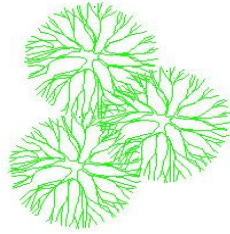


Appendix H. Tree Survey Report and Tree Protection Plan Drawings





Independent Tree Surveys Ltd

Tree Survey Report Mortarstown WWTP Upgrade Kilkenny Road Carlow

September 2025

Contents

1.0 Introduction	1
2.0 Report Limitations.....	1
3.0 Survey Methodology	2
4.1 Survey Key	2
4.2 Tree Retention Category (Cat) (BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations)	4
4.3 Root Protection Area (RPA)	4
5.0 Findings	5
6.0 Preliminary Management Recommendations.....	6
7.0 Site Photographs	7
8.0 Arboricultural Impact of the New Development	12
9.0 Arboricultural Method Statement	13
9.1 Tree Work Operations	13
9.2 Tree Protection Measures	13
10.0 Appendices.....	15
Tree Protection on Construction Sites – General Recommendations.....	15
Tree Survey Extents	15
Tree Survey Schedule	15
Tree Removal Schedule	15
Tree Survey Drawing 25025_TS (Tree Constraints Plan)	15
Tree Protection Plan Drawing 25025_TPP	15

1.0 Introduction

It is planned to upgrade the Mortarstown Wastewater Treatment Plant in Carlow Town, Co. Carlow; the grounds of the WWTP and the lands making up the project extent include a number of trees and woodlands. This report has been commissioned to provide an Arboricultural assessment of the trees, hedges and woodlands within the project redline boundary, to assist with the plans for the project and for inclusion with the planning application for the scheme. The survey data was collected and collated in accordance with BS5837: (2012) *Trees in relation to design, demolition, and construction – Recommendations*.

2.0 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.
- Plants such as Ivy, Brambles and Creepers and dense epicormic suckering can obscure structural defects and some symptoms of disease, where such growth prevent a thorough examination, it should be carefully cut back and the tree re-inspected.
- Where trees were inaccessible due to undergrowth, fencing, road safety etc. assessment of tree condition and tree stem/crown dimensions were made based on what parts of the trees were visible to the surveyor and should be regarded as preliminary.

Report Prepared by

John Morgan
BSc (Hons) Tech Cert (Arbor A)
M Arbor A (Membership number PR407)

05/09/2025

3.0 Survey Methodology

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

Trees on private property were not accessed directly, trees rendered inaccessible by thick undergrowth, fences, walls etc. were assessed using what visual information the surveyor was able to obtain. Tree groups, wooded areas and hedges were assessed and described collectively.

Some of the individual trees were not plotted by topographic survey methods and their positions on the survey drawings should be regarded as indicative.

The extent of the survey area is shown on the aerial image in the appendices.

4.1 Survey Key

Tree Numbers

Individual trees inside the wastewater treatment plant (WWTP), around the cottage and in the verge along Kilkenny Road were tagged with numbered tree tags; other trees, tree groups, woodlands and hedges were allotted reference numbers. These numbers are used for identification and cross reference with the survey schedule and site drawings.

Tree Species

Common and botanical names of the tree species were recorded.

Tree Crown Dimensions

Tree height (Ht), crown clearance (Cl) and crown-spread (NESW cardinal points) measurements are in metres and are estimated.

Stem Diameter (Dbh)

Measurements are in millimetres and taken at 1.5m from ground level, multiple stems (St) are recorded as a function of the BS:5837 RPA formulae described below.

Tree age classes

Y	Young	Recently planted (with 5 years or so)
SM	Semi-Mature	Well established young tree
EM	Early Mature	Established tree not yet fully grown
M	Mature	Full or near full grown tree
LM	Late Mature	Older specimen in full maturity
OM	Over Mature	Full maturity now declining through natural causes
Vet	Veteran	Notable due to large size, old age, ecological importance

Tree Physiological and Structural condition

Tree condition was graded as

- 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

Work Recommendations

Preliminary management recommendations are made where necessary and pertain to current site conditions unless otherwise stated.

Estimated Remaining Contribution (ERC)

The approximate number of years that a tree should continue to live and contribute amenity, conservation or landscape value to the site under current site conditions.

4.2 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 trees with a stem diameter of below 150mm and/or <10m in height.
- 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.

Subcategories

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.

4.3 Root Protection Area (RPA)

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 in metres measured from the tree stem and is shown on the tree survey/constraints drawing 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.

The calculated RPA for each tree should be capped to 707 m².

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:

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

5.0 Findings

The trees were assessed during site visits on the 21st and 25th July 2025. The field survey findings are recorded in the survey schedule appended to the report and shown on the Tree Survey/Constraints drawing 25025_TS. The survey recorded 3 woodlands, 10 hedges, 23 tree groups and 108 individual trees. Of the 108 individual trees, 2 were graded category A (high value), 32 category B (moderate value), 70 category C (low value) and 4 category U (poor condition).

The survey area covered the grounds of the Mortarstown Wastewater Treatment Plant (WWTP), the farmland between the WWTP and Kilkenny Road, parts of the woodland between Kilkenny Road and the River Barrow, housing estate and private grounds and verges along the east side of Kilkenny Road and the woodland and hedges to the south and north of the Kilkenny Road Pumping Station.

The grounds of the WWTP include a series of trees planted as individuals and in small clusters for landscape amenity and others planted as larger linear groups to form landscape screens to the northern and southern boundaries of the plant. The individual trees are of moderate or low arboricultural value. The linear groups (of mostly exotic Cypress trees) are of relatively low arboricultural value but do contribute valuable landscape screening and shelter to the plant.

The farmland between the WWTP and Kilkenny Road includes some poor-quality trees (group G8) along with hedges to the south and northwest. The northern edge of the farmland borders a treeline originating on the private land to the north; this tree line includes some larger trees (Ash, Monterey Cypress, and Horse Chestnut) and linear groups of Leyland Cypress trees (G7, G11 and G12) and the line of Monterey Cypress trees T5-T11.

The trees (Acer and Betula spp.) tagged 525-537 and 682-687 are located within the roadside verge off Kilkenny Road and were evidently planted as amenity landscape trees. The trees are of moderate to low value based upon their condition and size. Trees 669-680 are associated with the adjacent cottage. Trees T1-T48 are in the grounds of private properties, housing estates and landscape verges along the southeast side of Kilkenny Road and include some trees of better quality. Trees T49-T60 are individual trees within the woodland areas between Kilkenny Road and the River Barrow.

The woodland between Kilkenny Road and the River barrow extends along the western side of the survey area, from the Kilkenny Road pumping station in the north to the private dwellings in the south. Some of the larger mature Willows and Poplars are of moderate (or even high) arboricultural value, although there has been some storm damage and windthrow through the area. The woodland has been described as three separate areas (W1, W2 and W3) for the purposes of this survey, however, these areas all merge into the one greater wooded area. Woodland W1 refers to the area south of Kilkenny Road pumping station, W2 includes the low-lying riparian woodland towards the southern end of the woodland, and W3 is the scrub woodland covering

the rough ground at the far southern end of the woodland where it borders the gardens of the private houses.

Woodland W1 is contiguous with the riparian Willow trees (labelled G21) growing along the riverbank up to the northern boundary of the site. These Willow trees are almost all multi-stemmed from near ground level with the stool bases being close to or at the edge of the river channel. The Willows have considerable crown spread out over the river channel to the west, as well as the unmanaged lands to the east. The trees provide good landscape and conservation value to the area. The northern end of the project site is a mix of rough pasture sloping gently down towards the river and naturally regenerated scrub (group G20). The field and scrub are separated from Kilkenny Road to the east by a low, regularly trimmed farm hedge (H10).

6.0 Preliminary Management Recommendations

Preliminary management recommendations for the trees *under present site conditions* are listed in the survey schedule.

The larger trees (Poplar and Ash) in the woodland (W1 and W2) along the roadside should be reviewed to check their structural condition. All Ash trees should be monitored to check the level of crown dieback from Ash Dieback disease.

7.0 Site Photographs



Photo 1 Inside the WWTP - Cypress group G3 viewed from the west



Photo 2 Inside the WWTP - View from the northeast showing the trees planted for landscape around the facility



Photo 3 Mixed Betula and Acer trees on the landscape island between the old road to the east (right) and Kilkenny Road.



Photo 4 Mature trees in the grounds of the old cottage off Kilkenny Road



Photo 5. Cypress trees T5-T14 close to the east side of Kilkenny Road



Photo 6. Trees T22-T25 and group G13 in the verge of the Irish Wheelchair Association premises on Kilkenny Road



Photo 7. Trees T30-31 in the landscape border of the Southern Gardens estate



Photo 8. Trees making up the edge of woodland W1 along Kilkenny Road



Photo 9. Willow trees (group G21) growing along the bank of the River Barrow north of the pumping station



Photo 10. Scrub woodland (W3) at the southern edge of the main woodland block, where it borders the private houses

8.0 Arboricultural Impact of the New Development

The upgrading of the Mortarstown wastewater treatment plant (WWTP) in Carlow will involve the expansion of the existing main WWTP facility, it will also include a new underground connecting pipe between the main facility and the Kilkenny Road pumping station and the installation of a new outfall pipe from the WWTP to the River Barrow.

The development will require that some of the trees and hedges in and around the project site will need to be removed to facilitate the expanded footprint of the WWTP and to allow for the works necessary to install the new service connections.

The trees, tree groups, hedges and areas of woodland that will be impacted by the proposed development are listed in the Tree Removal Schedule and shown on the Tree Protection Plan drawing (25025_TPP); however, this may be subject to amendment as the details of the work methodology and site management set up is finalised and should be regarded as indicative.

The main areas of impact include:

- The removal of individual trees and hedging to facilitate the expansion of the main WWTP.
- The removal of individual trees and hedging to create the separate work areas needed for the tunnel access shafts for the new pipe connecting the WWTP to the Kilkenny pumping station.
- The clearance of woodland trees and bushes to allow for the trenching and pipe-laying works necessary for the installation of the new outfall pipe from the WWTP into the River Barrow.

A preliminary assessment of the impact of the project indicates that 26 individual trees included in the schedule will be removed; this is comprised of 10 category B trees and 16 category C trees. 1 Group (cat C) will be removed entirely.

2 Hedges (both cat C) will have some sections removed, 6 tree groups (all cat C) will be partially removed or have sections removed.

The two woodlands W1 and W3 will have areas cleared of trees to facilitate the development; the precise extent of the clearance required in woodland W3 will be determined as the detailed work methodology is finalised.

The two mature Willow trees (T59 and T60) on the bank of the River Barrow will suffer damage from the trenching associated with the installation of the new outfall pipe. The full extent of the damage (to the roots and above ground parts of the trees) will only be apparent as the works progress, the intention being to try and retain the trees whilst laying the new pipe through the only viable route to the river channel. The trees may require pruning to reduce their size or coppicing if they sustain significant damage during the works.

The trees and woodlands around the proposed development will be vulnerable to damage from construction activity unless the works are well planned and managed; tree protection recommendations are described in section 9.2 below.

9.0 Arboricultural Method Statement

9.1 Tree Work Operations

The trees listed in the Tree Removal Schedule and highlighted in red on the tree protection plan (25025_TPP) will be felled.

The tree work will be carried out by professional tree surgeons working to BS3998 (2010). All arisings (cordwood and brash) will be removed to a green waste facility or processed into mulch for recycling on the site.

9.2 Tree Protection Measures

The contractor will appoint a qualified arborist to oversee the tree protection measures deployed during the development; this will include a site meeting prior to commencement of works to ensure that the initial protection measures are established along suitable lines and that the contractor fully understands the importance of the measures. The arborist should carry out regular inspections of the site during the works and be available for attendance during important phases of the project; especially the works associated with the installation of the new outfall pipe through woodland W3 and Willow trees T59 and T60.

Sturdy tree protection fencing (see figure 1 below) or suitable site hoarding will be erected along the indicative lines shown on the Tree Protection Plan Drawing 25025_TPP or where decided upon by the project arborist following the detailed planning phase of the project to prevent demolition or construction work encroaching into the root protection areas of the trees being retained. Fencing may not be necessary where other site barriers are to be located, but this should be clarified at the detailed site planning phase.

The tree protection measures will be put in place *before* demolition or construction work commences and should remain in place until their removal or re-location is authorised by a qualified arborist.

The works through woodland W3 to install the new outfall pipe should be undertaken in such a way as to minimise the extent of woodland land area cleared or utilised for the operation. The limits of the work area should be clearly marked out on the site and all woodland trees cut and cleared by professional tree work contractors rather than by excavator etc. Woodland adjacent to the area cleared should be protected by barriers/fencing to prevent encroachment by machinery etc. outside the designated work zone. Where ground levels are not being altered, soils within the work zone should be protected from excessive compaction by a protective layer (such as ground protection plates/mats or a cellular confinement system capable of supporting the appropriate weight) where this is practicable.

The two Willow trees (T59 and T60) should be protected from direct physical injury to the stems by sturdy barriers (such as plywood sheets on a timber framework) and the work taken with care to try and minimise any damage to the branching. Where necessary, branching should be pruned by professional tree surgeons to improve clearance and help avoid branch breakage from machinery. The extent of the open trench and other soil movements/disturbances in the vicinity of the trees should be kept to a minimum and restricted to as far from the bases of the trees as is practicable. The works should be overseen by the project arborist who should provide guidance and advice where appropriate. Roots exposed by the trenching should be cut back to the trench face to leave a clean cut. The trench should be backfilled promptly after the pipe has been installed. Ground levels around the trees should be left unaltered wherever this is practicable.

Woodland trees of suitable species (Willow, Poplar, Hazel, Hawthorn, Ash etc.) around the work zones that are deemed by the site arborist to have been badly impacted by the project works (such as root severance, soil compaction, stem damage etc.) should be coppiced to stump for regeneration rather than left to decline and collapse.

Any additional new underground services around the project site should be routed away from the RPAs of the trees being retained; where this is not practical for reasons unforeseen and unavoidable, the services will be installed under any significant tree roots into trenches excavated by compressed air lance (*Airspade*) or other approved tree root friendly system such as Air-Vacuum truck, Mole drilling etc.

All exposed roots and/or soil profiles containing roots of trees to be retained will be kept damp in dry conditions by regular watering and be covered with a double layer of hessian fabric to prevent desiccation. Backfill should be of good quality topsoil, structural soil or clean sand.

Where construction machinery *must* encroach the RPAs of the trees to be retained for reasons unforeseen and unavoidable; suitable ground protection will be put in place to prevent any significant soil compaction or root damage near the trees; this should take the form of suitable strength ground protection mats or cellular confinement system capable of supporting the appropriate weight.

All site offices, materials storage, staff parking etc. will located outside of the RPAs of the trees wherever practical; where this is not possible then the ground surface will be covered by an appropriate ground protection layer.

Following completion of the works, the project arborist should undertake a post-construction review of the trees around the site, making recommendations where appropriate. Any remedial tree works associated with the project that are recommended in this review should be undertaken by professional tree work contractors in a timely fashion.

10.0 Appendices

Tree Protection on Construction Sites – General Recommendations

Tree Survey Extents

Tree Survey Schedule

Tree Removal Schedule

Tree Survey Drawing 25025_TS (Tree Constraints Plan)

Tree Protection Plan Drawing 25025_TPP

Tree Protection on Construction Sites – General Recommendations

Trees being retained should be protected from unnecessary damage during the construction process by effective construction-proof barriers that will define the limits for machinery drivers and other construction staff. Ground protected by the fencing will be known as the Construction Exclusion Zone (CEZ). Sturdy protective fencing will be erected along the points identified in the Tree Protection Plan **prior** to any soil disturbance and excavation work starting; this is essential to prevent any root or branch damage to the retained trees. The British Standard BS5837: *Trees in relation to design, demolition and construction (2012)* specifies appropriate fencing; see figure 1 below.

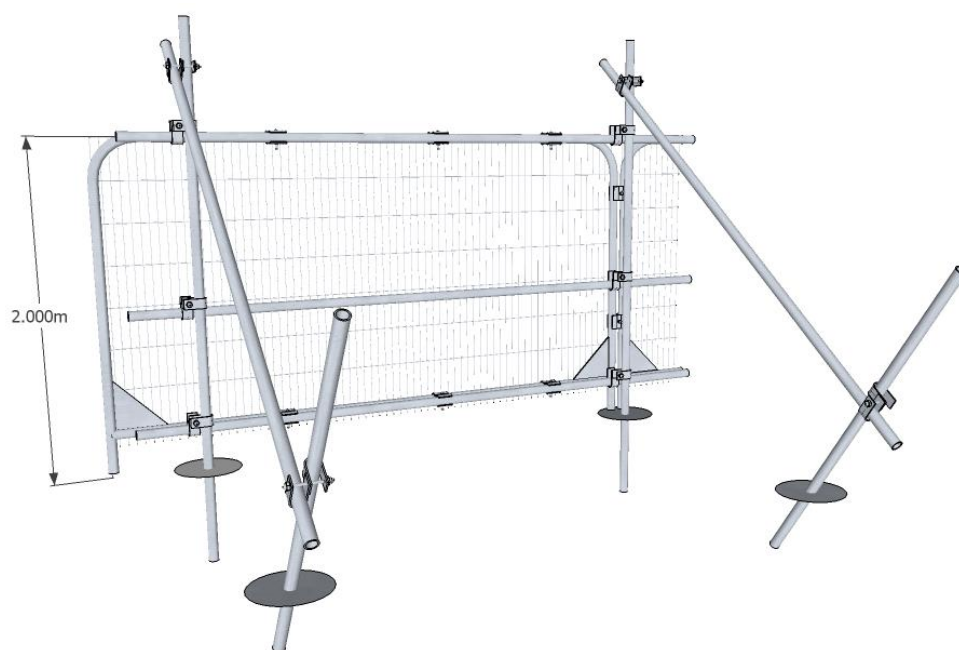


Figure 1. Protective fence specification

For light access works within the CEZ the installation of suitable ground protection in the form of scaffold boards, woodchip mulch or specialist ground protection mats/plates may be acceptable.

All weather notices will be erected on the fence with words such as: "Tree Protection Fence — Keep Out". When the fencing has been erected, the construction work can commence. The fencing will be inspected on a regular basis during the duration of the construction process and shall remain in place until heavy building and landscaping work has finished and its removal is authorised by a qualified arborist.

Trench digging or other excavation works for services etc. will not be permitted in the CEZ unless approved and supervised by a qualified arborist using methods outlined in BS5837: *Trees in relation to design, demolition and construction (2012)*.

Care will be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to them and might make their safe retention impossible.

Materials, which can contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, will not be discharged within 10 m of a tree stem.

Fires will not be lit in a position where their flames can extend to within 5 m of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.

Notice boards, wires and such like will not be attached to any trees. Site offices, materials storage and contractor parking will all be outside the CEZ.



Mortarstown WWTP Tree Survey Extents

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
T	509	Betula pendula (Silver Birch)	M	14(0)	350	1	4	3	3.5	4	20+	Good	Fair. Good vitality. Medium sized tree. Upright form.	No urgent works needed.	4.2	B2
T	510	Betula pendula (Silver Birch)	EM	10(0)	391	2	3.5	3.5	4.5	3	10+	Fair	Fair. Smaller sized tree. Thick Ivy growth on tree stem. Twin stem from ground level.	No urgent works needed.	4.69	C2
T	511	Betula pendula (Silver Birch)	EM	14(1.5)	430	2	4	4.5	4.5	4	10+	Good	Fair. Good vitality. Medium sized tree. Twin stem from ground level. Union appears stable at present.	No urgent works needed.	5.16	B2
T	512	Betula pendula (Silver Birch)	EM	13(0)	250	1	3	2	2	2	20+	Good	Good. Fair. Smaller sized tree. Upright form.	No urgent works needed.	3	B2
T	513	Alnus cordata (Italian Alder)	M	17(1)	636	2	5	4.5	4.5	4.5	10+	Good	Fair/Poor. Good vitality. Medium sized tree. Compression fork on main stem.	No urgent works needed. Crown reduce by 2-3m.	7.63	C2
T	516	Alnus cordata (Italian Alder)	M	14(0)	500	1	5.5	4	5	5	20+	Good	Good. Good vitality. Medium sized tree.	No urgent works needed.	6	B2
T	517	Alnus incana (Grey Alder)	M	9(0)	350	1	5	5.5	5.5	4	10+	Fair	Fair. Suckers around stem base. Multiple stems at ground level. Minor dieback and deadwood in crown.	No urgent works needed.	4.2	C2
T	518	Alnus incana (Grey Alder)	M	9(0)	400	1	6	5.5	5.5	5	10+	Fair	Fair. Multiple stems at ground level. Leaf size small for species. Minor deadwood in crown. Suckers around stem base.	No urgent works needed.	4.8	C2
T	519	Fagus sylvatica 'Purpurea' (Copper Beech)	EM	12(0)	400	1	5	3.5	4.5	3	20+	Fair	Fair. Medium sized tree. Upright form.	No urgent works needed.	4.8	B2
T	520	Alnus cordata (Italian Alder)	M	15(0)	600	1	6	5	6	5.5	20+	Good	Fair. Medium sized tree. Upright form.	No urgent works needed.	7.2	B2
T	521	Alnus cordata (Italian Alder)	EM	12(0)	350	1	4.5	4	4.5	4.5	20+	Fair	Fair. Fair vitality. Medium sized tree.	No urgent works needed.	4.2	B2
T	522	Alnus incana (Grey Alder)	EM	5.5(0)	250	1	3	4	4.5	3	10+	Fair	Fair. Smaller sized tree. Suckers around stem base.	No urgent works needed.	3	C2
T	523	Populus X canadensis (Hybrid Black Poplar)	EM	18(0)	532	2	6	5	6	4	20+	Good	Fair. Larger tree. Upright form. Unable to inspect stem due to undergrowth. Suckers around stem base. Stem divides below 1.5m.	Clear undergrowth to allow proper view of tree base. Inspect stem/basal area.	6.38	B2
T	524	Fraxinus excelsior (Ash)	SM	8(1)	250	1	3	3	2.5	2.5	10+	Fair	Fair. Smaller sized tree. Some bark wounds to lower stem. Epicormic shoots on branching throughout crown. No significant dieback yet.	No urgent works needed.	3	C2
T	525	Acer platanoides (Norway Maple)	EM	12.5(1)	400	1	3.5	5.5	4	4	10+	Fair	Fair. Medium sized tree. Thick Ivy growth on tree stem. Unable to inspect stem due to undergrowth. Minor dieback in crown. Minor deadwood in crown. Close to ESB lines, so has had to be repeatedly cut back.	Clear undergrowth to allow proper view of tree base. Prune tree clear of service wires.	4.8	C2
T	526	Acer platanoides (Norway Maple)	EM	13(1)	450	1	4.5	4	5	4	20+	Fair	Fair. Fair vitality. Medium sized tree. Some pruning wounds on stem. Has been trimmed back from ESB in past.	No urgent works needed.	5.4	B2

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
T	527	Betula pendula (Silver Birch)	M	13(1.5)	500	1	4	4	4.5	3.5	10+	Fair	Poor. Medium sized tree. Compression fork on main stem at 3m.	Crown reduce by 2-3m.	6	C2
T	528	Acer platanoides (Norway Maple)	EM	13.5(2)	450	1	3.5	3.5	4	3.5	10+	Poor	Fair. Medium sized tree. Stem divides above 1.5m. Some pruning wounds on stem. Dieback in crown. Scattered minor deadwood.	Monitor tree condition.	5.4	C2
T	529	Betula pendula (Silver Birch)	EM	13(0.5)	350	1	3	4	4	3.5	20+	Fair	Fair. Medium sized tree. Thick Ivy growth on tree stem. Unable to inspect stem due to undergrowth.	Cut Ivy around stem base.	4.2	B2
T	530	Acer platanoides (Norway Maple)	EM	15(0.5)	400	1	3	4	4	3.5	10+	Fair	Fair. Medium sized tree. Thick Ivy obscures view of tree stem. Dieback in crown. Minor deadwood in crown.	Monitor tree condition.	4.8	C2
T	531	Acer platanoides (Norway Maple)	EM	12(0.5)	500	1	3.5	3.5	3.5	3	10+	Fair	Fair. Smaller sized tree. Thick Ivy growth on tree stem. Suckers around stem base. Minor dieback in crown.	Cut Ivy around stem base. Clear undergrowth to allow proper view of tree base.	6	C2
T	532	Betula pendula (Silver Birch)	SM	9(2)	269	3	2	2	3	2	10+	Poor	Fair. Smaller sized tree. Thick Ivy obscures view of tree stem and main branch unions. Some sparseness of upper crown.	Cut Ivy around stem base. Inspect stem/basal area.	3.23	C2
T	533	Acer platanoides (Norway Maple)	EM	13(0)	539	5	5	4	4.5	3.5	10+	Fair	Fair/Poor. Medium sized tree. Thick Ivy growth on tree stem. Multiple stems at ground level. Minor dieback in crown. Tight unions at stem base.	Clear undergrowth to allow proper view of tree base.	6.47	C2
T	534	Fraxinus excelsior (Ash)	SM	9(1)	308	4	3	4.5	3	2.5	10+	Poor	Fair. Smaller sized tree. Unable to inspect stem due to undergrowth. Multiple stems at ground level. Some bark wounds to lower stem. Minor dieback in crown. Epicormic shoots on branching throughout crown.	Monitor tree condition.	3.7	C2
T	535	Acer platanoides (Norway Maple)	EM	12.5(1.5)	400	1	5	5	3.5	3.5	10+	Fair	Fair. Medium sized tree. Some bark wounds to lower stem. Minor dieback in crown. Scattered minor deadwood.	Monitor tree condition.	4.8	C2
T	536	Betula pendula (Silver Birch)	EM	13(2)	350	1	3	2.5	4	2.5	10+	Good	Fair/Poor. Good vitality. Smaller sized tree. Thick Ivy growth on tree stem. Wood decay in old wound at stem base.	Cut Ivy around stem base. Inspect stem/basal area.	4.2	C2
T	537	Acer platanoides (Norway Maple)	SM	9(2)	300	1	3	2.5	2.5	2	10+	Fair	Fair. Fair vitality. Smaller sized tree. Unable to inspect stem due to undergrowth. Some bark wounds to lower stem.	Cut Ivy around stem base. Clear undergrowth to allow proper view of tree base. Inspect stem/basal area.	3.6	C2
T	669	Picea abies (Norway Spruce)	EM	15(2)	450	1	3	3	3.5	3.5	10+	Fair	Fair. Medium sized tree. Upright form. Thick Ivy obscures view of tree stem. Unable to inspect stem due to undergrowth. Scattered minor deadwood.	Cut Ivy around stem base. Clear undergrowth to allow proper view of tree base.	5.4	C2
T	670	Picea abies (Norway Spruce)	EM	14.5(1.5)	350	1	3	3	3	3	10+	Fair	Fair. Medium sized tree. Upright form. Scattered minor deadwood.	No urgent works needed.	4.2	C2
T	671	Fraxinus excelsior (Ash)	M	15(2)	650	1	8	6	6	5	10+	Fair	Fair. Medium sized tree. Thick Ivy obscures view of tree stem. Unable to inspect stem due to undergrowth. Epicormic shoots on branching throughout crown. No significant dieback of the crown yet.	Monitor tree condition.	7.8	C2

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
T	672	Chamaecyparis lawsoniana (Lawson Cypress)	EM	7(1)	461	8	2	2	2.5	1.5	10+	Fair	Fair. Smaller garden tree. Multiple stems below 1.5m.	No urgent works needed.	5.53	C2
T	673	Aesculus hippocastanum (Horse Chestnut)	M	7(2)	500	1	1	3.5	3	2	10+	Fair	Fair. Tree that has been cut back to or broken at 3m with only some light branching left. Thick Ivy obscures view of tree stem.	No urgent works needed.	6	C2
T	674	Aesculus hippocastanum (Horse Chestnut)	M	8(1)	500	1	3	6	6	1	10+	Fair	Fair/Poor. Smaller tree. Tree has been cut back to 3m and then 6m under ESB wires. Thick Ivy obscures view of tree stem. Leaf miner affecting foliage.	No urgent works needed.	6	C2
T	675	Aesculus hippocastanum (Horse Chestnut)	M	13(2)	600	1	7	5	6	7	20+	Fair	Fair. Medium sized tree. Suckers around stem base. Decay in old pruning points. Previously topped or pollarded at 4m in past. Cut back from ESB wires to south.	Carry out partial repollard.	7.2	B2
T	676	Aesculus hippocastanum (Horse Chestnut)	M	13(0.5)	500	1	7	4	6	5	20+	Fair	Fair. Thick Ivy obscures view of tree stem. Suckers around stem base. Decay in old pruning points. Leaf miner affecting foliage. Previously pollarded at 4m.	Carry out partial repollard.	6	B2
T	677	Malus domestica (Apple)	M	6(0)	300	3	5	3	4	4	10+	Fair	Fair. Smaller tree. Spreading form. Thick Ivy obscures view of tree stem. Multiple stems below 1.5m.	No urgent works needed.	3.6	C2
T	678	Picea abies (Norway Spruce)	EM	15(2.5)	500	2	2	3	3	3	10	Fair	Fair. Tree growing very close to wall. Thick Ivy obscures view of tree stem. Stem divides below 1.5m with a tight union at tree base.	No urgent works needed. Consider removal as part of good management.	6	C2
T	679	Chamaecyparis lawsoniana (Lawson Cypress)	M	13(2)	500	1	2.5	2	2	2	10+	Good	Fair. Garden tree. Upright form. Tree growing very close to wall.	No urgent works needed.	6	C2
T	680	Picea sitchensis (Sitka Spruce)	EM	20(2.5)	600	1	6	5.5	5.5	5	10	Fair	Fair. Medium sized tree. Upright form. Tree growing very close to wall. Somewhat sparse crown.	No urgent works needed. Consider removal as part of good management.	7.2	C2
T	681	Fraxinus excelsior (Ash)	M	15(6)	500	1	4	6	6.5	6	10+	Fair	Fair. Medium sized tree. Thick Ivy obscures view of tree stem and main branch unions. No significant dieback of the crown yet. Decay at site of previous branch removal on lower stem West Side.	Monitor tree condition.	6	C2
T	682	Betula pendula (Silver Birch)	M	15(0.5)	704	4	6	5	7	5	10+	Fair	Fair. Thick Ivy obscures view of tree stem. Multiple stems below 1.5m. Some exudation on stem.	Monitor tree condition. Cut Ivy around stem base. Inspect stem/basal area.	8.45	C2
T	683	Acer platanoides (Norway Maple)	EM	11(2)	400	1	4	4	5	4.5	10+	Poor	Fair. Medium sized tree. Thick Ivy obscures view of tree stem. Minor dieback in crown. Scattered minor deadwood.	Cut Ivy around stem base. Clear undergrowth to allow proper view of tree base.	4.8	C2

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
T	684	Betula pendula (Silver Birch)	EM	12(2)	400	1	5	2	6.5	4.5	10+	Poor	Fair. Medium sized tree. Thick Ivy obscures view of tree stem. Some sparseness of upper crown.	Monitor tree condition. Cut Ivy around stem base. Inspect stem/basal area.	4.8	C2
T	685	Acer platanoides (Norway Maple)	EM	13(1.5)	450	1	4.5	4	5.5	4.5	10+	Poor	Fair. Medium sized tree. Thick Ivy obscures view of tree stem. Unable to inspect stem due to undergrowth. Minor dieback in crown. Scattered minor deadwood.	Cut Ivy around stem base. Clear undergrowth to allow proper view of tree base.	5.4	C2
T	686	Betula pendula (Silver Birch)	M	13.5(2)	524	4	5	2.5	6.5	3	10	Poor	Fair. Thick Ivy obscures view of tree stem. Twin stem from ground level. Dieback in crown. Some sparseness of upper crown.	Monitor tree condition. Cut Ivy around stem base. Inspect stem/basal area.	6.29	C2
T	687	Acer platanoides (Norway Maple)	EM	13(2)	450	1	5	4	6	4	20+	Fair	Fair. Medium sized tree. Thick Ivy obscures view of tree stem. Unable to inspect stem due to undergrowth.	Cut Ivy around stem base. Inspect stem/basal area.	5.4	B2
T	1	Fraxinus excelsior (Ash)	M	19(2)	700	1	7	5.5	5.5	7	<10	Poor	Poor. Medium sized tree. Stem divides above 1.5m. Significant wood decay in old wound at stem base. Compression fork at tree base. Storm damaged branches in crown. Dieback in crown. Epicormic shoots on branching throughout crown.	Coppice.	8.4	U
T	2	Aesculus hippocastanum (Horse Chestnut)	EM	13(2)	550	1	4	5	4.5	5	20+	Fair	Fair. Medium sized tree. Large surface roots. Exposed and damaged roots. Small decay cavity on stem. Recently crown lifted.	No urgent works needed.	6.6	B2
T	3	Fraxinus excelsior (Ash)	EM	18(6)	524	3	5	6	6	5	10	Poor	Fair. Medium sized tree. Multiple stems at ground level. Significant basal decay. Minor dieback in crown. Epicormic shoots on branching throughout crown. Base not accessed. Tree has not declined sharply in recent years.	Monitor tree condition. Consider coppicing to allow regeneration of fresh growth.	6.29	C2
T	4	Fraxinus excelsior (Ash)	EM	14(4)	400	1	3	5	2	6	<10	Poor	Fair/Poor. Medium sized tree. Unable to inspect stem due to undergrowth. Some old wounds on stem. Significant dieback in crown. Deadwood in crown. Epicormic shoots on branching throughout crown. Tree has not declined significantly in recent years.	Monitor tree condition. Consider coppicing to allow regeneration of fresh growth.	4.8	U
T	5	Cupressus macrocarpa (Monterey Cypress)	M	18(5)	1000	1	5	9	7	9	20+	Fair	Fair. Medium sized tree. Minor dieback in crown. Storm damaged branches in crown. Recent storm damage. Not accessed.	Target prune broken/damaged branches.	12	B2
T	6	Cupressus macrocarpa (Monterey Cypress)	EM	17(8)	400	1	2	2	3	6	10+	Poor	Fair. Slender form. Suppressed by neighbouring trees. Previously topped.	No urgent works needed.	4.8	C2
T	7	Cupressus macrocarpa (Monterey Cypress)	M	18(5)	700	1	4	5	5	7	10+	Fair	Fair/Poor. Medium sized tree. Stem divides above 1.5m. Recent storm damage. Previously topped.	Target prune broken/damaged branches.	8.4	C2

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
T	8	Cupressus macrocarpa (Monterey Cypress)	EM	15(5)	450	1	4	2	2	5	10+	Fair	Fair/Poor. Asymmetric form due to group competition. Storm damaged branches in crown. Previously topped.	Target prune broken/damaged branches.	5.4	C2
T	9	Cupressus macrocarpa (Monterey Cypress)	M	18(6)	900	1	5	5	7	6	10+	Fair	Fair/Poor. Large mature tree. Leaning East. Poor shape & form. Asymmetric crown. Some potentially weak unions in crown. Previously topped.	No urgent works needed.	10.8	C2
T	10	Cupressus macrocarpa (Monterey Cypress)	M	18(4.5)	750	1	4	5	6	7.5	10+	Fair	Fair. Minor dieback in crown. Storm damaged branches in crown. Previously topped.	Target prune broken/damaged branches.	9	C2
T	11	Cupressus macrocarpa (Monterey Cypress)	M	18(3)	1000	1	8.5	4	7.5	7	20+	Fair	Fair. Large mature tree. Asymmetric form due to group competition.	No urgent works needed.	12	B2
T	12	X Cupressocyparis leylandii (Leyland Cypress)	M	18(2)	450	1	5	4	4.5	4	10+	Fair	Fair. Medium sized tree. Upright form.	No urgent works needed.	5.4	C2
T	13	X Cupressocyparis leylandii (Leyland Cypress)	EM	14(1.5)	350	1	2.5	3	2	3	10+	Fair	Fair. Limited potential. Smaller tree. Suppressed by neighbouring trees.	No urgent works needed.	4.2	C2
T	14	Chamaecyparis lawsoniana (Lawson Cypress)	EM	14(2)	300	1	2	2	2	2	10+	Fair	Fair. Smaller tree. Upright form. Suppressed by neighbouring trees.	No urgent works needed.	3.6	C2
T	15	Betula pendula (Silver Birch)	EM	16(1)	350	1	4.5	4	4.5	4	10+	Good	Good/Fair. Medium sized tree. Upright form. Some potentially weak unions in crown.	No urgent works needed.	4.2	C2
T	16	Tilia cordata (Small-leaved Lime)	EM	14.5(1.5)	450	1	5	5.5	5.5	4.5	20+	Good	Fair. Garden tree. Medium sized tree.	No urgent works needed.	5.4	B2
T	17	Betula pendula (Silver Birch)	EM	13(1.5)	300	1	2	2	3	3	20+	Fair	Fair. Slender, upright habit.	No urgent works needed.	3.6	B2
T	18	Fraxinus excelsior (Ash)	EM	13(2)	450	1	6	5	6	6	10	Poor	Fair. Dieback and epicormic growth indicative of Ash Dieback disease.	Monitor tree condition.	5.4	C2
T	19	Cedrus libani (Cedar of Lebanon)	EM	18(2)	600	1	4	5	5	5	40+	Good	Fair. Medium sized tree. Upright form.	No urgent works needed.	7.2	A2
T	20	Platanus acerifolia (London Plane)	M	16(1.5)	650	1	5	6	6	6	40+	Good	Fair. Medium sized tree.	No urgent works needed.	7.8	A2
T	21	Platanus acerifolia (London Plane)	EM	16(3)	550	1	5	5	5	5	20+	Good	Fair. Medium sized tree.	No urgent works needed.	6.6	B2

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
T	22	Chamaecyparis lawsoniana (Lawson Cypress)	EM	13.5(2)	450	1	2.5	2	2	2	10+	Good	Good/Fair. Medium sized tree. Upright form.	No urgent works needed.	5.4	C2
T	23	Acer pseudoplatanus (Sycamore)	SM	10(2)	300	1	3	4	4	3	10+	Fair	Fair. Smaller tree. Canker on stem.	No urgent works needed.	3.6	C2
T	24	Sorbus aria (Whitebeam)	SM	9(2)	300	1	4	4.5	3.5	3.5	10+	Fair	Fair. Smaller tree.	No urgent works needed.	3.6	C2
T	25	Tilia cordata (Small-leaved Lime)	EM	13(2)	450	1	6	5.5	5	5	20+	Good	Good/Fair. Average shape/form.	No urgent works needed.	5.4	B2
T	26	Acer pseudoplatanus (Sycamore)	EM	11(2)	350	1	4	3	3.5	4	10+	Fair	Fair. Smaller tree. Average shape/form.	No urgent works needed.	4.2	C2
T	27	Acer platanoides (Norway Maple)	SM	9(2)	450	3	5	5	5.5	5	10+	Good	Fair. Thick Ivy obscures view of tree stem. Stem divides below 1.5m.	Cut Ivy around stem base. Inspect stem/basal area.	5.4	C2
T	28	Tilia X europaea (Common Lime)	M	13(1)	450	1	7	5	6	5	20+	Good	Fair. Medium sized tree. Thick Ivy obscures view of tree stem. Unable to inspect stem due to undergrowth. Epicormic growth on stem. Suckers around stem base.	Inspect stem/basal area. Remove ground suckers.	5.4	B2
T	29	Alnus glutinosa (Common Alder)	SM	8(2)	260	3	3	3	3	2	10+	Fair	Fair. Smaller tree. Thick Ivy obscures view of tree stem. Multiple stems below 1.5m.	No urgent works needed.	3.12	C2
T	30	Pinus sylvestris (Scots Pine)	EM	12(2)	424	2	5	5	4	4	20+	Good	Fair. Thick Ivy obscures view of tree stem. Ivy restricts view of main branch unions. Unable to inspect stem due to undergrowth.	Clear undergrowth to allow proper view of tree base. Inspect stem/basal area.	5.09	B2
T	31	Pinus sylvestris (Scots Pine)	EM	12.5(2)	450	1	5	4	5	4.5	20+	Good	Fair. Smaller tree. Average shape/form.	No urgent works needed.	5.4	B2
T	32	Tilia cordata (Small-leaved Lime)	SM	6.5(1)	250	1	3	3	3	3	10+	Good	Good. Smaller tree. Average shape/form.	No urgent works needed.	3	C2
T	33	Acer platanoides (Norway Maple)	SM	7.5(1.5)	283	2	3	3	3	2.5	10+	Good	Fair/Poor. Smaller tree. Included bark present in fork.	Prune periodically to maintain as smaller tree.	3.4	C2
T	33	Acer platanoides (Norway Maple)	SM	7.5(1.5)	283	2	2.5	2	2.5	2	10+	Good	Fair/Poor. Smaller tree. Included bark present in fork.	Prune periodically to maintain as smaller tree.	3.4	C2
T	34	Sorbus aria (Whitebeam)	EM	8(2)	400	1	6	5	3	4	10+	Good	Fair. Thick Ivy obscures view of tree stem. Unable to inspect stem due to undergrowth.	Clear undergrowth to allow proper view of tree base. Inspect stem/basal area.	4.8	C2
T	35	Sorbus aucuparia (Rowan)	SM	4.5(2)	141	2	1.5	1.5	1.5	1.5	10+	Good	Fair. Smaller tree. Multiple stems below 1.5m.	No urgent works needed.	1.69	C2
T	36	Tilia cordata (Small-leaved Lime)	SM	10(2)	350	1	4	4	3	3	20+	Good	Good/Fair. Smaller tree. Average shape/form.	No urgent works needed.	4.2	B2

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
T	37	Acer pseudoplatanus (Sycamore)	EM	13(2)	640	2	6.5	6	6	5	20+	Good	Fair. Medium sized tree. Thick Ivy obscures view of tree stem. Unable to inspect stem due to undergrowth.	Cut Ivy around stem base. Inspect stem/basal area.	7.68	B2
T	38	Fraxinus excelsior (Ash)	SM	12(2)	400	1	5	6	6	5	10	Fair	Fair. Smaller tree. Epicormic shoots on branching throughout crown No severe dieback yet.	Monitor tree condition.	4.8	C2
T	39	Sorbus aria (Whitebeam)	EM	8(2)	400	1	5.5	3.5	5.5	4.5	20+	Good	Fair. Average shape/form. Thick Ivy obscures view of tree stem. Ivy restricts view of main branch unions.	Cut Ivy around stem base. Inspect stem/basal area.	4.8	C2
T	40	Sorbus aucuparia (Rowan)	SM	4.5(2)	100	1	1.5	1.5	1.5	1.5	10+	Fair	Fair. Smaller tree.	No urgent works needed.	1.2	C2
T	41	Acer platanoides (Norway Maple)	SM	10(2)	200	1	3	2.5	3	2	10+	Good	Good/Fair. Upright form.	No urgent works needed.	2.4	C2
T	42	Acer platanoides (Norway Maple)	SM	11(2)	350	1	4	5	5	4	10+	Good	Fair. Upright form. Stem divides above 1.5m.	No urgent works needed.	4.2	C2
T	43	Acer platanoides (Norway Maple)	SM	9(2)	300	1	3.5	4	4	4	10+	Good	Fair. Average shape/form.	No urgent works needed.	3.6	C2
T	44	Acer platanoides (Norway Maple)	EM	9(2)	350	1	4	3.5	4.5	4	20+	Good	Fair. Average shape/form.	No urgent works needed.	4.2	B2
T	45	Acer platanoides (Norway Maple)	SM	7(2)	150	1	3	3	3	2.5	10+	Good	Fair. Smaller tree. Suppressed by neighbouring trees.	No urgent works needed.	1.8	C2
T	46	Acer platanoides (Norway Maple)	SM	8(2)	200	1	3	3	4	2	10+	Fair	Fair. Smaller tree. Asymmetric form due to group competition.	No urgent works needed.	2.4	C2
T	47	Salix caprea (Goat Willow)	EM	8(2)	346	3	4	4	2	4	10+	Fair	Fair. Smaller tree. Multiple stems below 1.5m. Asymmetric form due to group competition.	No urgent works needed.	4.15	C2
T	48	Acer platanoides (Norway Maple)	SM	7(2)	200	1	3	4	4	3	10+	Fair	Fair. Smaller tree. Asymmetric form due to group competition.	No urgent works needed.	2.4	C2
T	49	Populus X canadensis (Hybrid Black Poplar)	M	23(2)	500	1	7	6	6	6	20+	Good	Fair. Large mature tree. Upright form.	Inspect stem/basal area.	6	B2
T	50	Aesculus hippocastanum (Horse Chestnut)	SM	10(0)	424	3	4	4	3	4	20+	Fair	Fair. Fair vitality. Smaller sized tree. Suckers around stem base. Multiple stems below 1.5m.	No urgent works needed.	5.09	B2
T	51	Populus tremula (Aspen)	M	18(4)	700	4	7	6	5	4.5	20+	Good	Fair. Multiple stems at ground level.	No urgent works needed.	8.4	B2
T	52	Fraxinus excelsior (Ash)	M	18(4)	1000	1	8	7	7	9	10	Poor	Fair. Fair vitality. Large mature tree. Good shape/form. Epicormic shoots on branching throughout crown. No severe dieback yet.	Monitor tree condition.	12	C2
T	53	Populus X canadensis (Hybrid Black Poplar)	M	22(2)	900	1	7	10	6	7	10+	Fair	Fair/Poor. Large mature tree. Storm damaged branches in crown. Recent loss of major limb. Historic loss of major limb. Broken branches hanging in crown. Not accessed.	Consider removal as part of good management. Target prune broken/damaged branches. Crown reduce.	10.8	C2

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
T	54	Populus X canadensis (Hybrid Black Poplar)	EM	16(2)	534	3	5	5.5	5.5	4	10+	Fair	Fair. Woodland edge tree. Unable to inspect stem due to undergrowth. Asymmetric form due to group competition.	Clear undergrowth to allow proper view of tree base. Review branch unions as stems fork.	6.41	C2
T	55	Populus X canadensis (Hybrid Black Poplar)	M	20(4)	650	1	6	5	5.5	6.5	20+	Fair	Fair. Larger tree. Upright form. Thick Ivy growth on tree stem. Not accessible.	Clear undergrowth to allow proper view of tree base.	7.8	B2
T	56	Salix fragilis (Crack Willow)	M	0(4)	450	1	5	6	6	5	10	Poor	Medium sized tree. Recently collapsed.	Coppice remains of tree back to the stump.	5.4	U
T	57	Salix fragilis (Crack Willow)	EM	0(4)	350	1	4	2	3	3	10	Fair	Medium sized tree. Recently collapsed.	Coppice remains of tree back to the stump.	4.2	U
T	58	Salix fragilis (Crack Willow)	EM	10(0)	450	1	8	5	2	8	10	Fair	Poor. Leaning North-West. Unbalanced crown shape. Crack up stem.	Consider coppicing to allow regeneration of fresh growth.	5.4	C2
T	59	Salix fragilis (Crack Willow)	M	20(0)	1273	3	7	9	10	10	20+	Good	Fair. Large specimen tree growing at edge of watercourse. Storm damaged branches in crown. Borderline cat A.	No urgent works needed.	15	B2
T	60	Salix fragilis (Crack Willow)	M	19(0)	1273	3	7	9	10	10	20+	Fair	Fair. Large specimen tree growing at edge of watercourse. Storm damaged branches in crown. Borderline cat A.	No urgent works needed.	15	B2
T	61	Fraxinus excelsior (Ash)	M	15(1)	800	4	5	7	7.5	6	10	Fair	Fair. Medium sized tree in inaccessible overgrown area. No severe dieback yet.	Monitor tree condition.	9.6	C2
G	1	Acer platanoides (Norway Maple) Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Tilia cordata (Small-leaved Lime) Acer pseudoplatanus (Sycamore)	EM	9(0)	346	3	4	4	4	4	10+	Good	Fair. Cluster of trees, some previously topped by ESB contractors. Some now burning off ESB lines. Some previous root damage. Some bark wounds to lower stem. Some potentially weak unions in crown structure.	Coppice the trees under the ESB lines.	4.15	C2
G	2	Acer platanoides (Norway Maple) X Cupressocyparis leylandii (Leyland Cypress) X Cupressocyparis leylandii Castlewellan	M	15(0)	600	1	7	4	3	3	10+	Fair	Fair. Linear group along boundary of WWTP. Medium sized trees set 1.6m from fence. Maples suppressed by Cypress trees. Bottom 2m recently clipped by flail inside WWTP.	No urgent works needed.	7.2	C2

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
G	3	Acer platanoides (Norway Maple) X Cupressocyparis leylandii (Leyland Cypress) X Cupressocyparis leylandii Castlewella	M	16(0)	600	1	6	7	4	4	10+	Good	Fair. Linear group along boundary of WWTP. Medium sized trees set 2.2m from fence. Maples suppressed by Cypress trees. Bottom 2m recently clipped by flail inside WWTP.	No urgent works needed.	7.2	C2
G	4	Malus sylvestris (Crab Apple)	SM	3(0)	100	1	0.5	0.5	0.5	0.5	10+	Fair	Fair. Row of small trees.	No urgent works needed.	1.2	C2
G	5	Malus domestica (Apple) Prunus domestica (Damson) Prunus avium (Wild Cherry) Pyrus communis (Common Pear)	SM	5(0.5)	150	1	2	2	2	2	10+	Fair	Fair. Fruit trees in verge along internal roads. 3-5m tall.	No urgent works needed.	1.8	C2
G	6	Cordyline australis	EM	3(1)	260	3	1	1	1	1	10+	Fair	Fair. Ornamental Palm trees.	No urgent works needed.	3.12	C2
G	7	X Cupressocyparis leylandii (Leyland Cypress) Fraxinus excelsior (Ash) Acer pseudoplatanus (Sycamore)	M	18.5(0)	550	1	5	6	5	5	10+	Fair	Fair. Linear group along edge of field. Partially cut back by ESB contractors in the past, with some trees now burning off the conductors. Broken branches hanging in crown. No severe dieback noted amongst the Ash.	Target prune broken/damaged branches. Prune tree clear of service wires.	6.6	C2
G	8	Prunus spinosa (Blackthorn) Sambucus nigra (Elder), Crataegus monogyna (Hawthorn)	EM	5(0)	200	1	3	3	3	3	10+	Fair	Fair. Area of thick vegetation and dense bushes, virtually impenetrable.	No urgent works needed.	2.4	C2
G	9	Ulmus glabra (Wych Elm)	EM	12(2)	350	1	4	4	4	4	<10	Dead	Bad. Row of hedgerow Elm trees being killed by Dutch Elm disease.	Coppice.	4.2	U
G	10	Betula pendula (Silver Birch) Salix fragilis (Crack Willow)	SM	8(2)	200	1	2.5	2.5	2.5	2.5	<10	Poor	Poor. Row of young trees badly damaged by horses. bBirch less affected than the Willows. Major bark wounding on stem by livestock.	Coppice weaker/selected stems.	2.4	U

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
G	11	X Cupressocyparis leylandii (Leyland Cypress)	SM	8(2)	200	1	2	2	2	2	10	Fair	Fair. Line of Cypress trees inside fence. 1-2m spacing. Suppressed by neighbouring trees. Limited potential to develop.	No urgent works needed.	2.4	C2
G	12	X Cupressocyparis leylandii (Leyland Cypress)	M	18(2)	400	1	4	4	4	4	10+	Fair	Fair. Upright form. Linear group at 1-3m spacing. not accessed.	No urgent works needed.	4.8	C2
G	13	Acer pseudoplatanus (Sycamore) Fraxinus excelsior (Ash) Chamaecyparis lawsoniana (Lawson Cypress) Acer platanoides (Norway Maple) Tilia cordata (Small-leaved Lime) Prunus laurocerasus (Cherry Laurel)	EM	16(0)	400	1	4.5	4.5	4.5	4.5	20+	Good	Good/Fair. Group of mixed species trees in fairly good condition. Not individually inspected/assessed.	No urgent works needed.	4.8	B2
G	14	Betula pendula (Silver Birch)	SM	13(2)	200	1	3	3	3	3	10+	Fair	Fair. Small group planting of Birch trees. Slender form.	No urgent works needed.	2.4	C2
G	15	Acer platanoides (Norway Maple) Betula pendula (Silver Birch) Fagus sylvatica (Beech)	SM	12(2)	300	1	3	3	3	3	20+	Good	Fair. Small group of trees and shrubs in verge. 8-12m tall.	No urgent works needed.	3.6	B2
G	16	Acer platanoides (Norway Maple)	SM	8(2)	150	1	2	2	2	2	10+	Fair	Fair/Poor. Cluster of three smaller trees. Included bark present in fork of one tree.	No urgent works needed. Coppice weaker/selected stems.	1.8	C2
G	17	Acer platanoides (Norway Maple)	SM	5(2)	150	1	2	2	2	2	10+	Fair	Good. Row of young trees in verge. Upright form.	No urgent works needed.	1.8	C2
G	18	Crataegus monogyna (Hawthorn)	EM	5.5(1.5)	150	1	2	2	2	2	10+	Fair	Fair. Short row of Hawthorn bushes in border.	No urgent works needed.	1.8	C2

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
G	19	Salix caprea (Goat Willow) Acer platanoides (Norway Maple)	EM	8(2)	400	4	4	4	4	4	10+	Fair	Fair. Row of trees inside fence. Multiple stems below 1.5m	No urgent works needed.	4.8	C2
G	20	Salix caprea (Goat Willow) Fraxinus excelsior (Ash) Prunus domestica (Damson)	SM	6(0)	250	1	3	3	3	3	10+	Good	Fair. Area of naturally regenerated scrub that has colonised field.	No urgent works needed.	3	C2
G	21	Salix fragilis (Crack Willow)	M	18(0)	606	3	6	6	10	6	20+	Fair	Fair. Riparian strip of mature Willow trees. 12 to 18m tall. Borderline category A. Good amenity and wildlife value.	Coppice weaker/selected stems.	7.27	B2
G	22	Carpinus betulus (Hornbeam)	SM	6(3)	250	1	3	3	3	3	10+	Fair	Fair. Linear group of young trees.	No urgent works needed.	3	C2
G	23	X Cupressocyparis leylandii (Leyland Cypress)	EM	16(2)	300	1	3	3	3	3	10+	Fair	Fair. Linear group of closely spaced Cypress trees. Limited value.	No urgent works needed.	3.6	C2
H	1	Fraxinus excelsior (Ash) Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Ulmus glabra (Wych Elm) Prunus spinosa (Blackthorn) Betula pendula (Silver Birch) Quercus robur (Common Oak) Tilia cordata (Small-leaved Lime)	SM	10(0)	300	1	3	3	3	3	10+	Fair	Fair/Poor. Old farm hedge with younger planting (Birch, Oak, Lime) inside WWTP boundary. Several dead and dying Elm trees. Some symptoms of Ash dieback disease, but no severe dieback seen. Trees and bushes 4-10m tall. Unable to inspect stems due to undergrowth. No recent management.	Coppice weaker/dying stems.	3.6	C2
H	2	Prunus lusitanica (Portugal Laurel)	SM	5(0)	100	1	1.5	1.5	1.5	1.5	10+	Good	Good. Well-established hedgerow north of the entrance gate into the WWTP .	No urgent works needed.	1.2	C2

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
H	3	Crataegus monogyna (Hawthorn) Sambucus nigra (Elder)	EM	4(0)	250	1	2	2	2	2	10+	Good	Fair. Growing in hedgerow along edge of field. Not trimmed in recent years. 3 to 6m tall	No urgent works needed.	3	C2
H	4	Ulmus glabra (Wych Elm) Crataegus monogyna (Hawthorn) Sambucus nigra (Elder)	EM	6(0)	250	1	3	3	3	3	10+	Fair	Fair. Unmanaged overgrown hedge along boundary of cottage grounds. Some dead/dying Elm trees.	Coppice dead/dying stems. Restore through regular hedgerow management.	3	C2
H	5	Fraxinus excelsior (Ash) Crataegus monogyna (Hawthorn) Prunus spinosa (Blackthorn) Sambucus nigra (Elder) Ulmus glabra (Wych Elm)	M	6(0)	250	1	2	2	2	2	10+	Fair	Fair. Old farm hedge made up of typical species mix; Hawthorn 5-6m, Ash 8-10m. Dutch Elm disease impacting some Elm saplings.	Coppice weaker/dying stems. Cut back and rejuvenate. Infill gaps with new planting.	3	C2
H	6	Fagus sylvatica (Beech)	SM	2(0)	100	1	0.5	0.5	0.5	0.5	20+	Fair	Fair. Hedge along driveway, contains some Privet and mixed sp. Including dwarf conifers, Maple, Cedar, Birch and Cherry.	No urgent works needed.	1.2	C2
H	7	Fagus sylvatica (Beech)	SM	2(0)	100	1	0.5	0.5	0.5	0.5	10+	Fair	Fair. Young hedge along road frontage.	No urgent works needed.	1.2	C2
H	8	Chamaecyparis lawsoniana (Lawson Cypress)	SM	8(0)	200	1	2	2	2	2	10+	Fair	Fair. Line of young Cypress trees. Forms landscape screen.	No urgent works needed.	2.4	C2
H	9	Fagus sylvatica (Beech)	SM	3(0)	100	1	0.5	0.5	0.5	0.5	10+	Good	Good. Hedge clipped to shape along edge of verge.	No urgent works needed.	1.2	C2
H	10	Crataegus monogyna (Hawthorn) Fraxinus excelsior (Ash) Prunus spinosa (Blackthorn)	EM	1.5(0)	100	1	0.75	0.75	0.75	0.75	10+	Fair	Fair. Old farm hedge along road. Hedge kept compact by regular clipping.	No urgent works needed.	1.2	C2

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

Type	No.	Species	Age	Ht (Cr) m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
W	1	Salix fragilis (Crack Willow) Populus tremula (Aspen) Salix caprea (Goat Willow) Alnus glutinosa (Common Alder) Aesculus hippocastanum (Horse Chestnut) Acer pseudoplatanus (Sycamore) Populus X canadensis (Hybrid Black Poplar) Prunus spinosa (Blackthorn) Crataegus monogyna (Hawthorn)	SM EM	5-17(0)	300	1					20+	Fair	Fair. Dense scrub woodland between river channel and road. Variable height and condition. Not individually assessed.	No urgent works needed.	3.6	B2

Tree Survey Schedule
Mortarstown, Carlow, Co. Carlow
July 2025

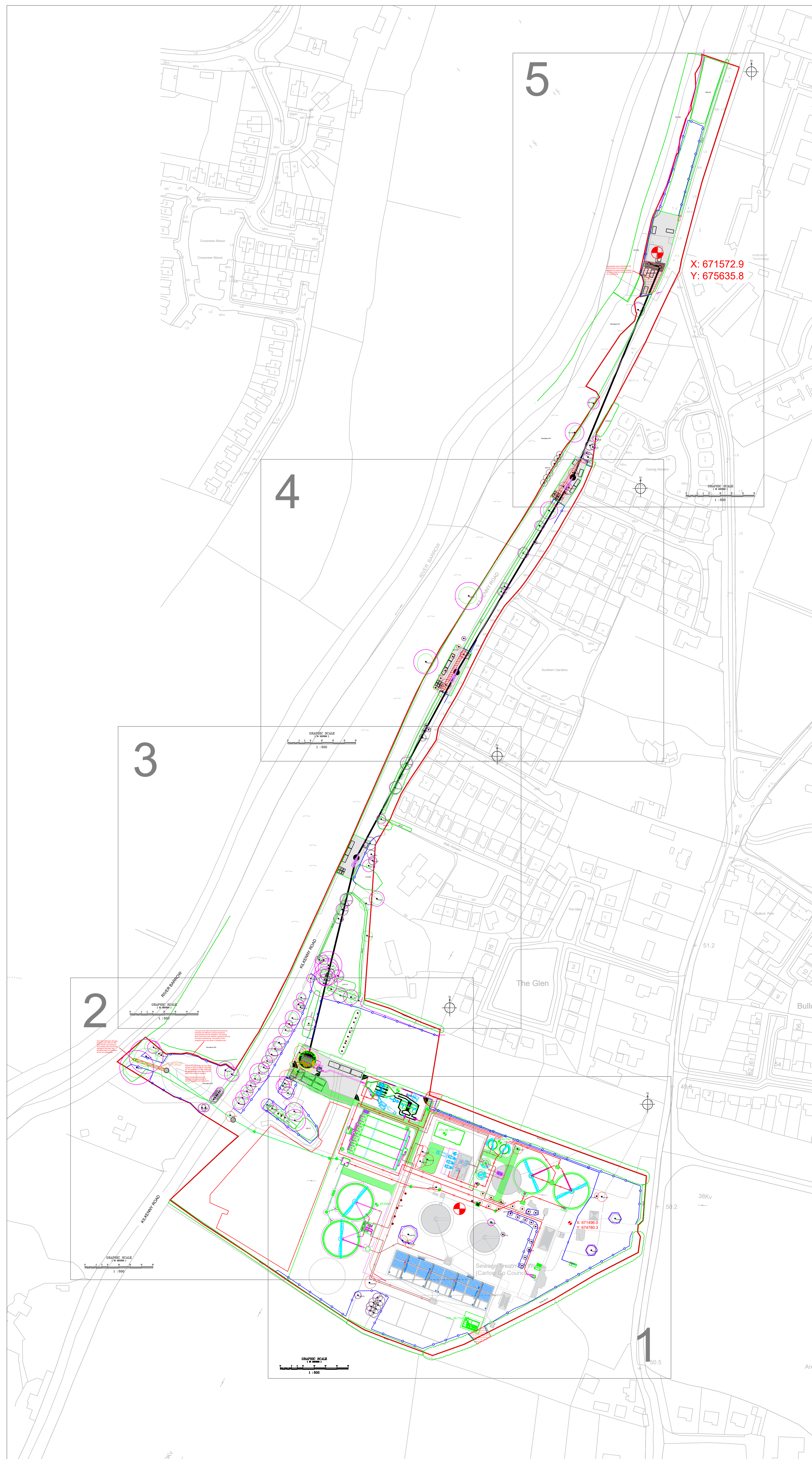
Type	No.	Species	Age	Ht (Cr m	Dbh mm	St	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
W	2	Ulmus glabra (Wych Elm) Acer pseudoplatanus (Sycamore) Aesculus hippocastanum (Horse Chestnut) Alnus glutinosa (Common Alder) Crataegus monogyna (Hawthorn) Fagus sylvatica (Beech) Fraxinus excelsior (Ash) Populus tremula (Aspen) Populus X canadensis (Hybrid Black Poplar) Salix caprea (Goat Willow) Salix fragilis (Crack Willow) Quercus robur (Common Oak)	EM	6 to 18	300	1					20+	Fair	Fair. Dense area of mixed woodland between river channel and road. Contains large numbers of younger trees and bushes as well as some larger individual <i>Populus spp.</i> trees.	Coppice weaker/selected stems.	3.6	B2
W	3	Alnus glutinosa (Common Alder) Salix caprea (Goat Willow) Populus X canadensis (Hybrid Black Poplar) Corylus avellana (Hazel) Sambucus nigra (Elder) Salix fragilis (Crack Willow)	EM	10(0)	500	4					10+	Fair	Fair/Poor. Scrub woodland dominated by multi-stemmed Willow growing on rough land between river Barrow and road, at southern end of larger area of riparian woodland. Some broken/collapsed and dead stems.	Coppice weaker/selected stems.	6	C2

Tree Removal Schedule
Mortarstown, Carlow, Co. Carlow
September 2025

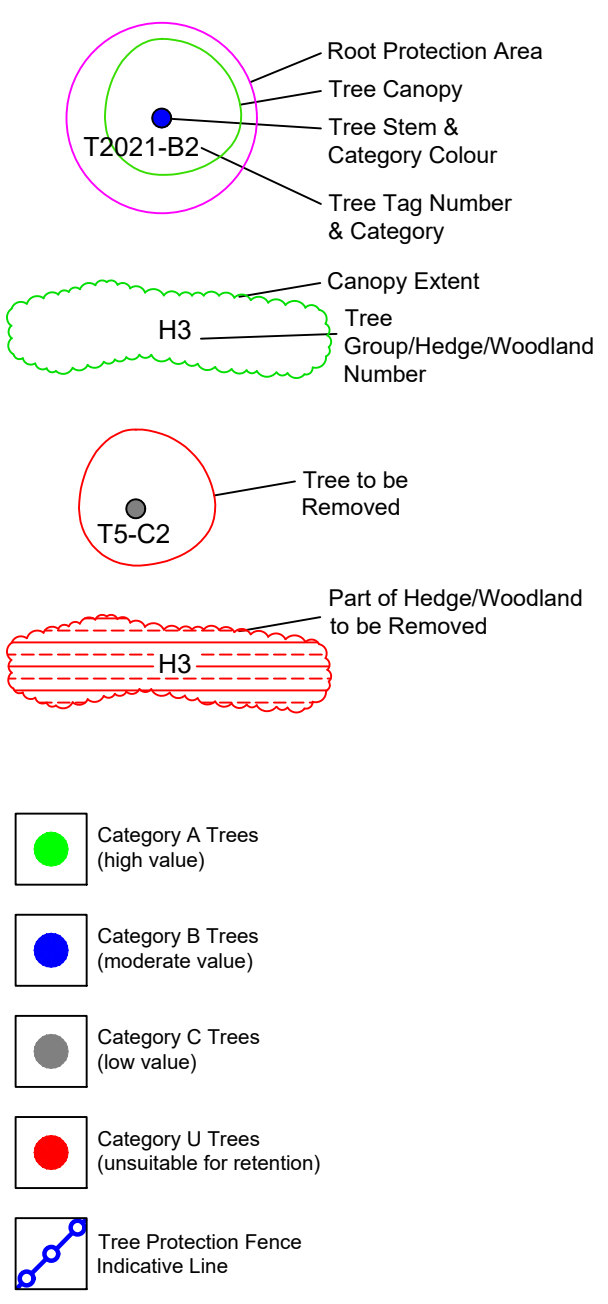
Type	No.	Species	Age	Comments	Cat
Trees and Groups to be Removed					
T	511	Betula pendula (Silver Birch)	EM	To be removed.	B2
T	512	Betula pendula (Silver Birch)	EM	To be removed.	B2
T	513	Alnus cordata (Italian Alder)	M	To be removed.	C2
T	516	Alnus cordata (Italian Alder)	M	To be removed.	B2
T	517	Alnus incana (Grey Alder)	M	To be removed.	C2
T	518	Alnus incana (Grey Alder)	M	To be removed.	C2
T	519	Fagus sylvatica 'Purpurea' (Copper Beech)	EM	To be removed.	B2
T	521	Alnus cordata (Italian Alder)	EM	To be removed.	B2
T	522	Alnus incana (Grey Alder)	EM	To be removed.	C2
T	523	Populus X canadensis (Hybrid Black Poplar)	EM	To be removed.	B2
T	525	Acer platanoides (Norway Maple)	EM	To be removed.	C2
T	675	Aesculus hippocastanum (Horse Chestnut)	M	To be removed.	B2
T	676	Aesculus hippocastanum (Horse Chestnut)	M	To be removed.	B2
T	677	Malus domestica (Apple)	M	To be removed.	C2
T	678	Picea abies (Norway Spruce)	EM	To be removed.	C2
T	679	Chamaecyparis lawsoniana (Lawson Cypress)	M	To be removed.	C2
T	680	Picea sitchensis (Sitka Spruce)	EM	To be removed.	C2
T	30	Pinus sylvestris (Scots Pine)	EM	To be removed.	B2
T	31	Pinus sylvestris (Scots Pine)	EM	To be removed.	B2
T	32	Tilia cordata (Small-leaved Lime)	SM	To be removed.	C2
T	38	Fraxinus excelsior (Ash)	SM	To be removed.	C2
T	39	Sorbus aria (Whitebeam)	EM	To be removed.	C2
T	40	Sorbus aucuparia (Rowan)	SM	To be removed.	C2
T	41	Acer platanoides (Norway Maple)	SM	To be removed.	C2
T	42	Acer platanoides (Norway Maple)	SM	To be removed.	C2
T	43	Acer platanoides (Norway Maple)	SM	To be removed.	C2
G	4	Malus sylvestris (Crab Apple)	SM	To be removed.	C2
Trees, Tree Groups, Hedges and Woodlands to be partially Removed or Impacted by Development					
T	59	Salix fragilis (Crack Willow)	M	Tree likely to sustain damage from installation of new outfall pipe into River Barrow. Tree may require pruning or coppicing depending on extent of damage incurred.	B2
T	60	Salix fragilis (Crack Willow)	M	Tree likely to sustain damage from installation of new outfall pipe into River Barrow. Tree may require pruning or coppicing depending on extent of damage incurred.	B2
G	2	Acer platanoides (Norway Maple) X Cupressocyparis leylandii (Leyland Cypress) X Cupressocyparis leylandii Castlewellan	M	Small section of group to be removed.	C2
G	3	Acer platanoides (Norway Maple) X Cupressocyparis leylandii (Leyland Cypress) X Cupressocyparis leylandii Castlewellan	M	Small section of group to be removed.	C2
G	5	Malus domestica (Apple) Prunus domestica (Damson) Prunus avium (Wild Cherry) Pyrus communis (Common Pear)	SM	Some of group to be removed.	C2
G	6	Cordyline australis	EM	Some of group to be removed.	C2
G	17	Acer platanoides (Norway Maple)	SM	Most of group to be removed.	C2
G	18	Crataegus monogyna (Hawthorn)	EM	Part of group to be removed.	C2

Tree Removal Schedule
Mortarstown, Carlow, Co. Carlow
September 2025

Type	No.	Species	Age	Comments	Cat
G	23	X Cupressocyparis leylandii (Leyland Cypress)	EM	Some of group likely to be removed to facilitate access into woodland for new outfall pipe installation.	C2
H	9	Fagus sylvatica (Beech)	SM	2 Sections of hedge to be removed.	C2
H	10	Crataegus monogyna (Hawthorn) Fraxinus excelsior (Ash) Prunus spinosa (Blackthorn)	EM	Small part of southern end of hedge to be removed.	C2
W	1	Salix fragilis (Crack Willow) Populus tremula (Aspen) Salix caprea (Goat Willow) Alnus glutinosa (Common Alder) Aesculus hippocastanum (Horse Chestnut) Acer pseudoplatanus (Sycamore) Populus X canadensis (Hybrid Black Poplar) Prunus spinosa (Blackthorn) Crataegus monogyna (Hawthorn)	SM EM	Part of woodland to be cleared to facilitate connection of new pipe from the WWTP into the Kilkenny Road pumping station.	C2/B2
W	3	Alnus glutinosa (Common Alder) Salix caprea (Goat Willow) Populus X canadensis (Hybrid Black Poplar) Corylus avellana (Hazel) Sambucus nigra (Elder) Salix fragilis (Crack Willow)	EM	Part of woodland to be cleared to facilitate installation of new outfall pipe from the WWTP into the River Barrow.	U/C2/B2



LEGEND



NOTES:
Please see Tree Survey Report for further detail.
All drawings to be read in conjunction with the consulting
architects and engineers drawings.

Independent Tree Surveys Ltd



Our Lady's Cottage
Drummond
Rosenallis
Co. Laois
087 1380687
john@treesurveys.ie
www.independenttreesurveys.ie

Project Name: Mortarstown WWTP, Carlow,
Co. Carlow

Drawing Title: Tree Protection Plan

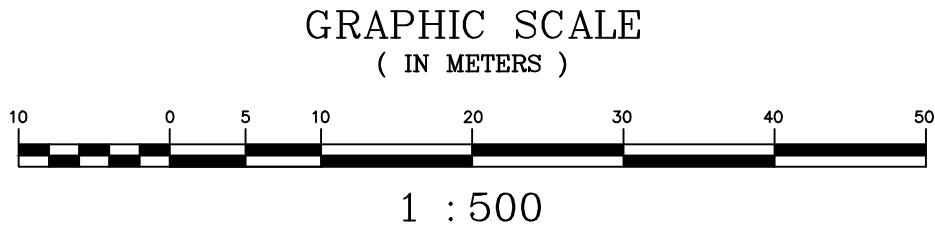
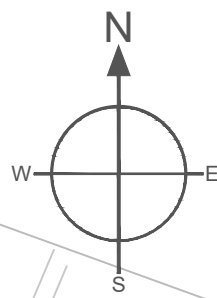
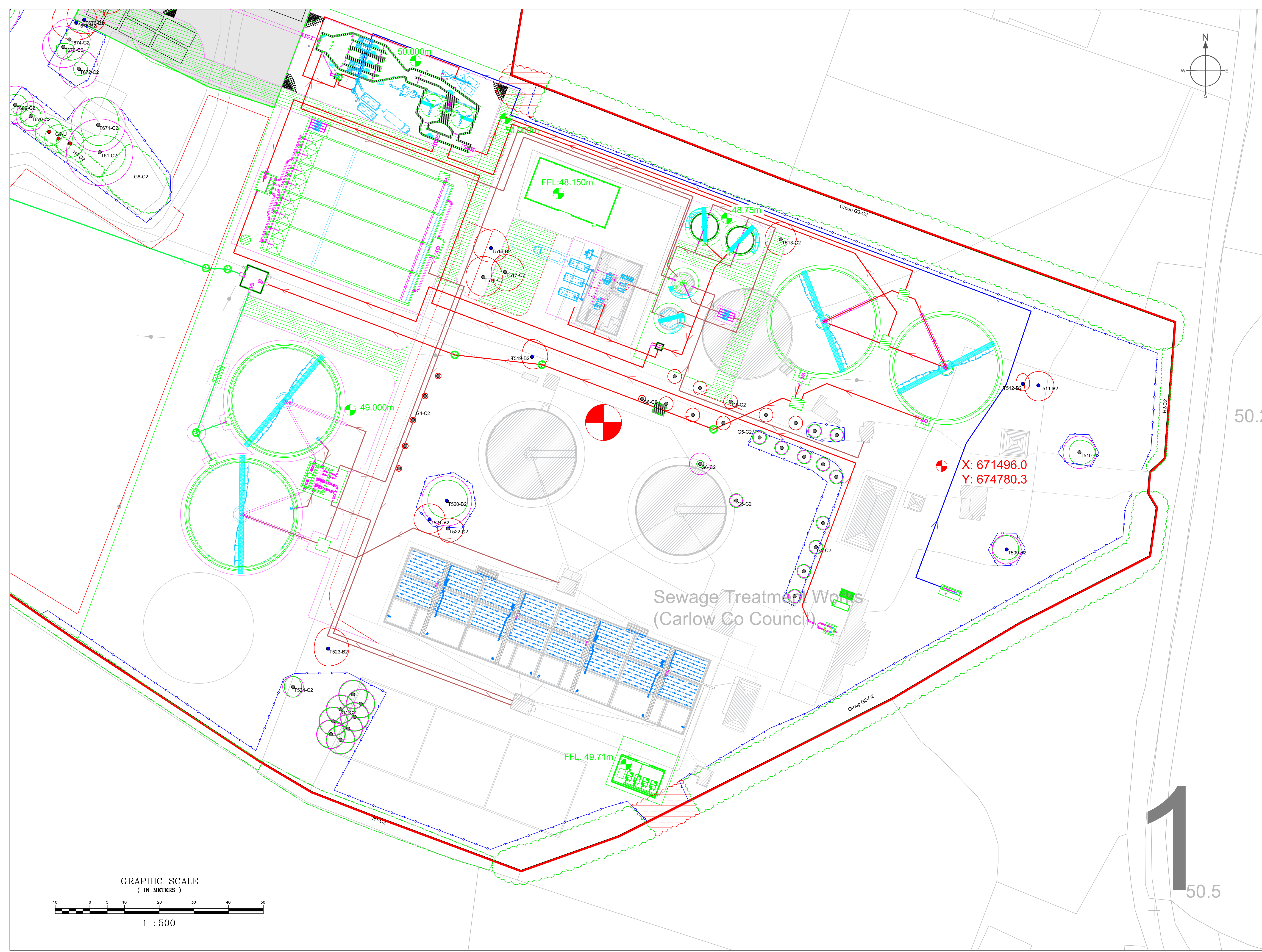
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Agent:

Date: 04/09/2025

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LEGEND

- Root Protection Area
- Tree Canopy
- Tree Stem & Category Colour
- Tree Tag Number & Category
- Canopy Extent
- H3
- Tree Group/Hedge/Woodland Number
- Tree to be Removed
- Part of Hedge/Woodland to be Removed

- Category A Trees (high value)
- Category B Trees (moderate value)
- Category C Trees (low value)
- Category U Trees (unsuitable for retention)
- Tree Protection Fence Indicative Line

NOTES:
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Independent Tree Surveys Ltd

Our Lady's Cottage
Drummond
Rosenallis
Co. Laois
087 1380687
john@treesurvey.ie
www.independenttreesurveys.ie

Project Name: Mortarstown WWTP, Carlow, Co. Carlow

Drawing Title: Tree protection Plan

Drawing Number: 25025_TPP Sheet 1

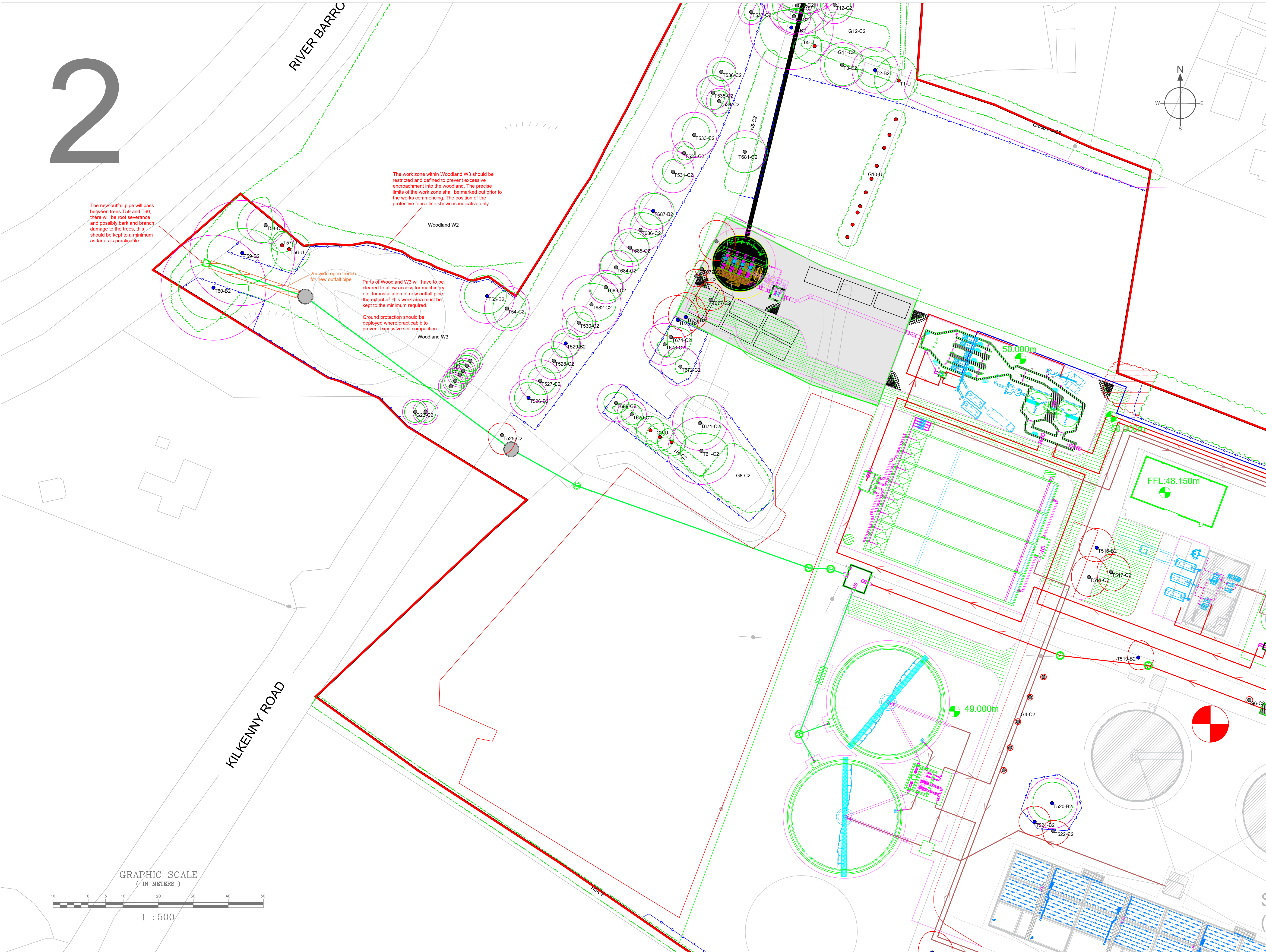
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2



LEGEND

- Root Protection Area
- Tree Canopy
- Tree Stem & Category Colour
- Tree Tag Number & Category
- Canopy Extent
- H3
- Tree Group/Hedge/Woodland Number
- Tree to be Removed
- H3
- Part of Hedge/Woodland to be Removed

Category A Trees (high value)

Category B Trees (moderate value)

Category C Trees (low value)

Category U Trees (unsuitable for retention)

Tree Protection Fence Indicative Line

5

4

3

2

1

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Independent Tree Surveys Ltd

Our Lady's Cottage
Drummond
Rosmalis
Co. Laois
087 1380687
john@treesurvey.ie
www.independenttreesurveys.ie

Project Name: Mortarstown WWTP, Carlow, Co. Carlow

Drawing Title: Tree protection Plan

Drawing Number: 25025_TPP Sheet 2

Client:

Agent:

Date: 04/09/2025

Scale: 1:500@A1

3

-
- The diagram illustrates the sequence of moves for the Tower of Hanoi puzzle using five overlapping squares labeled 1 through 5. The squares are arranged in a descending staircase pattern from bottom-left to top-right. Square 1 is at the bottom left, square 2 is above and to the right of square 1, square 3 is above and to the right of square 2, square 4 is above and to the right of square 3, and square 5 is at the top right, overlapping the top-right corner of square 4. This visualizes the recursive nature of the puzzle, where each move builds upon the previous sequence of moves.

Independent Tree Surveys Ltd



Our Lady's Cottage
Drummond
Rosenallis
Co. Laois
087 1380687
john@treesurvey.ie
www.independenttreesurveys.ie

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LEGEND

- Root Protection Area
- Tree Canopy
- Tree Stem & Category Colour
- Tree Tag Number & Category
- Canopy Extent
- H3
- Tree Group/Hedge/Woodland Number
- Tree to be Removed
- T5-C2
- Part of Hedge/Woodland to be Removed
- H3

- Category A Trees (high value)
- Category B Trees (moderate value)
- Category C Trees (low value)
- Category U Trees (unsuitable for retention)
- Tree Protection Fence Indicative Line

5

4

3

2

1

NOTES:

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Our Lady's Cottage
Drummond
Rosenallis
Co. Laois
087 1380687
john@treesurvey.ie
www.independenttreesurveys.ie

Project Name: Mortarstown WWTP, Carlow, Co. Carlow

Drawing Title: Tree protection Plan

Drawing Number: 25025_TPP Sheet 4

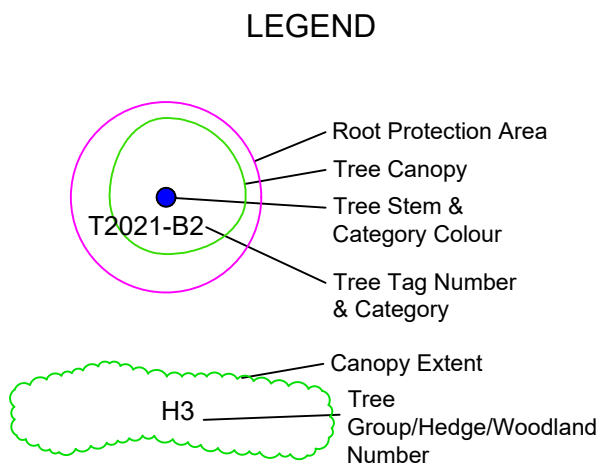
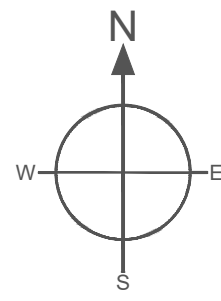
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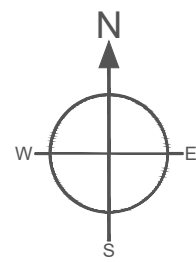
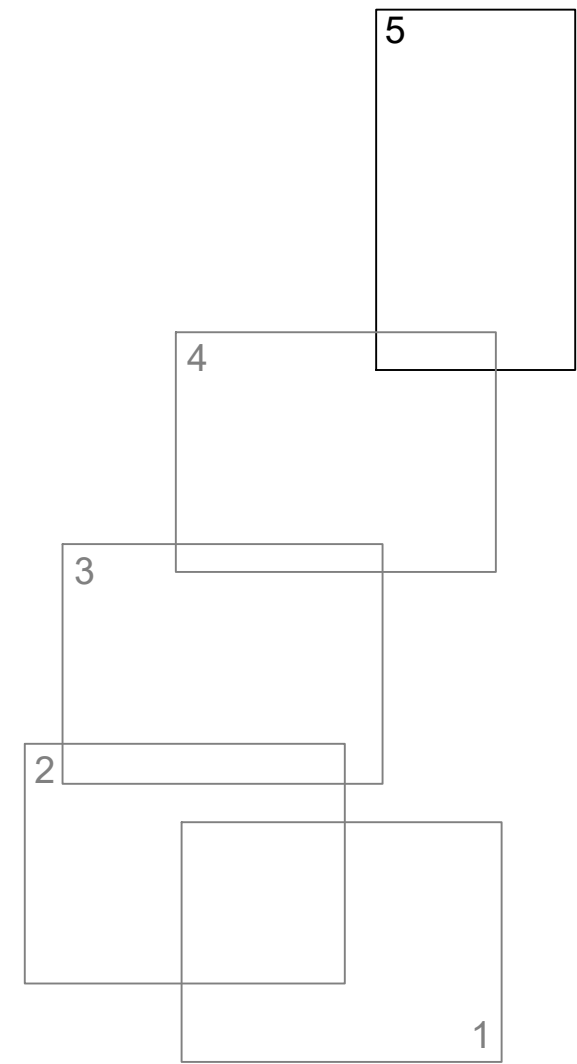
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5



- Category A Trees (high value)
- Category B Trees (moderate value)
- Category C Trees (low value)
- Category U Trees (unsuitable for retention)



NOTES:
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Independent Tree Surveys Ltd



Our Lady's Cottage
Drummond
Rosenallis
Co. Laois
057 8628597 • 087 1380687
jmorgan@independenttreesurveys.ie
www.independenttreesurveys.ie

Project Name: Mortarstown WWTP, Carlow, Co. Carlow

Drawing Title: Tree Survey/Constraints Plan

Drawing Number: 25025_TS Sheet 5

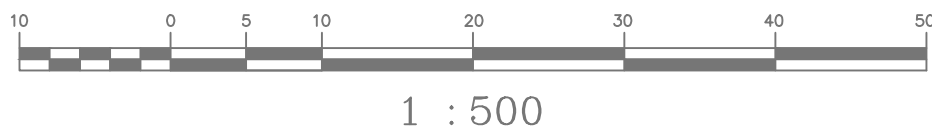
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GRAPHIC SCALE
(IN METERS)



1 : 500