CUNNANE STRATTON REYNOLDS

TREE SURVEY

Fortunestown Site, Co Dublin.

March 2017



CONTENTS

Summary

- 1. Introduction
- 2. Description of Existing Trees
- 3. Arboricultural Impact Assessment
- 4. Recommendations AMS

Limitations & References

Appendix 1: Tree Survey Schedule

SUMMARY

This report presents a record of those trees existing within or adjacent to the site area that may potentially be effected by a proposed residential district development incorporating housing, public park and school within the site. Trees have been surveyed as individuals or tree groups in accordance with BS 5837 (2012). The survey was undertaken on 22nd March 2017 by Cunnane Stratton Reynolds arborist;

Keith Mitchell Diploma Arboriculture (Level 4) Technician Member Arboricultural Association (UK) Tree Risk Assessment Qualification (International Society of Arboriculture) MA(Hons) Landscape Architecture Member of the Irish Landscape Institute Chartered Member of the Landscape Institute (UK) Diploma EIA Management

This survey and report are based on the Topographic Survey & Layout information contained in;

• Murphy Surveys Dwg No: MSL16477_T_ITM_DRAFT

A full survey record is presented in Appendix 1, together with accompanying drawings Tree Survey Dwg No 15422_T_101, Constraints Dwg No 15422_T_102 and Tree Protection Plan Dwg No 15422_T_103. After introducing the terms of reference and the methodology of the survey, the report summarises the survey findings in an overview of the existing tree cover within the site.

A total of fifteen individual trees and five Groups were recorded.

Where assessment takes the form of a Tree Group – trees of particular significance within these groups are also identified. Every effort has been made to access these trees for inspection, however in some instances where site conditions preclude full access girths may be visually estimated.

It is noted that the site contains or is adjacent to some trees of significant size / maturity and every effort should be made to safely retain these as part of any development proposal.

The removal of trees and scrub vegetation as part of a proposed development will present an opportunity to implement replacement tree planting both as part of a general landscape design scheme and also as part of a tree management program aimed at maintaining high quality diverse long-term amenity tree cover, in keeping with the setting and proposed site use.

The report concludes with recommendations for protection measures to ensure the conservation of retention trees during any development.

1. INTRODUCTION

Terms of Reference

Cunnane Stratton Reynolds (CSR) were instructed by Harcourt Developments to conduct a tree survey, to inform the design and planning of a proposed residential district development within a greenfield site located at Fortunestown, Co Dublin.

CSR considered those tree and tree groups that might potentially be impacted upon by the proposed redevelopment and produced a subsequent tree survey report presenting our findings, (in accordance with BS 5837:2012), together with recommendations for their best practice management in relation to the proposed development.

This involved a survey of the principal trees / tree groups concerned in accordance with BS 5837 (2012).

Documents supplied to CSR for purposes of conducting a tree survey include:

- Murphy Surveys Dwg No: MSL16477_T_ITM_DRAFT
- Brochure entitled Cooldown Commons, Citywest Masterplan, Pre-Planning Meeting, November 8th 2016.

Site Inspection & Methodology

The site was surveyed on 22nd March 2017 by a qualified Arborist. A visual inspection from the ground was performed on all existing trees / tree groups on site. Where access allowed, principal individual trees were examined establishing existing reference number tags, critical measurements then taken and observations made.

A description was recorded of each tagged tree / group of trees, their species, age class, all relevant measured dimensions (height, stem diameter, crown spread radii and crown clearance height) and an assessment of the tree health / vitality, structural form, life expectancy and quality categorisation. Any recommended remedial works required were outlined. Hedgerows and significant tree groups within/bounding the site are subject to group description and assessment, in accordance with BS 5837 (2012).

The findings of the survey are recorded and presented in this Tree Survey Report and Tree Schedule (Appendix 1).

This report is subject to the scope and limitations as given at the end of the report.

Accompanying Drawings

The tree survey report should be read in conjunction with;

- Tree Classification (Dwg No 15422/T/101).
- Tree Constraints Drawing (Dwg No 15422/T/102).
- Tree Protection Plan (Dwg No 154222/T/103).

A1 size colour coded drawings which accompany this report, (monochrome drawings should not be relied upon). These drawings are based upon the topographical and layout plans supplied to CSR.

Site Location

The site is an undeveloped area of land that is accessed from Fortunestown Lane which runs along its southern boundary.

The N7 national route is runs close to the northern site boundary, whilst the LUAS line bounds the southern boundary along Fortunestown Lane. Surrounding land uses are a mix of residential, commercial, light industrial and recreational.

2. DESCRIPTION OF EXISTING TREES

2.1 The approximate site area (highlighted red – Fig 1) represents a greenfield site that has been disturbed in areas, located just south of the N7 near Citywest. The existing ground level is relatively flat overall with numerous minor ditches and mounds existing in and around the site.

Most of the existing tree cover is located around the sites periphery with a significant amount being external to the site itself. The primary area of tree cover is located along the sites eastern boundary, (Tree Group 1), which forms a more or less continuous belt.

Tree Group 1 is a mixed group of deciduous and pine trees of moderate to low quality, the majority of which are relatively young with a small number of older trees interspersed, (some of which are located on the adjoining land on the far side of a deep drainage ditch - meaning their roots are unlikely to extend into the site).

These trees provide an important visual screen from the adjoining industrial scale buildings.



Figure 1: Low resolution aerial photograph approximate site area (courtesy Google Earth)

Tree Group 3 is formed of a belt of young Ash tree planting lines most of the western boundary approximately 5-10m wide.

Tree Groups 2 & 4 are formed of regenerative wetland scrub and tree largely still at a sapling growth stage. These are located primarily along the northern and western boundaries.

The southwest corner of the site is bounded by a continues row of mature evergreen cypress trees, (Tree Group 5).

The internal site area is devoid of trees, bar regenerative wetland scrub saplings.

A total of fifteen individual trees and five 'Tree Groups' were inspected. Their location, size and quality category may be reviewed with reference to the accompanying Tree Classification Dwg No 15422/T/101 and the tree survey (Appendix 1).

2.2 Photographic Summary of Trees Surveyed



T62/T63/T64



Tree Group 1 (eastern boundary)



Tree Group 1 (eastern boundary)



Tree Group 1 (T69-T75)



Tree Group 2 (Northern boundary)



Tree Group 3 & 4 (Western boundary)



Tree Group 3 (Western boundary)



Tree Group 5

2.3 The quality of trees on the site is variable, with mix of species and ages present, they can be however be summarised as typically being of moderate to low quality. There are few trees of particularly high merit.

Some minor maintenance work could be done to improve a number of the existing more mature trees, such as; the removal of excessive ivy, rubbing limbs, deadwood etc. There are also a small number of trees exhibiting significant decay which should be removed on safety grounds.

Collectively the trees can often become more valuable than they might be when considered as individuals, a grouping or woodland, particularly within an urban or suburban setting being of significant visual and ecological value. As such it should be noted that the cumulative value of tree groups often reflects an increased catergorised value than might be awarded to the constituent trees if they were assessed in isolation on individual merit. This is the case with Tree Groups 1 & 3 in particular.

3. ARBORICULTURAL IMPACT ASSESSMENT

3.1 This section discusses the potential impact of the proposed development on the existing tree cover on site and considers the need for mitigation measures, in accordance with BS 5837 (2012), for sustainable development.

The proposed development appears to be compatible with the retention of all trees located along the eastern site boundary, (T62-75 / Tree Group 1), their retention being dependent on a relatively modest set back distance to ensure their root protection zone is not compromised. Current proposals for this side of the site include public open space, playing fields and school development all of which facilitate adequate protection of the trees roots.

Some of the existing young trees located along the western site boundary, (T76 / Tree Group 3), are likely to be compatible with retention where desirable within the proposed linear open space. Removals will also be made from this relatively juvenile tree belt, however these are considered to be without significant arboricultural issue given their immaturity. (This tree belt would benefit from thinning to create space for the proper development of the remaining trees).

3.2 Category 'U' trees are recommended for immediate removal (felling) on general management grounds, irrespective of site development. Two trees were assigned to category 'U'.

Direct Loss of Trees

3.3 Direct loss of trees is limited to the removal of Tree Groups 3 (partial) and 4, along with other areas of early stage regenerative tree and scrub growth from within the site, which is not considered to be of arboricultural significance - particularly in the context of the proposed level of tree planting within the scheme as set out in the Landscape Masterplan.

Indirect Impacts

3.4 Cognisance must also be given to indirect impacts - in particular care must be taken to ensure the proposed development and ancillary works do not represent an unacceptable conflict with the calculated 'Root Protection Area' of the existing trees - as illustrated in Tree Constraints Dwg No 15422/T/101.

Disturbance of 'Root Protection Area' may just as readily kill or destabilise a tree over time, by means of root damage/severance and or earth compaction/covering preventing essential transfer of water and air to roots.

No trees are proposed for removal due to anticipated indirect impacts.

Additional Loss of Trees – Considerations

3.5 None at this time.

Summary of Trees to be Removed

3.6 In addition to Tree Group 3 (partial removal) and Tree Group 4, the removal of T67 & T68 is proposed both of which being U class trees exhibiting significant decay to their main trunks which is likely to be detrimental to the trees structural stability.

Tree Protection

3.7 It is anticipated that traditional tree protection measures such as tree protection fencing will be required to ensure the root protection zones of those trees being retained are not compromised during construction period.

4. RECOMMENDATIONS – Arboricultural Method Statement

Recommendations for the specific measures advised regarding management of the trees in relation to this development are detailed within Appendix 1. These recommendations should inform, and be referred to in, the method statements submitted for approval prior to commencement by the responsible building/engineering and landscape contractors whose works (subject to grant of permission) will affect retained trees and the Tree Protection Areas.

1. Tree Works.

<u>Subject to the required permissions</u> removal / felling works, should be performed prior to project commencement, by reputable contractors in accordance with BS 3998:2010 and current best practice. Removal of scrub vegetation and ivy clearance should preferably be performed in winter outside of the bird nesting season. Tree felling should be preceded by a competent assessment as to the presence of any protected wildlife species, where required specialist advice should be sought if necessary.

2. Protective Fencing.

As specified on Tree Removal & Protection Dwg No No15422_T_103

3. Boundary Treatments

Landscape works and installation of / work to boundary treatments within the Root Protection Area should be undertaken to a specification and method statement in accordance with BS 5837: 2012 - submitted for approval prior to commencement of works, under the supervision of an Arborist and / or Landscape Architect.

4. Landscape Works

Proposed landscaping works including new planting, shall be performed in accordance with BS 5837:2012. During these works, the ground around retained trees must not compacted by vehicles, nor be mechanically excavated for planting, nor be significantly altered in terms of ground levels.

5. Monitoring & Compliance

Should unforeseen matters regarding existing trees during the development, a professionally qualified Arborist is recommended to be retained as required by the principal contractor or developer to monitor and advise on any works within the RPA of retained trees to ensure successful tree retention and planning compliance.

Copies of the Tree Survey and all accompanying drawings, a copy of BS 5837:2012 and NJUG 4 (2007) *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*' should all be kept available on site by the contractor during development. All works are to be in accordance with these documents.

It is advised that all retained trees be subject to expert re-inspection within 12 months and/or prior to completion of development and public occupancy/access of the site.

Limitations and Scope of this Survey Report

This report covers only those trees individually inspected, (shown on the 'Tree Survey Drawings' and described in the 'Schedule'), and reflects the condition of those trees at the time of inspection. Inspection is limited to visual examination of the subject trees from the ground without; test boring, use of tomographic equipment, dissection, probing, coring, ivy removal or excavation to establish structural integrity.

The trees were not climbed and dimensions are approximate, but considered a reasonable reflection of the trees measurements. This survey can only therefore be regarded as a preliminary assessment.

There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future. The currency of this survey report and its recommendations is one year.

The accompanying drawings are illustrative and based on the land (topographical) survey supplied; CSR Ltd accept no legal liability or responsibility for any errors in the information contained in the supplied drawings.

CSR Ltd accept no responsibility for the performance of trees subject to pruning or other site works (including construction activities) not performed in strict accordance with recommendations as specified in this report and/or in accordance with BS 3998:2010 and BS 5837:2012

All retained trees mentioned in this report should be subject to expert re-inspection within 12 months and prior to completion of development works and public occupancy of the site.

This report was produced as a part of a planning application for the scheme; the author accepts no responsibility or liability for actions taken by reason of this report by the client or their agents unless subsequent contractual arrangements are agreed. Public disclosure or submission of any part of this report without title, or permission from the author, renders this report invalid and legally inadmissible.

References/Bibliography

BS 5837 (2012). *Trees in Relation to Design, Demolition and Construction - Recommendations*. British Standards Institution. TSO, London.

BS 3998 (2010) *Tree Work - Recommendations*. British Standards Institution. TSO, London.

NJUG 4 (2007) Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2). National Joint Utilities Group.

APPENDIX 1

TREE SURVEY KEY

Information in the attached schedule is given under the following headings:

Tree No.

Individual trees have been numbered and tagged on site with corresponding survey tag or treated as a group where appropriate (e.g. Woodlands/hedgerows) and illustrated on accompanying tree survey drawing.

Species

Latin names of species are provided

Height

Overall estimated height given in meters (measured using Truplus 200 Laser Rangefinder).

Stem Diameter

The diameter of the main trunk taken at a height of 1.5m on a single stem tree, or, on each branch of multi-stemmed (MS) trees.

Crown Spread

The largest radius of branch spread is provided in meters for North / East / South and West directions.

Height of lowest branch

The distance between ground level and first significant branch or canopy (and direction of growth) given in meters (m).

Any measurement or dimension that has been estimated (for offsite or otherwise inaccessible trees where accurate data cannot be recovered) is identified by the suffix #.

<u>Life stage</u>

The tree's age is defined as:

Y = Young, in first third of life (tree which has been planted in the last 10 years or is less than 1/3 the expected height of the species in question).

MA = Middle Age, in second third of life (tree, which is between a 1/3 and 2/3's the expected height of the species in question).

M = Mature, in final third of life (tree that has reached the expected height of the species in question, but still increasing in size).

OM = Over mature (tree at the end of its life cycle and the crown is starting to break up and decrease in size).

V = Veteran Tree (exceptionally old tree).

Physiological Condition

The tree's physiological condition is defined as:

Good -Good vitality: normal bud growth, leaf size, crown density and wound closure

Fair - Average to below average vitality: reduced bud growth, smaller leaf size, lower crown density and reduced wound closure

Poor - Low vitality: limited bud growth, small chlorotic leaves, sparse crown, poor wound closure

Dead - No longer living.

Structural Condition

The trees structural condition is defined as:

Good - No major structural defects observed (possibly some minor defects)

Fair - Minor defects present, (such as bark wounds, isolated decay pockets or structure affected due to overcrowding), that could be alleviated by tree surgery/management

Poor - Major structural defects present such as extensive deadwood, decay or defective to the point of being dangerous. (Significant defects are noted e.g. decay, collapsing etc).

Preliminary Management Recommendations & Timescale

Recommendations actions based on limitations of survey – (may include further investigation and or assessment of suspected defects by means and or methods not undertaken / within the remit of this survey).

Estimated Remaining contribution (Years)

Life of the tree is given as;

- 10 < less than 10 years remaining
- 10 + in excess of 10 years remaining
- 20 + in excess of 20 years remaining
- 40 + in excess of 40 years remaining

Tree Quality Assessment Category

U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)

• Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline

• Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality

(NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve).

A High quality

Trees of high quality with an estimated remaining life expectancy of at least 40 years

A1 Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)

A2 Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features

A3 Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)

B Moderate quality

Those trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

B1 Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.

B2 Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.

B3 Trees with material conservation or other cultural value

C Low quality

Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.

C1 Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.

C2 Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits.

C3 Trees with no material conservation or other cultural value.

			Crown Spread	Dia'	RPA circle	Ht of lowest branch (m) & direction		Estimated remaining				Category of retention	
Tag	Species	Height (m)	(m) N/S/E/W	(mm)@ 1.5m	radius (m)	of growth	Life Stage	contribution (years)	Physiological Condition	Structural Condition	Preliminary management recommendations	+ sub- category	Notes / GPS Location
62	Fraxinus exclesior	9	5/5/5/5	#400	4.80	3m all	MA	40+	Good	Good	Remove Ivy	B1	
63	Fraxinus exclesior	6	3/3/3/3	#4x150	3.60	0m all	Y	40+	Good	Fair	Remove Ivy	C1	
64	Fraxinus exclesior	9	4/4/4/4	#2x450	6.40	1.5m all	MA	40+	Good	Fair	Remove Ivy	B1	
65	Fraxinus exclesior	8+	4/4/4/4	#2x350	4.95	1m all	MA	40+	Good	Fair	Remove Ivy	B1	
TG1	Alnus glutinosa	#10+	3/3/3/3				Y	40+	Good	Fair	Remove Ivy & Crown Clean	B2	
	Fraxinus exclesior												
	Salix sp.												
	Crataegus monogyna												
	Fagus sylvatica												
66	Fagus sylvatica	12	5/5/5/5	#700	8.40	2m all	MA	40+	Good	Good	Remove Ivy	A1	
67	Fagus sylvatica	12	0/5/5/5	#700	8.40	2m all	MA	40+	Fair	Poor	Fell	U	codependent with 68
68	Fagus sylvatica	12	5/0/5/5	#700	8.40	2m all	MA	40+	Fair	Poor	Fell	U	•
69	Fagus sylvatica	16	4/3/3/3	#500	6.00	2m all	MA	10<	Fair	Poor	Monitor	B1	RPA cut
								• •					
70	Fagus sylvatica	15	5/4/3/3	#700	8.40	2m all	MA	10<	Fair	Poor	Monitor	B1	RPA cut
71	Fagus sylvatica	15	3/2/2/2	#500	6.00	2m all	MA	10<	Fair	Poor	Monitor	B1	RPA cut
72	Quercus robur	9	4/4/4/4	#450	5.40	2m alll	MA	40+	Good	Good	Monitor	A1	RPA cut
73	Fagus sylvatica	14	3/5/3/3	#450	5.40	2m all	MA	20+	Fair	Fair	Remove Ivy	B1	RPA cut
74	Fagus sylvatica	16	4/4/2/2	#500	6.00	2m all	MA	20+	Fair	Fair	Remove Ivy	B1	RPA cut
75	Fagus sylvatica	13	3/3/2/3	#450	5.40	2m all	MA	20+	Fair	Fair	Remove Ivy	B1	RPA cut
TG2	Alnus glutinosa	3	1/1/1/1				Y	40+	Good	Good		C2	
	Salix sp.												
TG3	Fraxinus exclesior	5	1/1/1/1				Y	40+	Good	Good		B2	
76	Fraxinus exclesior	8	3/4/3/3	#600	8.40		MA	20+	Fair	Fair	Remove Ivy & Crown Clean	B1	
TG4	Alnus glutinosa	3	1/1/1/1				Y	40+	Good	Good		C2	
TG5	Cupressus sp.	5	2/2/2/2				MA	10+	Fair	Good		C2	





REV DATE AMENDMENT

CUNNANE STRATTON REYNOLDS

LAND PLANNING & DESIGN

GALWAY OFFICE ARDACONG, BALLYTRASNA, TUAM, CO GALWAY TEL 093 60854 EMAIL galwayinfo@csrlandplan.ie www.csrlandplan.ie



PROJECT:	DATE:	MARCH 2017
COOLDOWNS COMMON, CITY WEST MASTERPLAN	SCALE:	1:1250 @ A1
DRAWING:	DRAWN: CHECKED:	INIT KM
TREE SURVEY CLASSIFICATION	DRAWING NO:	15422-T-101





REV DATE AMENDMENT

CUNNANE STRATTON REYNOLDS

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PROJECT:	DATE:	MARCH 2017
COOLDOWNS COMMON, CITY WEST MASTERPLAN	SCALE:	1:1250 @ A1
DRAWING:	DRAWN: CHECKED:	INIT KM
TREE CONSTRAINTS	DRAWING NO:	15422-T-102







REV DATE AMENDMENT

CUNNANE STRATTON REYNOLDS

LAND PLANNING & DESIGN

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PROJECT:	DATE:	MARCH 2017
COOLDOWNS COMMON, CITY WEST MASTERPLAN	SCALE:	1:1250 @ A1
DRAWING:	DRAWN: CHECKED:	INIT KM
TREE PROTECTION & REMOVAL	DRAWING NO:	15422-T-103