Tree Survey Report

Grange Road, Rathfarnham, Dublin 16

Project No.	Project name	Date	Revision
TGRA001	Grange road Cycle corridor	2/10/15	-

Report Prepared by

Ciaran Keating

BSc Pl. Sci. & Ecol H.N.D. Hort AA Tech Cert Arb

E-mail: cmkhortandarb@gmail.com
Mobile: 086 3841891
Drumone, Oldcastle, Co. Meath

CMK
Horticulture & Arboriculture

CONTENTS

1. Client brief & Methodology

This report was commissioned by AECOM Infrastructure & Environment Ireland Limited and was undertaken between the 28th and 30th of September 2015. The purpose of the survey was to provide base-line information on the composition and condition of the trees within the subject area with this information informing any future development of the site. This report should be read with reference to supporting drawing TGRA001 101Tree Survey.
The survey methodology and supporting drawings and documentation follow the recommendations contained within BS 5837 (2012). The analysis of the trees was undertaken using the VTA methodology as developed by Mattheck and Breloer (1994).

2. General description of trees

A total of 79 trees were survey for this report. They are located within a number of distinct locations on Grange road. The condition of the trees is generally good though a number of very poor specimens in need of removal were identified (Table 1).
The survey commenced at the bottom of the road where a number of mature trees are located within the central median. There trees are most likely associated with the Beaufort Estate and were probably boundary trees in the past. They are a mix of horse chestnut (*Aesculus hippocastanum*) and common oak (*Quercus robur*) and are in mixed condition. Bleeding canker (*Pseudomonas syringae var aesculi*) is a common pathogen found on chestnut trees and is present here to varying degrees. Early symptoms are staining and ooze from trunk with later more advanced infection leading to spiralling bark loss and limb failure. There is no known remedy for the infection and trees affected generally succumb to the pathogen over time.

There has been tree planting over stages within the grass verges on the mid section of Grange road. The older trees are cherry cultivars (*Prunus avium* cv) which have generally developed well though there are signs of age related defects such as pockets of decay present in a number of specimens. A Norway maple cultivar (*Acer platanoides* cv) has been planted adjacent to the road in this area and again have generally developed well. They have for the most part developed compact crowns and have not in the main developed the structural weaknesses common in this species. Pruning to avoid impacts to/from high sided vehicle and cycle path users is recommended for a number of specimens.

Category	Number
A	5
B	53
C	17
U	4

Table 1. Tree Categories

The section of the carpark at St End's Park where trees were surveyed contains Norway Maples (*Acer platanoides*) and a number of mature beech (*Fagus sylvatica*). The maples have developed well but limited formative pruning has led to the development of areas of structural weakness in a number of trees. These weaknesses may lead to limb failure over time and should be addressed. The large mature beech trees on the boundary with Grange road are in good condition for their age though decay was noted in tree number 522 and a large limb has been recommended for removal to counteract potential damage / injury.

There is a planting of Norway maple within the green space between Grange Road and Park Avenue/ The Priory. These trees have developed well but again there are a numer with significant structural weaknesses which could lead to failure of limbs over time. Mower impact damage is also relatively common and impact related decay is evident in a number of trees. Towards the upper section of this green space there are a small number of native trees which are growing from an old boundary wall and pre-date the houses in the adjoining estate.

3. Limitations of Survey

This survey should be regarded as a preliminary assessment of the trees and deals with the current condition as identified during this survey only.

Every attempt was made to identify hazardous trees in this report however this survey was carried out from the ground and therefore cannot be held to have identified elements of decay which may be hidden out of sight within the crown or beneath ivy or other obstructions. To counter this limitation in the survey process it is vital that during tree works any additional defects found by the climbing arborist are communicated to the consulting arborist to allow appropriate action to be taken.

The details within this survey are based on the condition of the trees during the survey period only. The findings in this survey cannot be held to be valid after any site disturbance, man-made or natural, which may have an adverse effect on any trees present.

4. Site overview

Survey carried out by: Ciaran Keating (BSc. Pl.Sc./Pl.Ecol., H.N.D. Hort., A.A. Tech Cert.)

4. Relevant legislation

There are no Tree Protection Orders (TPOs) on any of the trees on this site however under Section 37 of the Forestry Act, 1946, it is illegal to uproot any tree over ten years old or to cut down any tree of any age (including trees which form part of a hedgerow), unless a Felling Notice has been lodged at the Garda Station nearest to the trees at least 21 days before felling commences.
The requirement for a felling licence for the uprooting or cutting down of trees does not apply where:

- The tree in question is a hazel, apple, plum, damson, pear, or cherry tree grown for the value of its fruit or any ozier;
- The tree in question is less than 100 feet from a dwelling other than a wall or temporary structure;
- The tree in question is standing in a County or other Borough or an urban district (that is, within the boundaries of a town council, or city council area).
- The tree is considered dangerous and hazardous.

Other exceptions apply in the case of local authority road construction, road safety and electricity supply operations.

The Act is administered by the Forest Service (Department of Agriculture, Fisheries and Food). The Felling Section of the Forest Service is based in Johnstown Castle, Co. Wexford (053-9160200 or 1890-200223).

If you have any queries about felling in general or are unsure whether or not the trees fall under any of the above cases, it is recommended that you seek the advice of the Felling Section or of your local forestry development officer for further information.

Trees may contain bats. Bats are protected under Schedule 5 of the Wildlife Act 1976 and Schedule 1 of the European Communities (Natural Habitats) Regulations 1997. Professional advice from a licenced surveyor should be sought prior to any works commencing on trees.

5. Terminology

Tree categories	
A	Trees of high quality and value due to their size, age, condition, historical/visual merit and/or conservation potential. (a minimum of 40 years)
A1	Mainly arboricultural values. Particularly good examples of species, essential components of groups or of formal or semi-formal arboricultural features.
A2	Mainly landscape values. Trees, groups or woodlands which provide a definite screening or softening effects to the locality in relation to views into or out of site, or those of particular visual importance.
A3	Mainly cultural values, including conservation. Trees, groups or woodlands of significant conservation, historical, comparative or other value (e.g. veteran trees or wood-pasture).
B	Trees of moderate quality and value (a minimum of 20 years)
B1	Mainly arboricultural values. Trees that might be included in high categories but are downgraded because of impaired condition (e.g. presence of remedial defects including unsympathetic past management and minor storm damage)
B2	Mainly landscape values. Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal features (e.g. trees of moderate quality within an avenue that includes better A category specimens) or trees situated internally to the site, therefore individually having little visual impact on the wider locality.
B3	Mainly cultural values including conservation. Trees with clearly identifiable conservation or other cultural benefits.
C	Trees of low quality and value (a minimum of 10 years).
C1	Not qualifying in higher categories
C2	Trees present in groups or woodlands but without conferring on them greater landscape value and/or trees offering low or only temporary screening benefit.
C3	Trees with very limited conservation or other cultural benefits.
U	Trees in such condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management. Trees that are dead, dying or showing immediate and irreversible decline.

Terminology (cont.)

Comments: Refers to the tree's condition and suitability for the site.

Common name: Most widely used non botanical name.

Co-dominant: Two branches assuming the role of leading shoots. When growing close together may form a weak attachment (included bark) at their point of contact. Trees with this defect may be in danger of splitting at this weak attachment.

Crown Spread: Measured in meters north, south, east and west.

Decay fungi: Refers to those species of fungi which degrade living wood and which may, depending on the degree of degradation, render the tree structurally unsound.

Defects: Refers to cracks, storm damage and any other damage mechanical or biological.

Diameter: Diameter of the trunk (millimetres) at 1.5m. M.S. after the measurement refers to the tree being multi-stemmed.

Genus & Species: Refers to the botanical names for the tree.

Height: Measured in meters.

Monitor: Refers to trees which need to be re-surveyed on a yearly basis to assess their condition. This timescale may be sooner where works or adverse weather conditions have impacted negatively on the trees.

Overhaul: A reference to standard tree surgery work which consists of the removal of deadwood, crossing branches and balancing where appropriate.

Recommendations: Indicates surgery work necessary for the retention or, where necessary, removal of the tree.

Tree No. Refers to numbered tag fixed to tree during survey.

6. Tree condition analysis & preliminary recommendations

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Cate-gory	Useful life expect-ancy
473	Horse chestnut Aesculus hippocastanum	Mature	Fair	A large specimen located within central median. Bark staining and bark loss indicative of bleeding canker. This appears to be at an early stage of infection at present and not extended throughout crown. Decay present at two points in trunk at 0.5m and 3m on western side but unlikely to be significant at present. Crown mainly oriented toward north due to competition from neighbouring tree but not significantly so. Minor light suppressed deadwood scattered throughout lower crown but not indicative of decline.	Deadwood	B2	20
474	Horse chestnut Aesculus hippocastanum	Mature	Good	A large well developed specimen within central median. Deadwood scattered throughout lower crown but not indicative of decline. No visible defects. Very heavy ivy growth up trunk obscuring view for assessment but no signs of infection wwith bleeding canker.	Deadwood	B2	40
475	Horse chestnut Aesculus hippocastanum	Mature	Fair	A large well developed specimen located within central median. Crown restricted toward north due to competition from neighbouring tree but not significantly so. Bark loss and staining indicative of infection by bleeding canker. This is becoming evident in large structural limbs in lower crown. Longterm potential of this tree reduced significantly as a result. Light suppressed deadwood scattered throughout lower crown.	Deadwood	C2	10 to 15
476	Oak Quercus robur	Mature	Good	A large specimen located within central median. Crown well developed though slightly sparse. Unlikely to be indicative of decline. Light suppressed deadwood scattered throughout crown.	Deadwood	A2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Cate-gory	Useful life expect-ancy
477	Oak Quercus robur	Mature	Good	A large well developed specimen located within central median. Crown slightly restricted toward north due to competition from neighbouring tree but not significantly so. Very heavy ivy growth up trunk obscuring view for assessment but no visible defects.	No action necessary	A2	40
478	Horse chestnut Aesculus hippocastanum	Mature	Good	A large well developed specimen within central median. Crown slightly sparse toward north due to competition from a neighbouring tree which has been removed. This tree appears free of bleeding canker. Light suppressed deadwood scattered throughout crown but not indicative of decline.	Deadwood	A2	40
479	Horse chestnut Aesculus hippocastanum	Mature	Good	A large specimen within gras verge. Basal decay present to south but should not be significant at present. Crown slightly restricted toward north due to competition from neighbouring trees but not significantly so. Minor staining due to bleeding canker infection present but not extensive at present.	Deadwood	B2	20-30
480	Cherry cultivar Prunus avium cv	Mature	Good	A well developed specimen within grass verge. Cut back to west to accommodate overhead services but not excessively so. Light branch congestion throughout crown. No visible defects. A tree of high landscape value in spring and autumn.	No action necessary	B2	20-30
481	Rowan cultivar Sorbus aucuparia cv	Early mature	Fair	A multi stemmed specimen within grass verge. Form poor with tight unions between stems. A tree of limited landscape or arboricultural values due to form. Lower branches with potential to impact on passing traffic and cyclists.	Remove lower branches with potential to impact on passing traffic and cyclists.	C2	10
482	Norway maple cultivar Acer platanoides cv	Early mature	Good	A well developed specimen within grass verge. Slight infestation by chestnut scale. Branches toward road with potential to impact on passing traffic in near future.	No action necessary	B2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Cate-gory	Useful life expect-ancy
483	Norway maple cultivar Acer platanoides cv	Early mature	Good	A well developed specimen within grass verge. Branches over road removed to accommodate passing traffic. Crown uneven in shape as a result. Minor infestation by chestnut scale present. Lower branches with potential to impact on passing cyclists.	Raise canopy over cycle track to 3m	B2	40
484	Norway maple cultivar Acer platanoides cv	Early mature	Good	A well developed specimen within grass verge. Minor branch congestion throughout crown and minor infestation by chestnut scale. Lower branches with potential to impact on passing pedestrians and cyclists.	Raise canopy to 3m and remove branch congestion	B2	40
485	Norway maple cultivar Acer platanoides cv	Early mature	Good	A well developed specimen within grass verge. Minor branch congestion throughout crown and minor infestation by chestnut scale. Lower branches with potential to impact on passing pedestrians and cyclists.	Raise canopy to 3m and remove branch congestion	B2	40
486	Cherry cultivar Prunus avium cv	Mature	Poor	Located within a raised section of the kerb. Extensive decay present in trunk at point of branch loss to south greatly reduces the trees long-term potential.	No action necessary	C2	10
487	Norway maple cultivar Acer platanoides cv	Early mature	Good	A relatively well developed specimen within grass verge though slightly less vigorous than other maples planted along road. Lack of vigour probably related to impact of tree tie on trunk. This may be a point of structural weakness. Minor light branch congestion throughout crown. Lower branches over road with potential to impact on passing traffic.	Remove lower branches with potential to impact on passing traffic and light branch congestion and basal suckers	C2	10
488	Cherry cultivar Prunus avium cv	Mature	Good	A relatively well developed specimen within grass verge. Crown congested with minor light branches. Pockets of decay present at pruning points in lower crown but unlikely to be significant at present. Basal suckers present.	Remove branch congestion and basal suckers	B2	20
489	Norway maple cultivar Acer platanoides cv	Early mature	Good	A well developed specimen within grass verge. Minor chestnut scale infestation present. Most branches with potential to impact on passing traffic removed with no loss to tree form. One minor branch remaining over road.	Remove branch at 2.5m over road	B2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Cate-gory	Useful life expect-ancy
490	Cherry cultivar Prunus avium cv	Mature	Good	A well developed specimen within grass verge. Crown wide spreading and slightly congested with minor light branches. No visible defects.	Remove branch congestion and basal suckers	B2	20
491	Norway maple cultivar Acer platanoides cv	Early mature	Good	A well developed specimen within grass verge. Crown reduced over road with no loss of form. Minor infestation by chestnut scale present. No visible defects.	No action necessary	B2	40
492	Cherry cultivar Prunus avium cv	Mature	Good	A relatively well developed specimen within grass verge. Pockets of decay present at points of branch loss and at pruning points but not significant at present. Light branch congestion throughout crown.	Remove branch congestion and basal suckers	B2	20
493	Norway maple cultivar Acer platanoid-es cv	Early mature	Poor	Located within grass verge. Tight unions between major infrastructural limbs in crown at 2.25m forming a structurally weak point in the tree. As this species is noted for failures at weak unions the long-term potential significantly reduced as a result.	No action necessary	C2	10
494	Cherry cultivar Prunus avium cv	Mature	Good	A well developed specimen within grass verge. Light branch congestion throughout crown but no visible defects.	Remove branch congestion and basal suckers	B2	20
495	Norway maple cultivar Acer platanoides cv	Early mature	Good	A well developed specimen within grass verge. Branches removed to facilitate traffic. Crown slightly miss-shapen as a result. Lower branches with potential to impact on passing cyclists.	Raise crown to balance with pruning over road.	B2	40
496	Cherry cultivar Prunus avium cv	Mature	dead		Fell	U	0
497	Norway maple cultivar Acer platanoides cv	Early mature	Good	A well developed specimen within grass verge. Branches removed to facilitate traffic. Crown slightly miss-shapen as a result. Lower branches with potential to impact on passing cyclists.	Raise crown to remove light branches with potential to impact on passing cyclists.	B2	40
498	Norway maple cultivar Acer platanoides cv	Early mature	Good	A relatively well developed specimen with a well structured crown. Chestnut scale present to a moderate degree of infection. Tight unions at forks at 2.5m may be structurally weak but unlikely to be significant at present.	No action necessary	B2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Cate-gory	Useful life expect-ancy
499	Norway maple cultivar Acer platanoides cv	Early mature	Good	A relatively well developed specimen though crown slightly restricted toward west due to competition from neighbouring tree. Chestnut scale present throughout crown at moderate levels of infestation only. Crown slightly restricted toward west but not significantly so. No visible defects.	No action necessary	B2	40
500	Norway maple cultivar Acer platanoides cv	Early mature	Poor	A relatively well developed specimen however decay present in one major limb and one more minor limb which will lead to failure at these points. The tree will be compromised with limb removal and will have very limited long-term potential as a result.	Fell	U	<10
501	Norway maple cultivar Acer platanoides cv	Early mature	Good	A tall slender relatively well developed specimen. Minor decay in trunk at 1.5m at point of past branch removal. Trunk becomes three-stemmed from 2m. Unions between stems appear sound. Infestation by chestnut scale present throughout crown but at minor levels at present. Light suppressed deadwood scattered throughout crown but not indicative of decline.	No action necessary	B2	40
502	Norway maple cultivar Acer platanoides cv	Early mature	Good	Slightly sub dominant to neighbouring trees but crown relatively well developed. Light suppressed deadwood scattered throughout crown but no not indicative of decline and no visible defects. Light infestation by chestnut scale present.	No action necessary	B2	40
503	Sycamore Acer pseudopl-atanus	Mature	Good	A relatively well developed dominant specimen within tree group. Trunk co-dominant from 3m with a tight union between stems. Stems fusing together at 3.5m but this is unlikely to be structurally significant at present. Light suppressed deadwood scattered throughout crown but not indicative of decline.	No action necessary	B2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Cate-gory	Useful life expect-ancy
504	Norway maple Acer platanoides	Early mature	Good	A relatively well developed specimen though crown slightly restricted toward north due to competition from neighbouring tree. Tight unions and potentially structural weaknesses in lower crown. Minor light suppressed deadwood and branch congestion present throughout crown.	No action necessary	B2	40
505	Norway maple Acer platanoides	Early mature	Good	A well developed specimen with a wide spreading crown. Trunk multi stemmed from 2.25m with tight unions between stems though these are unlikely to be significant at present. Slight branch congestion present throughout crown but no visible defects.	No action necessary	B2	40
506	Norway maple Acer platanoides	Early mature	Good	A relatively well developed specimen though a tight union exists between trunk and stem at 2m to east. This is a structurally weak point in the tree though unlikely to be significant at present. Crown slightly restricted toward west due to competition from neighbouring tree but not significantly so.	No action necessary	B2	20
507	Norway maple Acer platanoides	Early mature	Good	A well developed specimen with trunk becoming multi stemmed from 2m. No congestion present between stems. Pruning cuts to stem to south have associated decay present. Not significant at present but will ultimately lead to stem failure without treatment in time. Minor light suppressed deadwood scattered throughout crown but no not indicative of decline.	No action necessary	B2	40
508	Norway maple Acer platanoides	Early mature	Fair	Relatively well developed though staining at base of trunk indicative of bleeding canker infection. Limbs lost / removed at 2.25m with slight associated decay present. Both decay and bleeding canker are limiting factors in the long-term potential of this tree. Upper crown well developed with no visible defects.	No action necessary	C2	10-15
509	Norway maple Acer platanoides	Early mature	Good	A well developed specimen. Trunk multi stemmed from 2m. Unions between stems sound. Upper crown well developed with no visible defects.	No action necessary	B2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Cate-gory	Useful life expect-ancy
510	Norway maple Acer platanoides	Early mature	Fair	Located within car-park area. Trunk multi stemmed from 2m with tight unions between stems. There is included bark present between two stems forming a structural weakness. There is decay below this point which further reduces the trees long-term [potential. Occluded decay present in stem to north though unlikely to be significant at present.	No action necessary	C2	10-15
511	Norway maple Acer platanoides	Early mature	Fair	Located within car-park area. Trunk three stemmed from 2m with tight unions and included bark between stems. These are structurally weak points in the tree and significantly reduce the trees long-term potential. Minor light infestation by chestnut scale and minor light branch congestion throughout crown.	No action necessary	C2	10-15
512	Birch Betula pendula	Mature	Good	A relatively well developed specimen within shrubbery of car park. Trunk with a slight lean toward north but becoming vertical at 3m. No visible defects.	No action necessary	B2	40
513	Norway maple Acer platanoides	Early mature	Fair	A large well developed specimen within shrubbery in car park. Trunk co-dominant from 2m with a tight union and included bark between stems. This is an area of structural weakness and reduces the trees long-term potential significantly. Upper crown well developed with no visible defects.	No action necessary	C2	10-15
514	Birch Betula pendula	Mature	Good	Three-stemmed from base with wide unions between stems. Crown well developed with no visible defects.	No action necessary	B2	40
515	Prunus avium purple leaf variety	Mature	Good	A well developed specimen within shrubbery. Tight unions between stems at 1.25 but not significantly so. A large crack present in limb to north will ultimately lead to failure at this point. Remaining crown well developed with no visible defects.	Remove limb with crack	C2	10-15
516	Birch Betula pendula	Mature	Good	A well developed specimen within shrubbery. Crown well structured with no visible defects.	No action necessary	A2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Cate-gory	Useful life expect-ancy
517	Cornelian cherry Prunus pissardii nigra	Early mature	Poor	A sub-dominant specimen beneath larger mature trees. A poorly developed specimen but forming an element of under-canopy in this area.	Remove limb with crack	C2	10-15
518	Himalayan birch Betula jaquemontii	Early mature	Fair	A slightly sub dominant specimen located within shrubbery at car park. Three stemmed from 400mm with one stem with extensive decay present. Crown restricted in development toward east due to competition from neighbouring tree. Of moderate value as an under canopy specimen.	Monitor decay	C2	10-15
519	Birch Betula pendula	Mature	Good	A well developed specimen to outer edge of shrubbery. No visible defects.	No action necessary	B2	40
520	Beech Fagus sylvatica	Mature	Good	A large specimen located adjacent eastern boundary railing. This is a large imposing specimen of high landscape and arboricultural value. Minor light deadwood scattered throughout lower crown but not indicative of decline.	No action necessary	A2	40
521	Hawthorn Crataegus monogyna	Mature	Poor	A sub dominant specimen in a state of decline. Forming an element of under canopy but of limited long-term potential.	No action necessary	C2	10
522	Beech Fagus sylvatica	Mature	Good	A large specimen located adjacent boundary wall. Trunk co-dominant from 2m with a tight union between but this should not be significant at present. There is extensive decay present in a stem to east at 3m. There is potential for failure at this point. There is a hanger in lower crown to west. There is minor light deadwood scattered throughout lower crown but is not indicative of decline.	Remove limb with decay to east.	B2	40
523	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Minor mower damage to surface roots and base of tree but not significant. Upper crown well developed with no visible defects.	No action necessary	B2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Cate-gory	Useful life expect-ancy
524	Norway maple Acer platanoides	Early mature	Fair	A relatively well developed specimen within open space area on Grange road. Mower impact damage at base of trunk has led to decay development. This will ultimately impact on the tree in terms of its long-term potential though not significant at present Upper crown well developed with no visible defects.	Monitor decay	C2	20
525	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Mower impact damage to base of trunk has led to decay development but is not significant at present. Decay may develop further in time to reduce the trees long-term potential. Upper crown well developed with no significant defects.	Monitor decay	B2	40
526	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Minor bark damage to trunk at 400mm but unlikely to be significant at present. Minor infestation by chestnut scale present. Crown well developed with no visible defects.	No action necessary	B2	40
527	Norway maple Acer platanoides	Early mature	Good	A well developed dominant specimen within open space area on Grange road. Minor infestation by chestnut scale present but no visible defects.	No action necessary	B2	40
528	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Crown slightly restricted toward north due to competition from neighbouring tree but not significantly so. A large limb has failed in lower crown to north which will lead to further decay in remaining limb. Remaining crown well developed.	Remove limb failure	C2	30
529	Norway maple Acer platanoides	Early mature	Good	A well developed dominant specimen within open space area on Grange road. Minor mower impact damage to surface roots but unlikely to be significant at present. Minor infestation by chestnut scale present. Light suppressed deadwood scattered throughout crown but not indicative of decline. No visible defects.	No action necessary	B2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Cate-gory	Useful life expect-ancy
530	Oak Quercus robur	Early mature	Good	Slightly sub dominant to neighbouring trees in open space area on Grange road. Mower impact damage to base but unlikely to be significant at present. Crown restricted toward east due to competition from neighbouring trees.	No action necessary	B2	40
531	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Localised decay present at points of branch removal at 2m but unlikely to be significant at present. Minor light branch congestion throughout crown. No visible defects.	No action necessary	B2	40
532	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Crown well structured with no visible defects. Light branch congestion throughout crown.	No action necessary	B2	40
533	Norway maple Acer platanoides	Early mature	Good	A relatively well developed specimen within open space area on Grange road. Light branch congestion throughout crown but no visible defects.	No action necessary	B2	40
534	Norway maple Acer platanoides	Early mature	Good	A slightly sub dominant specimen within open space area on Grange road. No visible defects but early leaf loss indicating poor vigour.	No action necessary	C2	20
535	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Crown well structured with no visible defects.	No action necessary	B2	40
536	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Minor decay present at point of limb removal at 2.4m to north but unlikely to be significant at present. Upper crown well developed with no visible defects.	No action necessary	B2	40
537	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Minor decay present at point of limb removal at 2.4m to south but unlikely to be significant at present. Upper crown well developed with no visible defects.	No action necessary	B2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Cate-gory	Useful life expect-ancy
538	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Minor decay present at point of limb removal at 2.4m to south but unlikely to be significant at present. Upper crown well developed with no visible defects.	No action necessary	B2	40
539	Norway maple Acer platanoides	Early mature	Poor	A large structural weakness is present between trunk and large stem at 2m. There is potential for this area to fail with potential for damage or injury.	Fell	U	<10
540	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Crown well structured with minor light branch congestion present but no visible defects.	No action necessary	B2	40
541	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Crown well structured with minor light branch congestion present but no visible defects.	No action necessary	B2	40
542	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Crown well structured with minor light branch congestion present but no visible defects.	No action necessary	B2	40
543	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Light branch congestion throughout crown but no visible defects Minor mower impact damage to surface roots but unlikely to be significant at present.	No action necessary	B2	40
544	Norway maple Acer platanoides	Early mature	Good	A well developed specimen within open space area on Grange road. Crown congested with minor light branches but well structured with no visible defects.	No action necessary	B2	40
545	Ash Fraxinus excelsior	Mature	Good	A multi stemmed specimen within open space area on Grange road which probably pre dates the neighbouring houses. There is decay present in one stem to west but this is unlikely to be significant at present. Light suppressed deadwood scattered throughout crown but not indicative of decline.	Remove lower limb from weak union at 2m to east.	B2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Cate-gory	Useful life expect-ancy
546	Norway maple Acer platanoides	Early mature	Fair	A relatively well developed specimen within open space area on Grange road however there is a structural weakness at 2m to east between two stems which has potential for failure. Remaining tree well developed with no visible defects.	Deadwood	B2	40
547	Sycamore Acer pseudopl-atanus	Mature	Good	A large dominant specimen within open space area on Grange road. Growing from an old boundary wall. This tree pre-dates the neighbouring houses. Trunk with a strong lean toward east but vertical from 6m. Trunk also co-dominant from 1.25m with a tight union between stems. There may be a structural weakness at this point but is unlikely to be significant at present. Deadwood scattered throughout lower crown but not indicative of decline.	Deadwood	B2	40
548	Ash Fraxinus excelsior	Mature	Good	A large within open space area on Grange road. This tree probably pre-dates the neighbouring houses. Light suppressed deadwood scattered throughout lower crown but no visible defects.	Deadwood	B2	40
549	Sycamore Acer pseudopl-atanus	Mature	Good	A tall slender self-seeded specimen growing from old boundary wall. No visible defects	No action necessary	B2	40
550	Sycamore Acer pseudopl-atanus	Young	Good	A self-seeded specimen growing from old boundary wall. No visible defects	No action necessary	C2	40
551	Norway maple Acer platanoides	Early mature	Poor	A sub dominant specimen within open space area on Grange road with extensive decay present in trunk at 2.5m. Structurally weak at this point and failure at this point a probability.	Fell	U	<10

9. Tree measurements

Tree No.	Height m.	D.B.H. mm.	Spread m. N,S,E,W	Clear Stem N,S,E,W	Root Protection Diameter m.
473	17	870	6,2,4,7	2,8,4,2	10.4
474	19	740	3,2,6,8	2,2,1,6	8.9
475	19	750	2,5,4,7	2,2,2,2	9.0
476	20	570	3,8,7,5	2,1,2,2	6.8
477	21	810	3,6,8,6	5,3,3,3	9.7
478	24	970	7,3,7,8	3,3,3,4	11.6
479	19	880	3,4,5,5	1,4,2,1	10.6
480	5	450	3,3,3,1	2,2,2,2	5.4
481	3	120	2,0,1,1	0,0,0,0	1.4
482	6	150	2,2,2,2	1,1,1,1	1.8
483	7	150	2,1,2,1	2,2,2,2	1.8
484	7	180	2,1,2,2	2,2,2,2	2.2
485	6.5	190	3,2,2,2	2,2,1,3	2.3
486	6	360	4,4,3,4	1,1,1,1	4.3
487	5	130	1,1,1,1	2,2,2,2	1.6
488	7	480	4,4,6,3	2,1,2,1	5.8
489	8	200	3,2,3,2	2,2,2,2	2.4
490	6	370	5,4,5,4	2,3,2,3	4.4
491	6.5	200	2,3,2,1	2,2,2,2	2.4
492	6	410	4,3,3,2	1,1,1,2	4.9
493	7	180	3,3,2,1	2,2,2,2	2.2
494	5	320	4,2,3,2	2,2,2,2	3.8
495	7	170	3,1,2,1	3,3,2,3	2.0
496	6	210	2,1,2,1	2,2,2,2	2.5
497	6	190	3,2,2,1	2,2,2,2	2.3
498	17	320	4,5,3,4	3,3,3,3	3.8
499	15	230	3,5,2,1	1,2,1,2	2.8
500	15	240	3,3,2,2	1,2,1,2	2.9
501	15	230	3,4,2,2	2,2,2,3	2.8
502	15	180	2,2,0,2	2,2,2,2	2.2
503	14	380	5,5,4,4	3,2,3,2	4.6
504	16	240	2,4,4,4	3,1,4,2	2.9
505	15	250	3,4,4,3	2,2,2,2	3.0
506	15	220	5,4,2,1	2,2,4,4	2.6
507	15	240	5,4,2,1	1,2,1,3	2.9
508	14	230	5,4,2,3	3,2,4,2	2.8
509	13	240	5,4,2,2	1,2,2,1	2.9
510	13	260	5,5,2,2	2,2,2,2	3.1
511	14	290	6,5,4,2	2,3,3,2	3.5
512	13	260	4,1,3,1	2,4,4,2	3.1
513	16	350	6,5,5,5	2,2,1,2	4.2
514	13	380	6,5,5,6	2,0,2,0	4.6
515	6	300	3,2,4,3	1,1,1,1	3.6
516	8	280	6,5,5,5	2,2,2,2	3.4
517	6	140	1,1,1,1	1,1,1,1	1.7
518	7	330	4,1,0,4	3,2,3,0	4.0
519	24	790	7,6,8,6	3,2,4,3	9.5
520	22	590	7,5,6,6	3,2,3,2	7.1
521	4	220	1,1,1,1	0.5,0.5,0.5,0.5	4.1
522	24	790	7,6,8,6	3,2,4,3	9.5
523	16	280	3,2,3,2	5,5,5,5	3.4
524	16	240	2,2,2,3	3,4,3,4	2.9
525	17	250	5,2,4,5	3,3,4,4	3.0
526	17	260	4,2,5,4	4,4,4,4	3.1

Survey carried out by: Ciaran Keating (BSc. Pl.Sc./Pl.Ecol., H.N.D. Hort., A.A. Tech Cert.)

Tree No.	Height m.	D.B.H. mm.	Spread m. N,S,E,W	Clear Stem N,S,E,W	Root Protection Diameter m.
527	17	290	4,4,3,4	4,4,4,5	3.5
528	16	280	3,4,5,3	4,4,4,4	3.4
529	16	310	4,3,4,3	2,2,2,2	3.7
530	11	200	2,3,1,3	2,2,3,2	2.4
531	13	280	4,4,5,4	2,2,3,3	3.4
532	13	250	2,4,5,5	2,2,4,2	3.0
533	12	280	4,4,4,5	3,2,3,2	3.4
534	9	170	1,1,2,2	3,3,3,3	2.0
535	12	280	4,2,5,4	2,3,1,2	3.4
536	14	280	4,4,4,4	3,3,3,3	3.4
537	17	310	4,2,6,2	3,3,4,2	3.7
538	16	260	4,3,2,4	3,3,3,3	3.1
539	17	320	5,5,5,5	3,4,4,4	3.8
540	13	240	3,4,4,4	2.5,2.5,2.5,2.5	2.9
541	15	280	5,5,5,5	4,4,4,4	3.4
542	15	290	6,6,5,5	2,3,2,3	3.5
543	16	360	5,3,5,5	2,3,2,2	4.3
544	15	370	4,4,4,5	2,3,3,2	4.4
545	19	540	8,7,5,7	1,1,1,1	6.5
546	17	340	3,6,6,6	2,2,1,1	4.1
547	17	600	6,5,7,6	2,2,2,7	7.2
548	19	550	4,5,5,3	8,3,5,5	6.6
549	17	340	4,2,2,5	5,5,3,5	4.1
550	5	160	3,2,3,3	1,1,1,3	1.9
551	9	190	1,1,0,4	2,3,2,3	2.3

10. Image sheets

A group of large horse chestnuts and oaks located within central median near the intersection of Nutgrove avenue and Grange road.

Xxxxxx xxxxx

Image sheets (cont.)

Showing a section of the Grange road north of Sarah Curran Ave.
A mix of mostly cherry and Norway maple.

Internal view of St. Enda's carpark, immediately inside the entrance from Sarah Curran Ave.

Image sheets (cont.)

Internal view of St. Enda's carpark, a row of Norway maple along the northern boundary fence.

St. Enda's park carpark, a line mixed birch, beech and cherry along the eastern boundary.

Image sheets (cont.)

Norway maple trees along an open space between Grange road and Park Avenue.

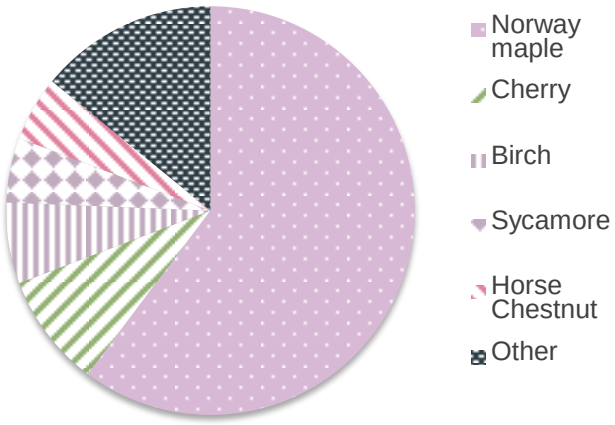
Continuation of Norway maple trees along an open space between Grange road and The Priory.

Image sheets (cont.)

Shown in the background. Mature native tree beside an old boundary wall, these trees pre-date the neighbouring houses.

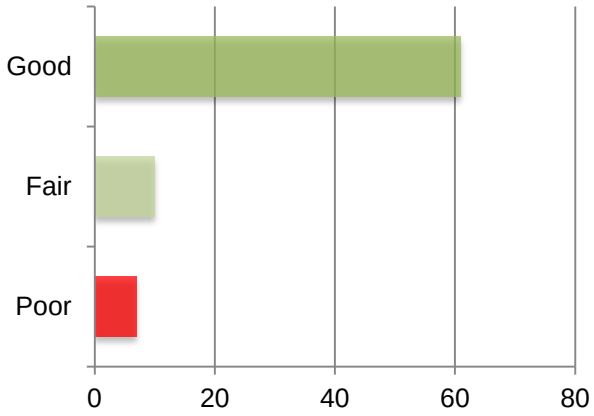
11. Charts and Graphs

Chart 1: Tree Species breakdown

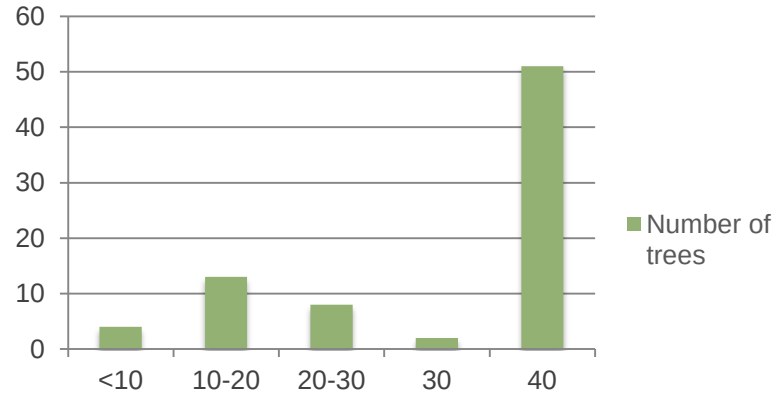


Age Classes	
Y	Young
S.M	Semi-mature
M	Mature
O.M	Over-Mature
V	Veteran

Chart 2: Tree condition breakdown



Useful life expectancy (years)



12. Tree protection

Tree protection fencing must be erected before construction works commence and must be in accordance with BS 5837 (2012).

a. Oil, bitumen, cement or other materials likely to be injurious to a tree should not be stacked or discharged within 10m of a bole, and materials generally should not be stacked or discharged within 5m of a bole. It is essential that allowance is made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.

b. Concrete mixing should not be carried out within 10m of a tree.

c. Fires should not be lit in a position where the flames could extend within 5m of foliage, branches or trunk, bearing in mind the size of the fire and the wind direction.

d. As the majority of tree roots occur within the top 600mm of soil changes to soil levels within the root zone can have serious consequences for tree health.

Increases in soil levels within the root zone of trees can lead to root asphyxiation and ultimately to tree decline and/or death.

A reduction in soil levels may expose roots to drying out and/or being damaged and have the same effect on the tree as described above.

Tree root protection

The Root Protection Area should be calculated using as per Table 1 and/or Annex D (BS 5837 2012) as an area equivalent to a circle with a radius 12 times the stem diameter for single stem trees and 10 times basal diameter for trees with more than one stem arising below 1.5m above ground level.

Number of stems	Calculation
Single stem tree	$RPA\ (m^2) = \frac{(\text{stem diameter (mm) @ 1.5 m} \times 12)^2 \times 3.142}{1000}$
Tree with more than one stem arising below 1.5m above ground level.	$RPA\ (m^2) = \frac{(\text{basal diameter (immediately above root flare (mm)} \times 10)^2 \times 3.142}{1000}$

13. References

BS 5837 (2012). Trees in Relation to Design Demolition and Construction

Mattheck and Breloer (1994). The body language of trees