due to the lack of a woody union.

Lean*:* Departure of the trunk from the vertical.

Scaffold limbs: The branches, which form the main framework of the crown of a tree with a decurrent growth habit.

Shoot*:* A shoot derived from a dormant or adventitious bud on the main stem or branch.

Stub/peg: A short section of a branch, which may have, been left after previous pruning or storm damage.

Wound: Injuries on the surface of a trunk or branch.

Full: A canopy, which extends to the ground or nearly to the ground

Natural suppressed deadwood: Deadwood in conifers, which died as the crown height extended and the lower branch no longer have a function in the production of foliage.

Pathogens*:* Fungal and /or bacterial infections, which degrade the wood and render trees liable to failure

Wound wood: Wood with atypical anatomical features, formed in the vicinity of a wound or the occluding tissue around a wound

Hazard Limb*:* An upwardly curved part in which strong internal stresses may occur, cause wood to crack

Burr*:* Woody protuberances, especially those derived from the mass proliferation of adventitious buds.

Survey Results

Tree no.	Species	Height (m)	Dbh (mm)	Spread (m)	Age	Condition	ERC	Remarks	Grade
945	Elder *Sambucus nigra*	12.0	436	N 4.0 S 3.0 E 7.0 W1.0	M	Poor	<10	This tree has an unbalanced crown and a pronounced lean to its stem. It has dense ivy cover on its stem and reiterative suckers in its crown together with scattered deadwood.	C
946	Sycamore *Acer pseudoplatanus*	16.0	350	N 5.0 S 5.0 E 6.0 W4.0	EM	Fair	10-20	A self-seeded tree growing against the wall, it has three main scaffolds two of which are rubbing. It has moderate ivy, minor scattered deadwood, small basal suckers and an unbalanced crown. As this tree grows it is likely to exert pressure on the stonewall.	C
947	Sycamore *Acer pseudoplatanus*	16.0	500	N 7.0 S 2.0 E 5.0 W4.5	EM	Fair	10-20	A tree with multiple stems from its base, it has basal suckers and a branch stub at its base with decay, with moderate ivy cover. It has an unbalanced crown. Growing close to the wall it will exert pressure on the wall as it grows.	C
948	Norway spruce *Picea abies*	16.0	426	N 5.0 S 6.0 E 4.0 W4.5	EM/Y	Fair	10-20	This tree has moderate ivy on its stem; it has a bifurcated stem with multiple scaffolds forming a reasonable balanced crown. Vehicles parking within its crown have damaged its roots. It has naturally suppressed deadwood through its crown.	C

Tree no.	Species	Height (m)	Dbh (mm)	Spread (m)	Age	Condition	ERC	Remarks	Grade
949	Sycamore *Acer pseudoplatanus*	14.0	293	N 5.0 S 4.0 E 5.0 W4.0	EM	Fair	10-20	A self-seeded tree growing against the wall, it has a bifurcated stem forming a balanced crown. It appears free from defects. It has a slight curve to its lower stem. As this tree grows it is likely to exert pressure on the boundary wall. It has a young Norway maple healed in at its base.	C
950	Sawara cypress *Chamaecyparis pisifera*	8.0	250	N 1.5 S 1.0 E 2.0 W1.5	EM/ M	Fair	20-40	An ornamental conifer with a reasonable balanced crown, it is holding its shape and appears free from defects.	B
951	Sycamore *Acer pseudoplatanus*	15.0	286	N 4.0 S 0.5 E 6.0 W 3.0	EM	Fair	10-20	One of a pair of trees growing on the top of the retaining wall at the pedestrian access and steps. It has dense ivy on its stem and basal suckers. It has an unbalanced crown being suppressed by the adjoining tree.	C
952	Sycamore *Acer pseudoplatanus*	15.0	700	N 3.0 S 4.0 E 5.0 W3.0	EM	Fair	10-20	A twin stem tree growing on the top of the retaining wall at the pedestrian access and steps. Both stems bifurcate to form a crown with multiple scaffolds. It has dense ivy and very minor scattered deadwood. Both trees 951 and 952 pose a threat to the integrity of the retaining wall as they grow.	C

Tree no.	Species	Height (m)	Dbh (mm)	Spread (m)	Age	Condition	ERC	Remarks	Grade
953	Sycamore *Acer pseudoplatanus*	6.0	300	N 2.0 S 2.0 E 2.0 W2.0	EM	Poor	<10	Growing on the top of the boundary retaining wall, it has been topped leaving truncated multi stems. It has no future potential.	R
954	Elder *Sambucus nigra*	6.0	-	-	M	Poor	<10	A dead tree which been topped growing on the top of the boundary retaining wall. Within its stems is a sapling sycamore.	R
955	Sycamore *Acer pseudoplatanus*	16.0	621	N 5.0 S 7.0 E 5.0 W5.0	M	Fair	>40	Growing on the adjoining site (Car park of the City library) at the base of the retaining wall. It has tarmac right up against its stem. Its upper crown has multiple scaffolds. There are pruning wounds with good wound wood, some have epicormic suckers. It has minor scattered deadwood. It appears free from defects.	B
956	Weeping willow *Salix x chrysocoma*	12.0	411	N 4.0 S 6.0 E 4.0 W4.0	EM/ M	Fair	20-40	This tree has a reasonable balanced crown; it has been pruned to removed low hanging branches leaving stubs. Where large branches were pruned they have developed epicormic shoots. It has suffered some root disturbance. Crown appears free from Anthracnose. (Anthracnose is a fungal disease of weeping willow.)	B

Tree no.	Species	Height (m)	Dbh (mm)	Spread (m)	Age	Condition	ERC	Remarks	Grade
957	Lawson cypress *Chamaecyparis lawsoniana*	14.0	509	N 4.0 S 5.0 E 5.0 W 3.0	EM	Fair	10-20	This tree has a clear stem and a balanced crown formed by multiple scaffolds. It has been topped in the past and has naturally suppressed deadwood. It has a large wound on its stem the timber appears sound. It has suffered damage to its roots.	C
958	Lawson cypress *Chamaecyparis lawsoniana*	13.0	716	N 5.0 S 5.5 E 5.0 W4.0	EM	Fair	10-20	This tree has a clear stem and a balanced crown formed by multiple scaffolds with slight ivy cover. It has been topped in the past and has naturally suppressed deadwood. It has a large wound on its stem the timber appears sound. It has suffered damage to its roots.	C
959	Sycamore *Acer pseudoplatanus*	12.0	267	N 4.5 S 4.0 E 4.0 W 3.0	Y/EM	Poor	<10	A self-seeded tree, it has a main stem and two sub-dominant suckers. It has a dense branch structure with crossing and rubbing branches, and pegs after pruning. Beside it is a sapling Sycamore with a distorted lower stem.	C
960	Sycamore *Acer pseudoplatanus*	11.0	201	N 4.0 S 4.0 E 3.0 W4.0	Y/EM	Poor	<10	A self-seeded tree, it has a bifurcated stem with a weak union. It has a dense branch structure with basal suckers with minor scattered deadwood.	C

Tree no.	Species	Height (m)	Dbh (mm)	Spread (m)	Age	Condition	ERC	Remarks	Grade
961	Sycamore *Acer pseudoplatanus*	12.0	293	N 5.0 S 5.0 E 6.0 W 4.0	Y/EM	Poor	<10	A self-seeded tree, it has a wound at its base from a failed included union. It has three main scaffolds has been pruned and has abrasions on its stem and has crossing and rubbing branches.	C
962	Sycamore *Acer pseudoplatanus*	14.0	400	N 4.0 S 3.0 E 2.0 W4.0	Y/EM	Poor	<10	A self-seeded multi stemmed tree with a drawn up crown.	C
963	Sawara cypress *Chamaecyparis pisifera*	9.0	400	N 2.5 S 1.0 E 2.0 W1.5	M	Fair	20-40	An ornamental conifer it has shed small branches from its crown and is starting to loose its compact shape. It appears free from significant defects.	B
964	Sawara cypress *Chamaecyparis pisifera*	10.0	600	N 3.0 S 2.0 E 2.0 W1.5	M	Fair	20-40	An ornamental conifer it has shed small branches from its crown and is starting to loose its compact shape and its lower canopy is bare on the south side. It appears free from significant defects.	B

Protection of Trees during Development Works

1. Identify the minimum *protection areas* of trees to be retained. Use table 2 in BS 5837, protection areas indicated on the attached plan.

2. Maintain *protective fence* for the duration of works. There should be no alterations of ground levels within the protection area or material stored within the protection area.

3. *Exceptions* - certain works may be permitted within the fenced protected area these are as follows:

Services -laid by excavating a narrow trench passing directly towards the tree along a radius of no closer than 1m from the trunk and tunnelling directly under the tree, the tunnel should be no less than 750mm deep.

Scaffolding- protect ground with a Cellular confinement system and geo textile membrane and side butting scaffolding boards.

Hard surfaces - temporary surfaces can be constructed over a geotextile membrane with Cellular confinement system laid over it to spread the load over soil. For permanent hard surfaces see clause 11.9 of BS; 5837

4. *Supervision* - All works close to or within the protected area shall be supervised by a qualified arboriculturalist, protective fences shall be checked regularly.

5. *References* - BS: 5837: 2005 'Trees in relation to construction-Recommendations', Protection of tree on development sites part 2 Arboricultural Association. 1997

Assumptions and Limitations

This tree survey was carried out from the ground, no invasive or destructive evaluation techniques were used; all findings observations and recommendations are based on the knowledge and experience of the undersigned a qualified Arboriculturalist. Information contained in this report covers only those items that were examined and reflects the condition of those items at the time of the inspection.

Findings are based on a visual report from ground level only and it should be borne in mind it is subject only to faults visible at the time of inspection, certain pathogens only produce seasonal fruiting bodies and consequentially may not have been noted during this assessment.

All trees should be monitored on a regular basis for signs of defects and should be reported to a person qualified to diagnose them and to recommend treatment.

In the event of adverse weather conditions, there is the possibility of any tree, despite having a good report, falling over or suffering crown damage. In the event of a falling tree causing damage to residential or non residential buildings in their proximity, or to any person, any property public or private, or any mechanical vehicle or otherwise no liability will attach to this firm.

There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees in question may not arise in the future. This report was prepared for a planning application; the author takes no responsibility for any actions taken by the landowner or their agents by reasons of this report unless subsequent contractual arrangements are made.

This report is intended solely for the benefit of the parties to whom it is addressed and no responsibility is extended to any third party for the whole or any part of its contents. All trees mentioned in this report should be subject to reassessment every two years to assess physiological and environmental changes. If the trees are to be included within a new development, they should be reassessed after the completion of the development.

Arboricultural Implications assessment

General Description of Site and Surroundings

The site comprises approximately 0. 38 hectares, at the centre of the site is the 19th Century building, Evan's Almshouse. A masonry wall encloses the site. To the southwest is the city library, which is separated from the site by a retaining wall, further southeast is a House 'Priory Lodge' which has a high wall defining the boundary. Access to the site is from the southeast via Barrack Lane, off John Street. To the south east of the site is St. Johns Church, to the northeast are residential buildings and to the northwest is a school separate from the site by a lane. The site has been used a gardener's nursery with glass houses, cold frames, a polytunnel, potting shed, vegetable plot and holding area for shrubs and city flower pots and planters. The site is neglected there are a number of self-seeded trees scattered throughout the site together with some ornamental conifers and shrubs. Shrubs include; cotoneaster, cherry-laurel, box, cypress, pittosporum, snowberry, clematis, lonicera, euonymus, lilac, viburnum tinus, skimma, hypericum and sarcococca.

Description of Proposed Development

The development comprises of a two storey extension including ancillary accommodation to the Evans house , refurbishment and conservation works to the existing building together with associated site woks and garden development.

Designations Relating to Trees

There are no tree preservations orders on the site or adjoining site and there are no special designations relating to trees on the site. The site is located within the John Street Architectural Conservation Area.

Implications of Proposed Development
Direct Loss of Trees

In order to construct the proposed development, it will be necessary to remove the following trees;

ref	Species
950	Sawara cypress
951	Sycamore
952	Sycamore
953	Sycamore
954	Elder
955	Sycamore
956	Willow
957	Lawson cypress
958	Lawson cypress

Indirect Impacts

Tree 945 is a poor quality Elder that is not suitable for retention due to its poor condition and very limited useful life expectancy.

Trees 962 and 961 are self-seeded sycamores with significant defects, which render the trees unsuitable for retention.

Roads, Footpaths and Parking Bays.

The proposed development will require the upgrading of the surface within the recommended root protection area of tree 948, which makes its retention impractical.

Services

No underground services are to be routed through Root protection areas and no overhead services are proposed of trees to be retained.

Change in Site Use and Tree Management Implications

The retained trees are in locations where they will not be affected by the proposed buildings.

Potential Root Damage to Infrastructure

Modern construction techniques, soil types together with the species and age of the tree make damage to infrastructure unlikely.

Potential Nuisance

All retained trees will be monitored and assessed on a regular basis to confirm their health and stability. All retained trees will have appropriate remedial tree surgery works, to remove all deadwood and potential hazard branches from their canopies. Sycamore trees 946, 947 and 948 are growing close to the boundary wall and will need to be monitored as there is the potential for damage to the wall as the tree increase in size.

Construction Implications

General precautions in storage or mixing of materials that may be injurious to trees will need to be taken. All toxic materials, (cement, mortar, bitumen, diesel, bonding agents, etc) will be stored 10m from root protection areas of trees being retained. No wash out facilities will be provided for ready mix concrete/mortar deliveries. All fuels stored on site will be bunded to prevent spillage or leakage.

Proposals for tree management

All retained trees will have necessary remedial tree surgery to ensure there are no hazard branches, deadwood and weak limbs. All retained trees will be subject to regular inspections.

Arboricultural Method Statement

Introduction

This document sets out the methodology for all proposed works that may affect trees on and adjacent to the site. Compliance with this method statement will be a requirement of all relevant contractors associated with the development proposals. Copies of this document will be available for inspection on site. The developer will inform the local planning authority within twenty-four hours if the supervising arboricultural consultant is replaced.

The contractor shall take all precautions to ensure that any trees, which are to be retained, shall remain undisturbed and undamaged.

All works to trees and all operations adjacent to trees should be undertaken in accordance with the Method Statement. The contractor shall undertake no works to trees unless instructed by the Contract Administrator. All works within or close to the protected tree zones are to be supervised by a qualified and competent Arboriculturist, retained in compliance with condition 20 of the planning permission. Two working days notice of intention to undertake such works to be given to the supervising Arboriculturist prior to any works commencing.

Root Protection Area

In accordance with the Method statement and as per the issued drawings protective fences shall be erected before the commencement of any construction works on site.
The area within the tree fencing should be clearly identified with signage as the 'Protected Tree Zone'. The local planning authority will be notified in writing once the fencing is in place. Strictly no access should be permitted to this zone unless instructed by the supervising Arboriculturist, who should be notified of any works or access required to this zone. The fencing will remain in place until completion of the main construction phase and then only removed with the consent of the local planning authority to permit completion of the scheme.

Other than works detailed within this method statement or approved in writing by the local planning authority, no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing.
No fires should be lit close to or within 20 metres of the trunk of any tree that is to be retained. No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10 metres of the trunk of a tree that is to be retained.

Code of Practice for the preservation of trees

The following code of practice is intended for the preservation of existing trees. These guidelines will help sustain vigour and minimise adverse growing conditions, for trees set out for retention.

This code will be brought to the attention of all site personnel including Main Contractor, sub-contractors and engineering specialists associated with the project. As appropriate this method statement should be translated. All operations are to be in accordance with BS 5837: 2005, Trees in relation to Construction.

Prior Notice and Tree removal

All necessary tree works are to be undertaken prior to the commencement of any other works on site. Trees must only be removed with the necessary permits. It should be noted that as the trees are in the functional area of Kilkenny City Council no felling license (Forestry Act 1946) is required.

The supervising Arboriculturist will;

- Liase with the relevant authorities during the project.
- Constantly monitor the project with regard to tree health to ensure that no damage is caused to the subject trees during the operational works.
- Report any negligent damage to trees, which will prejudice their health.
- Monitor works carried out by the Arboricultural Contractor and Main Contractor within and close to the 'Tree Protection Area'.

Soft Landscaping within Exclusion Zones

Preparation of ground in these areas will be carried out under the supervision of the arboricultural consultant.

Offences and Penalties

Any damage whatsoever, caused to the protected trees shall be notified to supervising Arboriculturist, so that the damage can be assessed and rectified and the main contractor subject to financial penalty as per the Conditions of Contract. Value of damaged tree will be assessed using the 'Helliwell System'.

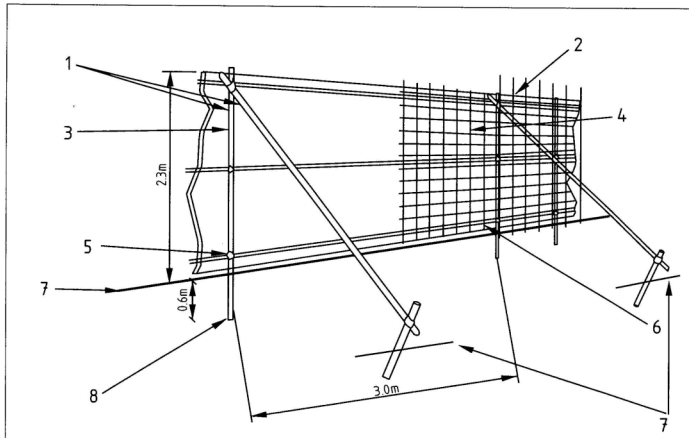
Supervision and Monitoring

The arboricultural consultant will be responsible for monitoring of all arboricultural works In addition, the arboricultural consultant will inspect the protective fencing and monitor any works within exclusion zones.

A record of site visits will be maintained for inspection on site and copies forwarded to the developer / agent and to the local planning authority. The Contractor shall not fell any trees under any circumstances. All works within the protected tree zones are to be supervised by the arboricultural consultant.

Tree Protection Fencing to be in accordance with BS 5837:2005

Fencing to be 2.3 m high, comprising of 'Herras' style fence, each panel to be secured to the adjoining panel fixed to scaffold poles in accordance with Fig 2 –Protective barrier. An alternative to 'Herras' is weld-mesh fixed to scaffold poles



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and where necessary standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6 m driven into the ground

Figure 2 — Protective barrier

'Protected Tree Zone' signage to be securely attached to the fence. Fencing to be installed to an agreed alignment. Alignment to be marked out on site in accordance with the agreement Tree protection plans and approved by the arboricultural consultant prior to erection of fencing.

Protected Tree Zone' signage to be securely attached to the fence

Fencing to be maintained by the Main Contractor for the duration of the contract. All damage to be reported immediately to the Arboricultural consultant. Damaged fencing to be repaired within 2 hours of the damage occurring to the satisfaction of the Arboricultural consultant. All site operations in the vicinity of the damaged fencing are to be suspended until the fencing is repaired.

During site inspections the supervising Arboricultural consultant reserves the right to authorise the cessation of all works in proximity to the protected zones with immediate affect. A breach of such an instruction will be deemed to be a dismissible offence for the employee.

The alignment of the protective fence has been calculated in accordance with Table 2 of BS 5843 : 2005 and is based on the stem diameter of the trees measured at 1.5 metres above ground level or at the base for multi stemmed trees.

Ground protection

Where it is necessary to have construction traffic close to root protection areas the ground shall be protected in accordance with clause 9.3 of BS 5837 : 2005. The ground shall be protected by a covering of Fibertex or similar geo textile fabric with a 3-dimension geo grid filled with angular stone with no fines. Suitable material would be 'Cellweb' by Geosynthetics.

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