

Appendix 13.2

Tree Survey Report

Appendix 13.2 Tree Survey Report

Arklow Wastewater Treatment Plant Project

BSM

Est.
1968

**Brady Shipman
Martin**

**Built.
Environment.**

Survey
Assessment
**Built
Environment**

DATE:

29 August 2018

Brady Shipman Martin

DUBLIN

Canal House
Canal Road
Dublin 6

+353 1 208 1900

CORK

Penrose Wharf Business Centre
Penrose Wharf
Cork

+353 21 242 5620

LIMERICK

11 The Crescent
Limerick

+353 61 315 127

mail@bradyshipmanmartin.com

www.bradyshipmanmartin.com

DOCUMENT:

6572_Appendix 13.2_Tree Survey Report

This document has been issued and amended as follows:

Issue	Revision	Description/Status	Date	Prepared by	Checked by
01	00	Tree Survey Report	02/07/18	JM	JK

TABLE OF CONTENTS

1 TABLE OF CONTENTS

1	Introduction	1
2	Report limitations.....	1
3	Methodology.....	2
4	Survey Key	2
4.1	Tree Number	2
4.2	Species.....	2
4.3	Age Class.....	2
4.4	Stem Diameter, Tree Height and Crown Size Measurements.....	2
4.5	Condition	2
4.6	Comments	2
4.7	Recommendations	2
4.8	Tree Retention Category (Cat) (BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations).....	3
4.9	Root Protection Area.....	3
5	Findings	4
6	Recommendations	5
7	Site Photographs	6
8	Schedule of trees	11
9	Tree Survey plan.....	22

1 INTRODUCTION

Plans are being prepared for the Wastewater Treatment Plant Project in Arklow Town, County Wicklow. There are a number of trees and wooded areas within the lands proposed for the works and so this report has been prepared to help inform and guide the design and planning process.

The survey data was collected in accordance with BS5837: (2012) *Trees in relation to design, demolition and construction – Recommendations* for the site; however in some areas of the survey lands where access was limited the field data for some trees was estimated.

The accompanying drawing 6572-100 shows the approximate locations of the tree groups and individual trees identified on the site during the survey.

2 REPORT LIMITATIONS

The inspection has been carried out from ground level using visual observation methods only.

Trees are living organisms whose health and condition can change rapidly. Trees should be checked on a regular basis, preferably once a year. The conclusions and recommendations of this report are valid for one year.

The fruiting bodies of some important species of decay fungi only emerge at certain times of the year and may not have been visible during this inspection.

There is no such thing as a 100% safe tree in all conditions, since even perfectly healthy trees may fall or suffer branch break.

Climbing plants such as Ivy and dense undergrowth (including epicormic growth) can obscure structural defects and some symptoms of disease; where such plants prevent a thorough examination it is recommended that they be cut at ground level and the tree re-inspected.

3 METHODOLOGY

The site was accessed on foot and the trees and woody vegetation assessed using Visual Tree Assessment (VTA) techniques only. Field data was collected in accordance with BS5837: (2012) *Trees in relation to design, demolition and construction – Recommendations* where practicable.

4 SURVEY KEY

4.1 Tree Number

No individual trees were tagged as part of the survey; the trees and tree groups were allocated numbers and these are used for tree identification and cross reference with the survey schedule and site drawings.

4.2 Species

The specific tree species identified using both common and botanical names for individual trees and those present within each tree group.

4.3 Age Class

Y: Young tree – yet to reach biological maturity
SM: Semi-mature - tree now well established and developing
EM: Early-Mature - tree not yet fully grown
M: Mature – Tree fully grown and in full maturity
LM: Late Mature – in the later stages of maturity
OM: Over mature - tree now declining from natural causes
Vet: Veteran - tree of value due to old age and ecological/cultural significance

4.4 Stem Diameter, Tree Height and Crown Size Measurements

Ht: Total Tree Height in metres
Dbh: Diameter (in mm) at breast height measured at 1.5m from ground level
NSEW: Crown spread (in metres) for all 4 cardinal points

4.5 Condition

Condition refers to both physiological condition (good, fair, poor, dead.) and structural condition.

Good: No obvious defects visible, vigour and form of tree good.
Fair: Tree in average condition for its age and the environment.
Poor: Tree shows signs of ill health/structural defect
Bad: Tree in seriously bad health/major structural problem
Dead: Tree now completely dead

4.6 Comments

Additional description/commentary on individual trees where appropriate.

4.7 Recommendations

Preliminary management recommendations are noted, these pertain to current site conditions unless otherwise stated.

4.8 Tree Retention Category (Cat) (BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations)

The tree retention category system grades a tree's suitability for retention within a development:

- A** Indicates a tree of high quality and value. These are trees that are particularly good examples of their species, which also provide landscape value. These trees are in such a condition as to be able to make a substantial contribution. (A minimum of 40 years is suggested)
- B** Indicates a tree of moderate quality and value. Trees that might be included in the high category, but are downgraded because of impaired condition. These trees are in such a condition as to make a significant contribution. (A minimum of 20 years is suggested)
- C** Indicates a tree of low quality and value - trees with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter of below 150mm.
- U** Trees that are 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.

Sub Categories

Tree categories may be further categorised using the following sub-categories (e.g. C1, C2 or C3) - 1 mainly Arboricultural qualities, 2 mainly landscape qualities, 3 mainly cultural values.

4.9 Root Protection Area

The Root Protection Area (RPA) is the minimum area around individual trees to be protected from disturbance during construction works; RPA is recorded as a radius (rad) in metres measured from the tree stem and is shown on tree survey drawings as a circle with the tree stem in the centre. For single stem trees, the root protection area (RPA) should be calculated as an area equivalent to a circle with a radius 12 times the stem diameter.

For trees with more than one stem, one of the two calculation methods below should be used.

- a) For trees with two to five stems, the combined stem diameter should be calculated as follows:

$$\sqrt{((\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2)}$$
- b) For trees with more than five stems, the combined stem diameter should be calculated as follows:

$$\sqrt{((\text{mean stem diameter})^2 \times \text{number of stems})}$$

5 FINDINGS

The trees and tree groups were assessed during site visits on the 18th and 19th of June 2018. The field survey findings are detailed in the survey schedule appended to the report.

The survey area included the narrow strip of land running alongside the southern river bank from approximately 450m west of the bridge to the boat yard located towards to the south Pier, and the northern bank of the river from just northwest of the bridge down to the quay and marina area. A section of land extending from the R772 Dublin Road in the north down to the northern river bank just west of the bridge was also included, however the vegetation cover and ground conditions put a significant restriction on the access to and around individual trees in this area.

The area to the west of the bridge on the southern bank included trees numbered T1-T32; these trees are mostly growing in linear green open space along the footpath and river bank and provide moderate to good amenity and landscape value. Most of the trees are not of especially high arboricultural value as individuals; although there are several trees graded as category B, most notably the Weeping Willows (T25, T26 and T29) at the far western end of the survey area and Ash tree T22.

The trees included in the schedule to the south-east of the bridge are all smaller, young trees of fairly low quality and value. The trees do provide some amenity value, however the poor growing environment and species selection is likely to mean that this contribution will remain limited into the future.

The small young Maple trees numbered T73 - T98 have been planted along the northern side of the river in the narrow verge between the traffic barrier and riverbank. Most of these trees have struggled to become established in the restricted growing environment and are now in poor physiological condition and are of low value. The linear group of Poplars (T99-T104) appear to be in mostly fair physiological condition, however they are an inappropriate species for such a restricted growing position; they are already disturbing the adjacent tarmac road surface and could cause structural problems for the quayside wall in the future.

The land in the survey area to the west of the properties along the west side of the R772 (Ferrybank) includes significant areas of wetland and dense scrub that was not accessible by foot. The part of the area that was accessible had been left derelict for some time, but has recently been worked over by machinery. Many of the trees are in poor condition, however one Pine tree (T108) remains in fairly good health.

The linear tree group G4 (including trees T110-T112) extends just outside the eastern edge of the survey area; these trees are the largest and most significant individuals included in the schedule. The trees were not accessed directly and their dimensions were estimated, however their appearance indicates that they are good physiological condition and some would probably be classed as category A trees if no structural defects were seen during a more thorough inspection. There is likely to be significant root-spread out into the survey area from these trees; as indicated on the survey drawing.

Access into the land to the west and south towards the Avoca River was severely restricted by dense undergrowth and deep drainage ditches. Parts of this area have been colonised by Willow regeneration; the causeway/path has been colonised by thick Rhododendron bushes. The larger trees within the private lands to the east of the survey area are separated from the site by a deep drainage ditch, with little likelihood of any root spread extending beyond the ditch.

The north bank of the Avoca River and several small islands are covered by mixed trees and bushes; mostly Willow species but also including Alder, Ash, Birch and Sycamore of moderate to low value. There are some coniferous trees (including Pine and Cypress) close to the western edge of the survey area, just north of the riverbank, however these trees were not accessed or inspected in any detail.

Together the riverside trees form an attractive landscape feature along the riverbank and islands and contribute considerable amenity collectively to this part of the town.

6 RECOMMENDATIONS

Preliminary management recommendations for the trees (which pertain to present site conditions unless otherwise stated) are listed in the tree survey schedule.

Tree surgery works should be carried out by qualified tree surgeons working to BS3998 (Tree Work – Recommendations).

7 SITE PHOTOGRAPHS



Photo 1. Trees established along the southern river bank; to the west of the road bridge



Photo 2. Willow trees on the southern bank of the river towards the western end of survey area



Photo 3. Young trees established in the grass verge along the southern bank of the river, south-east of the bridge



Photo 4. Young trees established in the verge along the northern bank of the river, south-east of the road bridge

Arklow Wastewater Treatment Plant Project

Appendix 13.2: Tree Survey Report



Photo 5. Linear group of Poplar trees along the northern bank of the river, at the eastern end of the survey area



Photo 6. Mixed willow scrub (G3 in the survey schedule and survey drawing) and trees 105-107 at the northern end of the survey area



Photo 7. Scots Pine tree 108 along with some poor quality Willow bushes at the edge of the wetland



Photo 8. Linear tree group G4 including some good quality Sycamore and Lime trees

Arklow Wastewater Treatment Plant Project

Appendix 13.2: Tree Survey Report



Photo 9. Cluster of trees (G6) immediately north of the bridge – on site of demolished building



Photo 10. Willow bushes on small islands in the river and riparian tree-line along the northern river bank just north-west of the bridge

8 SCHEDULE OF TREES

No.	Species	Age	Ht m	Dbh mm	St	Cr	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Area m2	Cat
T1	Prunus spp. (Flowering Cherry)	EM	5	300	1	2	3.5	1.5	3	2.5	10+	Fair	Poor. Smaller sized tree with significant crack below failed included union at 2m. Some decay in old wounds to branches.	Reduce damaged and decayed branches.	3.6	41	C2
T2	Pyrus spp. (Pear)	EM	4.5	235	3	2	3.5	2.5	2	2.5	10+	Fair	Fair. Fair vitality. Smaller sized tree. Multiple stems at ground level.	No urgent works needed.	2.82	25	C2
T3	Crataegus monogyna (Hawthorn)	M	5	300	1	2	2	2	2.5	3	10+	Fair	Fair/Poor. Fair vitality. Smaller sized tree. Small decay pocket at stem base. Initial lean but self corrects to vertical.	No urgent works needed.	3.6	41	C2
T4	Sorbus aucuparia (Rowan)	SM	4.5	130	1	2	2	1.5	1	1.5	10+	Good	Good. Good vitality. Smaller sized tree with slight lean to stem.	No urgent works needed.	1.56	7.7	C2
T5	Prunus spp. (Flowering Cherry)	M	6	350	1	2	3	2	4	2	10+	Fair	Poor. Fair vitality. Smaller sized tree. Some previous root damage likely. Fungal brackets visible on stem base (possibly <i>Ganoderma</i> spp.) and on stem at 1.2m. Lower 1m of stem (below graft) is swollen.	No urgent works needed. Consider removal and replacement as part of good management over coming years.	4.2	55	C2
T6	Sorbus aucuparia (Rowan)	Y	3.5	100	1	2	1	1	1	1	10+	Fair	Fair/Poor. Fair vitality. Smaller sized tree of good shape/form. Decay in bark wound to stem base.	No urgent works needed.	1.2	4.5	C2
T7	Sorbus aucuparia (Rowan)	Y	3	60	1	2	0.5	0.5	0.5	1	10+	Fair	Fair/Poor. Smaller sized tree. Decay in bark wound to stem base.	No urgent works needed. Limited potential.	0.72	1.6	C2
T8	Betula pendula (Silver Birch)	M	9	400	1	2	4	3.5	4.5	4	10+	Fair	Fair/Poor. Tree located in river channel below path. Good shape/form. Root zone exposed by watercourse, with many exposed woody roots.	No urgent works needed.	4.8	72	C2
T9	Betula pendula (Silver Birch)	EM	8	233	2	2	3	3	2	2.5	10+	Fair	Fair. Stem divides below 1.5m. Unbalanced crown shape due to group pressure.	No urgent works needed.	2.8	25	C2
T10	Betula pendula (Silver Birch)	M	10	450	1	2	3	3.5	4.5	3	10+	Fair	Fair. Multiple stems above 1.5m. Minor dieback in crown. Buttressed stem base.	No urgent works needed. Monitor tree condition.	5.4	92	C2
T11	Betula pendula (Silver Birch)	EM	10	450	1	2	5	4	4.5	4	<10	Poor	Fair/Poor. Multiple stems above 1.5m. Dieback and thinning of crown. Leaf size small for species. North side of rootplate badly exposed by river, anchorage seems to be from large roots under concrete.	Monitor tree condition.	5.4	92	C2
T12	Prunus spp. (Flowering Cherry)	EM	4	300	1	2	4	3.5	2	2.5	10+	Fair	Fair. Smaller sized tree. Average shape/form. Poor quality pruning works in past.	No urgent works needed.	3.6	41	C2

Arklow Wastewater Treatment Plant Project

Appendix 13.2: Tree Survey Report

T13	Acer pseudoplatanus (Sycamore)	EM	11	420	1	2	5.5	5	2.5	6	10+	Fair	Fair. Some bark wounds to stem base + some old wounds on stem. Leaf size small for species. Some lesions on stem. Flush cut to stem at 1.8m; partially occluded.	Monitor tree condition.	5.04	80	C2
T14	Acer pseudoplatanus (Sycamore)	SM	9	292	2	2	1.5	4	5	4	<10	Poor	Poor. Smaller sized tree. Twin stem from ground level. North stem partially ring barked and dying back. Tree already damaging wall.	Consider removal as part of good management.	3.5	38	U
T15	Tilia cordata (Small-leaved Lime)	SM	11	350	1	2	4	4	2	4.5	10+	Good	Fair/Poor. Compression fork on main stem.	No urgent works needed. Monitor compression fork for signs of cracking.	4.2	55	C2
T16	Tilia cordata (Small-leaved Lime)	SM	11	300	1	2	4	5	2	2	10+	Good	Fair/Poor. Compression fork on main stem.	No urgent works needed. Monitor compression fork for signs of cracking.	3.6	41	C2
T17	Tilia cordata (Small-leaved Lime)	SM	11	320	1	2	2	4	3	4	10+	Good	Fair/Poor. Compression fork on main stem.	No urgent works needed. Monitor compression fork for signs of cracking.	3.84	46	C2
T18	Tilia cordata (Small-leaved Lime)	SM	11	250	1	2	3	4.5	3	2	10+	Good	Fair/Poor. Some old wounds on stem. Compression fork on main stem.	No urgent works needed. Monitor compression fork for signs of cracking.	3	28	C2
T19	Tilia cordata (Small-leaved Lime)	EM	11	500	1	2	4	5	5.5	6	20+	Good	Fair/Poor. Some bark wounds to stem base. Some potentially weak unions in crown structure.	No urgent works needed. Monitor compression fork for signs of cracking.	6	113	B2
T20	Betula pendula (Silver Birch)	EM	7	300	1	2	3.5	3.5	3	3.5	10+	Fair	Fair. Minor dieback in crown.	No urgent works needed. Monitor tree condition.	3.6	41	C2
T21	Prunus spp. (Flowering Cherry)	EM	11	350	1	2	3.5	4	5.5	5	20+	Fair	Fair. Slight thinning of upper crown. Ivy recently cut.	No urgent works needed.	4.2	55	B2
T22	Fraxinus excelsior (Ash)	M	14	650	1	3	8	8	7	9	20+	Fair	Fair. Fair vitality. Medium sized tree with spreading form. Some bark wounds to stem base. Scattered minor deadwood.	No urgent works needed.	7.8	191	B2
T23	Betula pendula (Silver Birch)	EM	11	472	2	2	5	3.5	3.5	6	10+	Fair	Fair. Twin stem tree on edge of riverbank. Slightly leaning habit.	No urgent works needed.	5.66	101	C2
T24	Alnus glutinosa (Common Alder)	M	13	636	2	2	5	7	4.5	7	10+	Poor	Fair/Poor. Twin stem from ground level. Minor dieback in crown. Some lesions on western stem; possibly <i>Phytophthora</i> . Decayed remains of third stem in centre of stool.	No urgent works needed. Monitor tree condition.	7.63	183	C2
T25	Salix X chrysocoma (Weeping Willow)	M	12	550	1	2	6	7	6	8	20+	Fair	Fair. Fair vitality. Moderate amenity value. Spreading form. Decay cavity on scaffold limb to south.	No urgent works needed.	6.6	137	B2

T26	Salix X chrysocoma (Weeping Willow)	M	10	600	1	2	6	5	3.5	7	20+	Fair	Fair. Fair vitality. Moderate amenity value. Leaning North-West. Some old wounds on stem. Scattered minor deadwood. Recent removal of limb from east side at 1.5m.	No urgent works needed.	7.2	163	B2
T27	Acer pseudoplatanus (Sycamore)	SM	12	350	1	4	5	5.5	4	4	10+	Fair	Fair. Some decay in old wound to stem base.	No urgent works needed.	4.2	55	C2
T28	Fraxinus excelsior (Ash)	SM	12	458	4	3	4	5	5	6	20+	Good	Fair. Some damage to surface roots. Multiple stems below 1.5m. Tree on bank, Ivy recently cut.	No urgent works needed.	5.5	95	B2
T29	Salix X chrysocoma (Weeping Willow)	M	13	750	1	1	7	5	4	8	20+	Good	Fair. Fair vitality. Medium sized tree. Some old wounds on stem. Small decay cavity on stem. Scattered minor deadwood. Minor historic storm damage to branches in crown.	No urgent works needed.	9	255	B2
T30	Salix fragilis (Crack Willow)	M	7	400	1	1	5.5	5	4.5	6	10+	Fair	Fair/Poor. Some bark wounds to stem base + some old wounds on stem. Some weakened branches in crown with hazard beam split to branch on east side at 2.5m. Compact tree, previously cut to 2.5m on south side.	Target prune broken/damaged branches.	4.8	72	C2
T31	Acer pseudoplatanus (Sycamore)	SM	9	250	1	1	3	3	3	3	10+	Good	Fair. Thick Ivy growth on tree stem. Tree stem not accessed or fully inspected due to thick undergrowth	No urgent works needed.	3	28	C2
T32	Acer pseudoplatanus (Sycamore)	EM	15	450	1	1	6	6	6	6	20+	Good	Fair. Medium sized tree. Tree stem not accessed or fully inspected due to thick undergrowth	Carry out further inspection.	5.4	92	B2
T33	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T34	Crataegus monogyna (Hawthorn)	SM	3.5	100	1	2	1.5	1.5	1.5	1.5	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T35	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T36	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T37	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2

Arklow Wastewater Treatment Plant Project

Appendix 13.2: Tree Survey Report

T38	Prunus spp. (Flowering Cherry)	Y	3.5	120	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.44	6.5	C2
T39	Acer platanoides (Norway Maple)	Y	3	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T40	Tilia cordata (Small-leaved Lime)	Y	3	140	1	1	1.5	1.5	1.5	1.5	20+	Good	Fair. Young tree planted into grass verge.	No urgent works needed.	1.68	8.9	C2
T41	Acer platanoides (Norway Maple)	Y	3	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T42	Tilia cordata (Small-leaved Lime)	Y	3	140	1	1	1.5	1.5	1.5	1.5	20+	Good	Fair. Young tree planted into grass verge.	No urgent works needed.	1.68	8.9	C2
T43	Acer platanoides (Norway Maple)	Y	3	120	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.44	6.5	C2
T44	Sorbus aucuparia (Rowan)	SM	3	120	1	1	1.5	1.5	1.5	1.5	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.44	6.5	C2
T45	Acer platanoides (Norway Maple)	Y	4	140	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.68	8.9	C2
T46	Populus alba (White Poplar)	SM	7	400	1	2	2	2	2	2	10+	Fair	Fair. Topped by ESB contractors.	No urgent works needed.	4.8	72	C2
T47	Sorbus aucuparia (Rowan)	SM	4	170	1	1	1.5	1.5	1.5	1.5	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	2.04	13	C2
T48	Acer pseudoplatanus (Sycamore)	SM	5	200	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	2.4	18	C2
T49	Acer platanoides (Norway Maple)	Y	4.5	170	1	2	2	2	2	2	10+	Fair	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	2.04	13	C2
T50	Acer platanoides (Norway Maple)	Y	6	220	1	2	2.5	2.5	2.5	2.5	10+	Fair	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	2.64	22	C2
T51	Acer platanoides (Norway Maple)	Y	4.5	150	1	2	2.5	2.5	2.5	2.5	10+	Fair	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.8	10	C2

T52	Acer platanoides (Norway Maple)	Y	4.5	150	1	2	2.5	2.5	2.5	2.5	10+	Fair	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.8	10	C2
T53	Acer platanoides (Norway Maple)	Y	5	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T54	Tilia cordata (Small-leaved Lime)	Y	2.5	100	1	1	1.5	1.5	1.5	1.5	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T55	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T56	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T57	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T58	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T59	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T60	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T61	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T62	Acer platanoides (Norway Maple)	SM	8	230	1	2	2.5	2.5	2.5	2.5	10+	Fair	Fair. Young tree planted into cobblestone strip alongside the road.	No urgent works needed.	2.76	24	C2
T63	Prunus spp. (Flowering Cherry)	Y	4	100	1	2	1.5	1.5	1.5	1.5	10+	Fair	Fair. Young tree planted into cobblestone strip alongside the road.	No urgent works needed.	1.2	4.5	C2
T64	Acer platanoides (Norway Maple)	SM	6	250	1	2	2.5	2.5	2.5	2.5	10+	Fair	Fair. Young tree planted into cobblestone strip alongside the road.	No urgent works needed.	3	28	C2

Arklow Wastewater Treatment Plant Project

Appendix 13.2: Tree Survey Report

T65	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into cobblestone strip alongside the road.	No urgent works needed.	1.2	4.5	C2
T66	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into cobblestone strip alongside the road.	No urgent works needed.	1.2	4.5	C2
T67	Acer platanoides (Norway Maple)	Y	4	100	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into cobblestone strip alongside the road.	No urgent works needed.	1.2	4.5	C2
T68	Acer platanoides (Norway Maple)	SM	5	200	1	2	2.5	2.5	2.5	2.5	10+	Fair	Fair. Young tree planted into cobblestone strip alongside the road.	No urgent works needed.	2.4	18	C2
T69	Acer platanoides (Norway Maple)	SM	5	200	1	2	2.5	2.5	2.5	2.5	10+	Fair	Fair. Young tree planted into cobblestone strip alongside the road.	No urgent works needed.	2.4	18	C2
T70	Tilia cordata (Small-leaved Lime)	Y	4.5	170	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into cobblestone strip alongside the road.	No urgent works needed.	2.04	13	C2
T71	Acer platanoides (Norway Maple)	SM	5	220	1	2	2.5	2.5	2.5	2.5	10+	Fair	Fair. Young tree planted into cobblestone strip alongside the road.	No urgent works needed.	2.64	22	C2
T72	Acer platanoides (Norway Maple)	Y	4.5	150	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into cobblestone strip alongside the road.	No urgent works needed.	1.8	10	C2
T73	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T74	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T75	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T76	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T77	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2

Arklow Wastewater Treatment Plant Project

Appendix 13.2: Tree Survey Report

T78	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T79	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	<10	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	U
T80	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T81	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10+	Fair	Fair. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T82	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T83	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T84	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	<10	Dead	Poor. Young tree planted into grass verge.	Fell tree.	1.5	7.1	U
T85	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T86	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T87	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T88	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Poor. Significant dieback in crown. Young tree planted into grass verge.	Consider removal as part of good management.	1.5	7.1	U
T89	Acer platanoides (Norway Maple)	Y	8	300	1	2	3	3	3	3	10+	Fair	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	3.6	41	C2
T90	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2

Arklow Wastewater Treatment Plant Project

Appendix 13.2: Tree Survey Report

T91	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T92	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T93	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T94	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T95	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T96	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T97	Acer platanoides (Norway Maple)	Y	5	125	1	2	2	2	2	2	10	Poor	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.5	7.1	C2
T98	Acer platanoides (Norway Maple)	Y	5	100	1	2	2	2	2	2	10	Poor	Fair. Low vitality. Young tree planted into grass verge.	No urgent works needed.	1.2	4.5	C2
T99	Populus spp. (Hybrid Poplar)	EM	10	325	1	2	5	2	2	3	10+	Fair	Fair/Poor. Compression fork on main stem.	No urgent works needed.	3.9	48	C2
T100	Populus spp. (Hybrid Poplar)	EM	16	380	1	2	3	2	2	3	10+	Fair	Fair.	No urgent works needed.	4.56	65	C2
T101	Populus spp. (Hybrid Poplar)	EM	16	450	1	2	3	2	2	3	10+	Fair	Fair.	No urgent works needed.	5.4	92	C2
T102	Populus spp. (Hybrid Poplar)	EM	14	391	2	2	3.5	3.5	3	4	10+	Fair	Fair. Stem divides below 1.5m.	No urgent works needed.	4.69	69	C2
T103	Populus spp. (Hybrid Poplar)	EM	12	300	1	2	2.5	2.5	2.5	2.5	10+	Fair/Poor	Fair. Stem divides below 1.5m. Bacterial canker present on branches.	No urgent works needed. Monitor tree condition.	3.6	41	C2
T104	Populus spp. (Hybrid Poplar)	EM	15	600	1	2	7	4	5	4	10+	Fair	Fair. Broken branches in crown.	Target prune broken/damaged branches.	7.2	163	C2

T105	Salix fragilis (Crack Willow)	M	16	1200	1	2	7	8	5	4	10+	Fair	Poor. Large old tree that looks to have been previously pollarded, but that now has a significant crown. Ganoderma spp. brackets on lower stem indicating significant basal decay. Recent root damage. Tree now vulnerable to stem and/or branch breakage.	Carry out partial pollard by reducing crown size and height by 50%.	14.4	652	C2
T106	Acer pseudoplatanus (Sycamore)	M	13	566	2	2	5	5	5	5	<10	Bad	Poor. Tree is dying; probably as a result of significant previous root damage. Significant dieback in crown.	Fell tree; try coppicing to allow regeneration of fresh growth.	6.79	145	U
T107	Acer pseudoplatanus (Sycamore)	EM	10	350	1	2	3	5	4	3	<10	Poor	Fair/Poor. Low vitality. Recent significant root damage likely. Dieback in crown, leaf size small for species and foliage pale in colour/chlorotic.	Monitor tree condition. Consider coppicing to allow regeneration of fresh growth.	4.2	55	U
T108	Pinus sylvestris (Scots Pine)	M	15	750	1	3	4.5	5	5	5	20+	Good	Fair. Well structured mature Pine in reasonably good condition. Some broken branches in crown.	Target prune broken/damaged branches.	9	255	B2
T109	Acer pseudoplatanus (Sycamore)	EM	10	583	3	0	4	5	5	4	20+	Good	Fair. Self-sown multi-stem coppice stool.	No urgent works needed.	7	154	C2
T110	Acer pseudoplatanus (Sycamore)	M	15	693	3	2	6	6	6	6	20+	Good	Fair. Mature tree located in private garden; not fully accessed or inspected. Tree appears to be in good health based on the observations made.	No urgent works needed.	8.32	218	B2
T111	Tilia X europaea (Common Lime)	M	16	750	1	0	8	8	8	8	20+	Good	Fair. Mature tree located in private garden; not fully accessed or inspected. Tree appears to be in good health based on the observations made.	No urgent works needed.	9	255	B2
T112	Acer pseudoplatanus (Sycamore)	M	18	900	1	1	9	9	9	9	20+	Good	Fair. Large mature tree located in private garden; not fully accessed or inspected. Tree appears to be in good health based on the observations made. Thick Ivy growth on tree stem.	Cut Ivy around stem base. Inspect stem/basal area.	10.8	366	B2
T113	Aesculus hippocastanum (Horse Chestnut)	M	13	650	1	1	6	6	6	6	20+	Good	Fair. Mature tree located in private garden; not fully accessed or inspected. Tree appears to be in good health based on the observations made. Tree separated from survey site by deep drainage ditch.	No urgent works needed.	7.8	191	B2
T114	X Cupressocyparis leylandii Castlewellan	EM	13	300	1	1	4	4	4	4	10+	Fair	Fair. Part of linear group of Cypress trees inside garden boundary fence alongside the deep drainage ditch.	No urgent works needed.	3.6	41	C2
T115	Alnus glutinosa (Common Alder)	EM	8	200	1	0	3	3	3	3	10+	Fair	Fair. Alder tree growing close to the mature Pine.	No urgent works needed.	2.4	18	C2

Arklow Wastewater Treatment Plant Project

Appendix 13.2: Tree Survey Report

G1	Acer pseudoplatanus (Sycamore) Fraxinus excelsior (Ash)	EM	10 to 15	250 to 450							10+	Fair	Fair. Trees growing along sloping bank to south of riverside path. Land is raised above the path behind a retaining wall. Several stems are approximately 2m south of wall and crown spread extends to northern edge of path with around a 3m clearance from ground level. Trees have sustained some bark wounds to stems and have had soil levels raised around the stem bases. Tree vitality appears to be reasonable at present.	No urgent works needed.			C2
G2	Sorbus aria (Whitebeam) Acer platanoides (Norway Maple) Populus spp. (Hybrid Poplar)	SM EM	4 to 8	150 to 200							10+	Fair	Fair. Linear group of young trees established in roadside verge. Most trees have sustained some bark wounds to their stem bases; most probably from grass cutting machinery.	No urgent works needed.			C2
G3	Salix spp. (Willow) Acer pseudoplatanus (Sycamore) Alnus glutinosa (Alder)	SM EM									10+	Fair	Fair. Area of dense unmanaged scrub woodland; impenetrable for detailed tree inspection. Mostly young Willow natural regeneration growing on wetland fringe.	No urgent works needed.			C2
G4	Acer pseudoplatanus (Sycamore) Tilia spp. (Lime)	EM M	10 to 18								20+	Good	Fair/Good. Linear group of mostly early mature and mature Sycamore trees growing in the rear gardens of the neighbouring properties. Trees were not fully inspected due to limited access; they appear to be in mostly good condition and some could be classified as category A when fully inspected and assessed.	No urgent works needed.			B2 C2
G5	Salix spp. (Willow) Betula pendula (Silver Birch) Alnus glutinosa (Alder)	SM EM	4 to 6								10+	Fair	Fair. Dense young scrub vegetation on land at the eastern edge of the wetland; separated from neighbouring gardens by deep drainage ditch. Trees look to be mostly naturally regenerated Willow bushes in fairly good health.	No urgent works needed.			C2

G6	Salix spp. (Willow) Betula pendula (Silver Birch) Acer pseudoplatanus (Sycamore) Fraxinus excelsior (Ash) Malus domestica (Apple)	SM EM	7 to 12	200 to 300							10+	Fair	Fair. Small, linear cluster of trees and bushes; partly associated with the garden of the former nearby building (now demolished). Trees look to be in fair condition but are of limited value and potential.	No urgent works needed.			C2
G7	Salix spp. (Willow) Betula pendula (Silver Birch) Alnus glutinosa (Alder)	SM EM M	10 to 12								10+	Fair	Fair. Mixed tree-line along the northern bank of the Avoca River. Trees not subject to detailed inspection due to poor access. Trees are part of extensive group that create important landscape feature along the riverbank. Tree health looks to be reasonably good.	No urgent works needed.			B2 C2

9 TREE SURVEY PLAN

Drawing 6572_100, Scale 1:1000 @ A0, appended.