BS:5837 TREE SURVEY

BLOODMILL ROAD,

BALLYSIMON,

CO. LIMERICK,

Doherty Environmental Consultants Ltd

November 2022

Document Stage	Document Version	Prepared by
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This report has been prepared by Doherty Environmental Consultants Ltd with all reasonable skill, care and diligence. Information report herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

This report is prepared for MHL & Associates and we accept no responsibility to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

SUMMARY

The trees and hedgerows within the footprint of and adjacent to the proposed realignment of Bloodmill Road, Ballysimon, Co. Limerick were assessed independently.

The information contained within this report is in accordance with British Standard *BS 5837: 2012 Trees in relation to Design, Demolition and Construction – Recommendations* and provides information on the protection of the trees during the construction phase.

The report should be read in conjunction with the drawings provided indicating the tree and hedgerows locations and their protection zones.

The report will provide guidance in regard to constraints the trees may place on the development and arboricutural factors to be considered during the construction works of the proposed development.

The report contains an Arboricultural Impact Assessment and an Arboricultural Method Statement that details the protection needed for trees to be retained during the development phase.

14 trees, both individual and in groups and 2 hedgerows were assessed as part of this report in accordance with BS 5837.

14 trees, both individual and in groups and 1 hedgerow are to be removed due to being in direct conflict with the proposed realignment of Bloodmill Road.

CONTENTS

1.0 INTRODUCTION

1.1 SCOPE OF THE REPORT

The report's purpose is to provide the appropriate guidance in regard to the arboricultural information needed for the design and construction of the road realignment at Bloodmill Rd.

The report records the current condition of the trees found within the footprint of the realignment project and categorises them in accordance with Section 4 of BS 5837 : 2012 " *Trees in Relation to Design, Demolition and Construction - Recommendations".*

The report will provide an Arboricultural Impact Assessment (AIA) in accordance with BS 5837, in order to evaluate the direct and indirect effects the proposed construction works will have on the trees and the impact the trees will have on the construction works.

Where trees will have to be removed due to the constraints of the development plan or as a result of the findings in the survey potential mitigation measures will also be proposed.

This report should be read in conjunction with the Tree Survey Data located in Appendix 2 and the attached Tree Constraints Plan Drawing and Tree Root Protection Plan.

It also gives re-assurance that the health and consideration of the trees is an integral part of the proposed upgrade.

As part of this report an Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) in accordance with BS 5837 will also be provided. The AMS and TPP will outline the methodologies and specifications needed for the implementation of any tree protection measures with important consideration been given to the root protection area. Any disturbance of the root protection area weather below ground or above ground during the development phase is likely to have a negative impact on the trees with the potential to making them unsafe structures and therefore unsuitable for retention post development. The Tree Protection Plan is based on the proposed design layout of the site and provides the relevant protection methods required to protect the trees selected for retention post development.

1.2 SITE DESCRIPTION & TREE ASSESSMENT

The aim of the project is to realign the existing Bloodmill Road to link with the recently constructed developer provided link road section. The scheme should implement improved Active Travel measures for pedestrians, cyclists and public transport to serve the planning approved and currently under construction secondary

school and private hospital on surrounding zoned lands. The project will involve the construction of approx. 260m of new road corridor with a 6.2m wide carriageway, 2x2m footpaths, 2x2m grass verges and 2x2m off-road cycle tracks.

The trees that are the subject of this report are all located along the southern boundary with the existing Bloodmill Road, except for the two Hornbeam trees T761 and T762.

FIG 1 – Site Location – the google maps image does not show the newly constructed road – see Fig 2

The entire site requires consideration from an arboricultural perspective due to the presence of trees, within a landscape setting. The tree survey and objective individual assessment resulted in a range of retention categories, B – moderate, C – low and U – un-retainable as outlined in BS 5837.

Before any recommended works are undertaken the trees should be inspected for any signs or activity of protected species within the trees. Under the Wildlife (Amendment) Act 2000 it is an offence to destroy or disturb nesting birds. Also, under the Wildlife Act and the EU Habitats Directive it is an offence to recklessly kill, injure or capture bats, to disturb them or destroy, obstruct or damage any bat roosts found. As some of the trees within the report have large cavities it may be prudent to conduct a bat survey prior to any works.

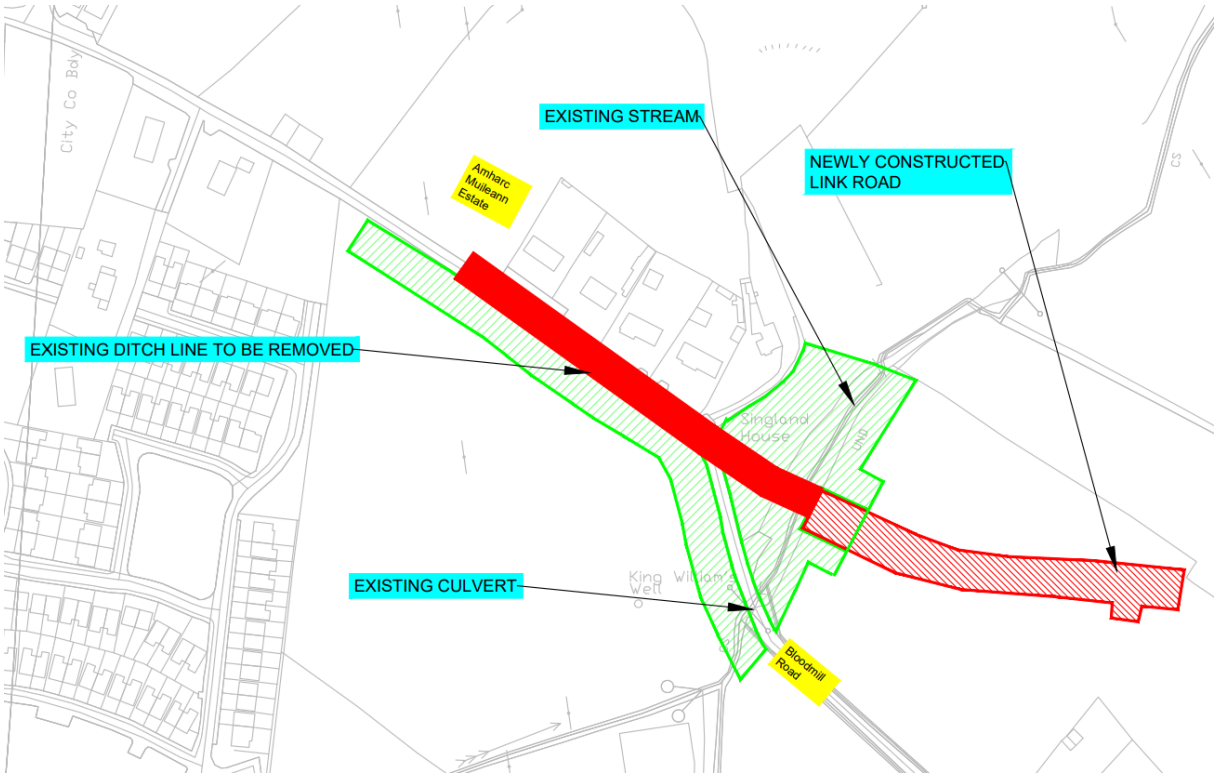

FIG 2 – highlights the road realignment to join recently constructed link road

2.0 METHODOLOGY, LIMITATIONS & LEGISLATION

The inspection of these trees was conducted on Thursday 03rd November 2022. The inspection was conducted from ground level only using visual tree assessment techniques (VTA) which only gives a snap-shot of what is visible not obscured or accessible on the day of the survey. The survey does not include any climbing inspections, internal investigations of the tree or inspections below ground level.

Only relevant factors that are apparent at the time of the survey are included in this report. Trees are living organisms whose health and condition can change rapidly so as such any recommendations made within this report are valid for a period of 12 months only. It is suggested that further monitoring be required if potential hazards are to be avoided.

Climbing plants such as ivy and dense undergrowth can obscure decays or structural defects present at the time of the survey. Where the ivy and undergrowth is so dense a thorough examination is not possible and it is recommended that it be severed at ground level and the tree re-inspected once the ivy undergrowth has died back.

The fruiting bodies of some important wood decay fungi can only be seen at certain times of the year and may not be present at the time of this survey.

The tree survey was conducted in accordance with BS 5837:2012. All trees over 150mm in diameter at breast height were given a unique reference number using metal tags and had their positions plotted on the survey drawings. All individual trees and groups of trees were assessed in relation to their – species, age class, tree height, crown spread, stem diameter at 1.5m above ground, minimum ground clearance, condition and management recommendations. The measurements for tree height and crown spread were taken to an accuracy of 0.5 m. The conditions of the trees both physiologically and structurally were assessed from being – good to fair to poor with additional information shown within the comments.

When categorizing a tree, as recommended in BS 5837:2012 – 4.5.5, the classification should begin by considering whether the tree falls within the scope of category U. If the tree does not fall into this category, it should be considered according to the criteria for inclusion in category A. Subsequently if trees do not meet the criteria, they should be considered in light of the criteria for inclusion in category B. If this criteria is not met, trees are placed in the low category C.

Definitions of the different categories as shown in the Cascade chart in 4.5 of BS 5837 are given below

- Category U – those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years
- Category A – trees of high quality with an estimated remaining life expectancy of at least 40 years
- Category B – trees of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category C – trees of low quality with an estimated remaining life expectancy 0f between 10 and 20 years

The above categories can be further subdivided regarding the nature of their values or qualities –

- Sub-category 1 - Arboricultural qualities : the trees influence as a good example of its species, it's health and structure
- Sub-category 2 - Landscape qualities : the trees importance within and as landscape features
- Sub-category 3 - Cultural qualities : trees of an age that have a significant conservation and historical value

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2.1 ROOT PROTECTION AREA (RPA)

The Root Protection Area (RPA) first appeared in the 2005 version of BS: 5837 and then within the updated version BS: 5837 - 2012. The BS describes the RPA as –

"*layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability and where the protection of the roots and soil structure is treated as priority"*

The Root Protection Area (RPA) is the area around an individual tree to be protected from disturbance during construction works. The RPA is shown as a radius in metres measured from the centre of the tree's stem. Protection of the roots and soil structure in the RPA should be treated as a priority.

For single stem trees the root protection area is calculated as a circle with a radius 12 times the stems diameter. A separate calculation should be used for trees with more than one stem. The calculated RPA for each tree is capped at 707 m2 or a circle with a radius of 15m. These calculations are based on the formulas set out in Section 4.6 and Annex D of BS 5837. The RPA is generally regarded as a compromise between carrying out development and retaining a tree. Trees with a large stem diameter at 1.5 m can produce an RPA that if protected would not allow for developments to progress. This is seen as the requirement for capping the RPA at a radius of 15m. The RPA for each tree is plotted on the Tree Survey Drawings.

2.2 STATUTORY LEGISLATION

The legislation in regard to the felling of trees is set out in the Forestry Act 2014 along with the Forestry Regulations 2017. Trees can be felled without the need to submit a tree felling license application under Section 19 of the Forestry Act 2014 where it is –

- A tree in an urban area (an urban area is an area that comprised a city, town or borough as specified in Part 2 of Schedule 5 & Schedule 6 of the Local Government Act 2001)
- A tree within 30 m of a building – excluding any building built after the trees were planted
- Trees outside a forest – the removal of which is specified in a grant of planning permission

3.0 ARBORICULTURAL IMPACT ASSESSMENT

3.1 PROTECTION OF RETAINED TREES

Before any on-site works begin the protection measures outlined in detail in the Arboricultural Method Statement (AMS) should be adhered to. In general, this protection usually consists of a combination of barriers and ground protection. In general, the protection of all trees on-site must be able to accommodate all building works, ingress and egress routes outside the designated RPAs. Appropriate planning should be in place to accommodate the ingress and egress of plant machinery on-site so no trees selected for retention are impacted.

The majority of tree roots grow in the upper metre of soil and they may spread outwards in any direction. Any disturbance of the ground within the root spread of a tree can damage its roots and may severely injure the tree. Damage to roots will interrupt the supply of water and nutrients necessary to keep the tree alive and may cause decline in vigour, dieback or even death of the tree. Damage to roots can also de-stabilize the tree and pose an unacceptable threat to the safety of people.

When soil is compacted a combination of high soil bulk density and elevated soil strength can directly limit root growth. The large pores in well-structured soil are important for gas exchange, the process of respiration and diffusion and these are lost when soils are compacted to high bulk densities. Soil compaction also reduces the rate of water infiltration and the availability of water to the roots, it impairs root growth and the root systems ability to support a healthy crown. The compaction of soil within tree root areas (RPA) can ultimately lead to crown dieback and a decline in tree health.

To avoid damage to tree roots existing ground levels should be retained within the RPA. Intrusion into soil within the RPA is generally not acceptable and topsoil within it should be retained in situ. Where alternative design solutions are not available or practical, limited manual excavation within the RPA may be acceptable subject to justification and consultation with the on-site arborist. Such excavations should be undertaken carefully using hand-held tools and preferably by using an air-spade – the use of compressed air to expose the tree's root system. It should be noted that it is not realistic to plan for large excavations using handheld tools due to the demands that manual excavation places on the development project and limitations arising from health and safety considerations.

If roots are exposed, they should be wrapped or covered immediately to prevent desiccation and to protect them from rapid temperature changes. Any coverings or wrappings will be removed before backfilling commences, which should happen as soon as possible. If a new hard surface is to be laid, it would be preferable to leave

any existing sub-base in situ augmenting it where required and use cellular confinement systems.

Details of protection measures as recommended in Section 6.2 *Barriers and Ground Protection* of BS 5837 should be adhered to.

The on-site arborist should be responsible for checking and approving the position of all tree protection measures at the first site visit prior to the commencement of works.

Category A and B trees, as outlined in detail in Section 2, are trees of high quality and arboricultural or landscape value and are highlighted as such and their protection should be paramount.

3.2 CONSTRUCTION AND ACCESS REQUIRMENTS AND CONSTRAINTS

During the construction phase on the site there will be a necessity for the use of plant machinery around the site. Ingress and egress routes for all vehicles on the site have the potential to have a negative effect on the tree's health and their structural integrity. The use of lifting machinery can impact on the trees canopy and can cause structural damage to the tree's branches and stem. Where appropriate recommendations will be made to crown raise branches to avoid unnecessary damage to the retained trees. The constant movement of vehicles on the ground around the trees can cause compaction of the soil. Compaction will reduce soil pore space which can inhibit the tree's ability to access water and nutrients and can restrict root growth. Soil contamination from fuel and lubricants can also contaminate the roots as they access water and nutrients and subsequently have a negative effect on the tree.

Below ground constraints will include a layout design of the root protection area (RPA) which shows the minimum rooting area around the tree needed for its health and viability. The RPA is the area where the roots and the soil take priority and in accordance with BS 5837 no construction works can take place within it.

3.4 NEW PLANTING

To mitigate against the potential loss of any existing trees as part of the development it would be considered appropriate to replant as many trees as those lost if the space provides. This new planting schedule should be considered from the outset of the design and planning application phase.

3.5 DEVELOPMENT OF RETAINED TREES

On-going management of retained trees, including a regular review and inspection system should be put in place. As trees are dynamic living organisms and their condition can change rapidly this report will only remain valid for a period of 12 months. If the landscape of the site is to be altered in the future a further assessment should be made on the impacts that proposed development would have on these trees. A continuous monitoring approach to the health of the retained trees should be initiated to determine their health over the coming years.

4.0 ARBORICULTURAL METHOD STATEMENT AND TREE PROTECTION PLAN

4.1 TREE PROTECTION AREA AND SEQUENCE OF OPERATION

Prior to any construction works commencing on the proposed development site, including any ground works, demolition, delivery of materials or the use of vehicular machinery a sequence of operations will be implemented. All operations will follow this sequence in a systematic way in order to ensure that any trees selected for retention are protected during the construction phase.

4.2 TREE WORKS

Trees that were identified for removal either as a result of the proposed development or as result of the survey conducted for this report will be shown in the Tree Protection Plan (TPP) and identified with a red outline. Any trees to be removed that are located within the RPA of trees to be retained will not be felled with the use of excavation machinery but will be done so according to best practice as recommended in BS 3998:2010 Tree Work Recommendations. All tree work operations recommended as part of this survey should be undertaken by suitably qualified tree surgeons with the appropriate insurance.

Where the stumps from trees that were felled are to be removed and are within the RPA of retained trees only the use of appropriate machinery, stump grinders, will be allowed within this restricted area. No excavation machinery will be allowed within the RPA of retained trees.

If tree works are to be undertaken within the bird nesting season, March – September, the trees in question will be assessed for the presence of any nests by a competent person before any works commence. If bird nests are present works will cease and an ecologist consulted before works can commence. As some of the trees within the

report have large cavities it may be prudent to conduct a bat survey prior to any works.

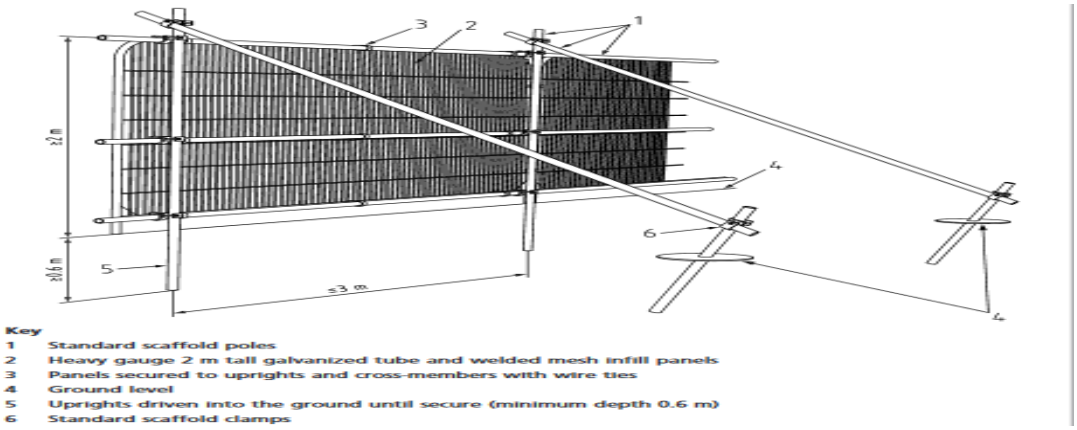
4.3 INSTALLATION OF PROTECTIVE BARRIERS

All protective barriers will be installed prior to the commencement of any works on the improvement scheme. The location of all tree protection barriers will be visible on the Tree Protection Plan (TPP). The installation of the protective barriers will be done as outlined in Section 6.2 Barriers and Ground Protection of BS 5837.

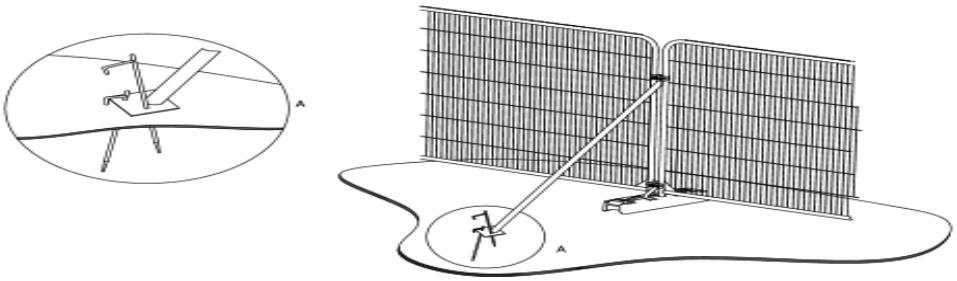
The tree protection barriers will remain in place for the duration of the construction works and should only be removed once the on-site arborist has signed off on its removal.

The appropriate tree protection signage should be attached to the protective fencing, either a visual representation of tree protection or for example – T.P.A. Tree Protection Area Restricted Access Keep Out – should be used.

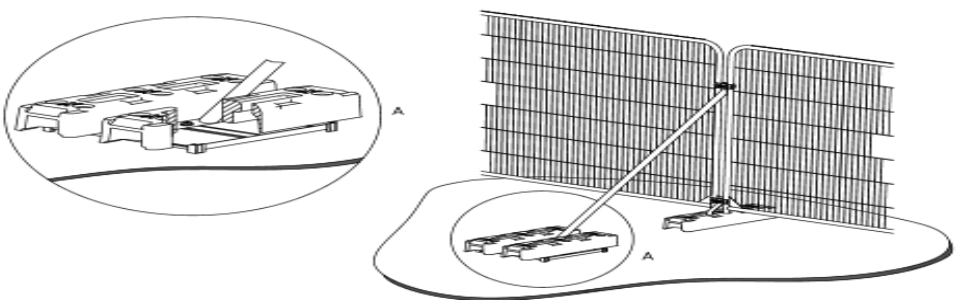
Below are illustrations as recommended in BS 5837. These illustrations provide a visual representation of possible options for the construction of the protective fencing –



Key
1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps



a) Stabilizer strut with base plate secured with ground pins



4.4 INSTALLATION OF UNDERGROUND SERVICES

Where possible the location, direction and installation of new underground services should be designed so as not to enter the RPAs of retained trees. Where it is not feasible to re-route the services, the excavations should be done with hand tools in conjunction with an air-spade. The methodology for trenchless installation can be found in NJUG Vol.4 : Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.

4.5 DURING CONSTRUCTION WORKS

The tree protection barriers will be maintained at all times for the duration of the construction works. Any interference with or damage to the tree protection barriers should be recorded and the on-site arborist informed.

The location of the tree protection barriers will be visible on the Tree Protection Plan (TPP) and a copy should be retained on-site for reference at all times.

No machinery will enter the RPA exclusion zones for the duration of the on-site works. No excavations will take place within the RPAs as outlined on the TPP. The ground levels within the RPAs will not be altered at any stage of the construction works

All diesel, petrol, concrete and other materials hazardous to the health of the trees will be kept within the confines of the designated storage area for the duration of the construction works

No trees will be used to support cables, wires or signage.

All on-site personnel will be briefed on the RPAs of the retained trees and their measures and requirements during their initial site induction.

4.7 REMOVAL OF TREE PROTECTION BARRIERS

The tree protection barriers will be assessed and signed off by the on-site arborist prior to their removal. During the removal of the barriers care will be taken to avoid any unnecessary damage to the trees. If machinery is being used, they should remain on the hard surfaces and outside the RPAs during the dismantling operations.

4.8 LANDSCAPING

Post construction phase there is usually a need for landscaping works to take place. The removal of the tree protection barriers in order for the landscaping works to commence will allow access to previously restricted areas. The landscape contractor should have access to the TPP and adhere to the exclusion zones. The landscape contractor should have his own method statement detailing his proposed work. No rotovating should take place within the RPAs. The use of machinery should be

restricted from entering the RPAs and there should be no alteration of the soil levels within the RPAs.

4.9 CONCLUSION

Successfully preventing ground compaction and damage to the tree's rooting system during the construction phase needs to be adhered to from the outset. If any part of the arboricultural method statement is deemed unfeasible or needs to be altered in some way the on-site arborist should be consulted before any works re-commence. All trees proposed for retention should be reassessed during and after completion of the construction phase. The trees may require remedial work to improve form and reduce risk. Trees that are structurally un-sound should be assessed and removed to remove the hazard. Trees should also be assessed if the ground levels in the vicinity of them or if other trees and structures nearby have been removed.

5.0 RESULTS

The tree survey was conducted on Thursday 03rd November 2022. The survey was from ground level only. The survey assessed 14 individual and groups of trees and 2 hedgerows. The majority of the trees assessed were deemed to be trees of medium or low quality and are classified as category B and C trees.

The information in Table 1 below gives a breakdown of the species and their categorisations recorded on site.

SPECIES	CATEGORY A	CATEGORY B	CATEGORY C	CATEGORY U
APPLE		1	1	
ASH			3	
ELDER			1	
HAWTHORN		5	1	
HORNBEAM			2	
SYCAMORE		1		
HEDGEROW			2	

TABLE 1 – List of species on site & their categorisation

FIG 3 – Trees T748 – T751

Tree T747 represents the hedgerow along the western section of Bloodmill Rd. The hedgerow is growing beneath overhead ESB wires and has been constantly maintained at a set height of approx. 3m. The hedgerow is dominated by re-growth Hawthorn, Elder and Elm.

Trees T748, T749 and T750 are all smaller trees overgrown by T751. The trees have been continuously cut back to the main stem and are dominated by re-growths. T750 is a smaller Hawthorn with extensive decay at the base from older stem failure.

Tree T751 is a dominant category B Sycamore tree along the hedgerow. There are three co-dominant stems growing from base with a large spreading canopy. The canopy extends over the road by approx. 3m.

All four trees are in direct conflict with the proposed extension upgrade of Bloodmill Rd. and recommended for removal.

FIG 4 – Trees T752 – T755

Trees T752 through to T755 are all older Apple and Hawthorn trees that possibly formed the older ditch-line and orchard dating back between eighty and hundred years. The trees are all densely overgrown with ivy and bramble and there are a number of Apple trees, that had been growing from the old stone ditch, collapsed from the root base and forming a dense thicket.

All four trees are in direct conflict with the proposed extension upgrade of Bloodmill Rd. and recommended for removal.

FIG 5 – Tree T756 – Dense thicket of collapsed Apple trees dominated by Bramble & Blackthorn

Tree T756 is an older Apple tree heavily weighted and leaning over the road. A number of older trees have collapsed either side T756 from the roots and are forming a dense thicket shown in Fig 5.

FIG 6 – Trees T757 – T759

The three Ash trees T757, T758 and T759 dominate the hedgerow close to the Towlerton stream. All of the trees have extending canopies over the road and there is evidence of dense epicormic growth from their branches and main stems. The profusion of such epicormic growth is usually in response to stresses been placed on the trees. Such stressors would include Ash Dieback which is affecting Ash trees throughout the country. There are very early indicators that Ash Dieback is present within the canopies of the trees.

All three trees are in direct conflict with the proposed extension upgrade of Bloodmill Rd. and recommended for removal.

FIG 7 – Tree T760

The tree T760 represents a dense Hawthorn hedgerow growing on the western bank of the Towlerton stream to the south of Bloodmill Rd. At present it is not clear whether this section of the existing road is to be impacted by the proposed extension upgrade and it is recommended to retain these trees.

FIG 8 – Tree T761

The trees T761 and T762 highlighted in Figs 8 & 9 are both mature Hornbeams. T761 is an early mature Hornbeam growing on the eastern bank of the Towlerton stream to the north of the existing Bloodmill Rd. There is a dense understory of Blackthorn and Willow on either side of the stream. T762 is a mature Hornbeam growing further to the east adjacent to the north side of the road. The trees root system has been severely damaged in the past. The ground beneath the tree has also been compacted putting further pressure on the trees rooting system.

Both trees are in direct conflict with the proposed extension upgrade of Bloodmill Rd. and recommended for removal.

FIG 9 – Tree T762

All the trees to be removed as part of the proposed extension upgrade of Bloodmill Rd. are highlighted in Table 2 below. As can be seen from the information there are five Category B trees to be removed due to direct conflict with the proposed development

TREES	CATEGORY A	CATEGORY B B	CATEGORY C	CATEGORY U	TOTAL
TREES TO BE REMOVED DUE TO DIRECT CONFLICT WITH THE PROPOSED DEVELOPMENT		751, 752, 753, 754, 755	747, 748, 749, 750, 756, 757, 758, 759 761, 762		15

TABLE 2 – TREES TO BE REMOVED

APPENDIX 1

SURVEY KEY

Tree No………. refers to numbered metal tag on each tree

Species ……. refers to common and botanical name

Age…….. referred to in generalised categories including -

Young…… a tree planted within the last 10 years

Semi Mature… a tree that has grown less than 1/3 its expected height

Early Mature… a tree between 50% & 80% its expected height

Mature……. a tree that has reached its expected height but still has potential to grow

Over Mature… a tree at the end of its time and the crown is starting to break up and decrease in size

Ht…….. tree height in meters

Clr……. crown clearance in meters from field level

Spread(S)…… tree canopy from north, east, south and west in meters

DBH……. tree diameter at breast height in cm

RPA……. root protection area as a radius from trees stem centre that is to be protected from disturbance during construction works. For a single stem the root protection area is calculated as an area that is 12 times the stem diameter. The RPA is plotted on the tree constraints plan in meters

Condition…… condition of the tree both physical and structural

G – Good…….. a specimen of generally good form and health

F – Fair…… a specimen with defects but can be managed and retained

P – Poor……. a specimen through defect, decay or reduced vigour has a limited life

D – Dead…… a dead tree

Comments…… Additional description/commentary on each individual tree

Recommendations Management recommendations are noted, including remedial pruning works and re-inspections where necessary

Retention categories (RC)

The retention category is to identify the quality and value of an existing tree and make decisions whether trees should be retained or removed in accordance with BS 5837 section 4.5

Category U – trees with no expected value in the immediate future and recommended for removal based on arboricultural best practice

Category A – trees of high quality with a minimum 40 years life expectancy

Category B – trees of moderate quality with a minimum 20 years life expectancy

Category C – trees of low quality with a minimum 10 years life expectancy

Sub-category 1 - Arboricultural qualities : the trees influence as a good example of its species, it's health and structure

Sub-category 2 - Landscape qualities : the trees importance within and as landscape features
Sub-category 3 - Cultural qualities : trees of an age that have a significant conservation and historical value

Retained or Removed (R/R)

Trees to be retained or removed based on their location and proximity to the proposed construction works and whether they are in direct conflict with the proposed design layout.

APPENDIX 2

TREE SURVEY DATA

TREE NO	SPECIES	AGE	HT	SPREAD	DBH	RPA	CONDITION PHYSIO / STRUCTURAL	COMMENTS	RECOMMENDATIONS	RC	R/R
TREE DATA FOR BLOODMILL RD											
747	Hedgerow	M		N 1 S 2 E 5 W 5	N/A	N/A	GOOD / FAIR	Dense hedgerow of Hawthorn, Blackthorn and Elder – growing Beneath overhead ESB wires – hedge Constantly cut		C 1,2	Removed
748	*Crataegus monogyna* Hawthorn	M	4	N 1.5 S 2 E 0 W 3	25		GOOD / FAIR	Older ditch-line tree – old twin stem Large decay @ base from collapsed Stem – dense ivy throughout – good Ext growth where visible –	Maintain as smaller canopy tree	C 1,2	Removed
749	*Sambucus nigre* Elder	M	4	N 2 S 1 E 1 W 2	35 29		GOOD / FAIR	Older ditch-line tree – continuously Coppiced – multiple small diameter re-growths – broken branches & deadwood throughout – decay near base to south	Maintain as coppiced tree	C 1,2	Removed
750	*Crataegus monogyna* Hawthorn	M	4	N 1 S 2 E 0 W 2	14 13		GOOD / FAIR	Overgrown by 751 – 2 stems from Base – extended canopy to south & West – dense ivy cover – good ext Growth where visible	Maintain as small canopy tree Cut ivy @ base	C 1,2	Removed
751	*Acer pseudoplatanus* Sycamore	M	12	N 4 S 3 E 3 W 4	41 x 2 40		GOOD / GOOD	3 co-dominant stems from 0.2m & 1m With good unions – very dense ivy Cover – good form, branch structure & ext growth – very dense canopy	Monitor annually	B 1,2	Removed
752	*Malus domistica* Apple spp.	M	5	N 2 S 2 E 1 W 2	21		GOOD / GOOD	Older ditch-line tree – possible planted as part of much older orchard very dense undergrowth of Hawthorn & bramble – good ext growth where visible	Clean undergrowth – expose canopy	B 1,2	Removed

TREE NO	SPECIES	AGE	HT	SPREAD	DBH	RPA	CONDITION PHYSIO / STRUCTURAL	COMMENTS	RECOMMENDATIONS	RC	R/R
TREE DATA FOR BLOODMILL RD											
753	*Crataegus monogyna* Hawthorn	M	5	N 2 S 2 E 2 W 2	31 30		GOOD / GOOD	Older ditch-line tree – good form, Branch structure & ext growth – Very dense undergrowth	Clean undergrowth – expose canopy	B 1,2	Removed
754	*Crataegus monogyna* Hawthorn	M	5	N 2 S 3 E 2 W 2	32		GOOD / GOOD	Older ditch-line tree – good form, Branch structure & ext growth – Very dense undergrowth Co-dominant Elder to east Very dense undergrowth between 754 & 755 dominated by bramble, ivy & Apple	Clean undergrowth – expose Canopy Remove Elder	B 1,2	Removed
755	*Crataegus monogyna* Hawthorn	M	5	N 2 S 2 E 3 W 3	16 x 3		GOOD / GOOD	2 individual trees forming single Canopy – both trees with multiple Co-dominant stems – good form, Branch structure & ext growth – Larger tree used to represent RPA	Clean undergrowth	B 1,2	Removed
756	*Malus domistica* Apple spp.	M	5	N 4 S 0 E 1 W 2	23		GOOD / FAIR	Extended canopy heavily weighted to north over road – older ditchline tree possible planted as part of much older orchard 2 collapsed older Apple trees to east & west overgrown by bramble	Crown reduction by 40% over road Clean undergrowth	C 1,2	Removed
757	*Fraxinus excelsior* Ash	M	10	N 3 S 3 E 0 W 3	42	5.3	FAIR / FAIR	Growing from old stone ditch – Canopy merging with 758 – good Form & branch structure – deadwood In canopy & early signs of Ash Dieback Dense ivy	Monitor for increased signs of Dieback annually	C 1,2	Removed

TREE NO	SPECIES	AGE	HT	SPREAD	DBH	RPA	CONDITION PHYSIO / STRUCTURAL	COMMENTS	RECOMMENDATIONS	RC	R/R
TREE DATA FOR BLOODMILL RD											
758	*Fraxinus excelsior* Ash	M	12	N 4 S 4 E 4 W 3	55		FAIR / FAIR	Large trunk growing from old stone Ditch – multiple co-dominant stems From 2.5m – good form & branch Structure – deadwood In canopy & early signs of Ash Dieback Dense Hawthorn to east	Monitor for increased signs of Dieback annually	C 1,2	Removed
759	*Fraxinus excelsior* Ash	M	12	N 4 S 4 E 4 W 4	57		GOOD / FAIR	Dense Hawthorn @ base – trunk Inaccessible – multiple co-dominant Leaders from 3m – dense epicormic Growth on trunk & main branches Indicative of stress – deadwood in canopy & early signs of Ash Dieback dense Hedgerow of Hawthorn, blackthorn & bramble to east	Monitor for increased signs of Dieback annually	C 1,2	Removed
760	*Crataegus monogyna* Hawthorn	M	5	N 6 S 6 E 2 W 2	16 15		GOOD / GOOD	Dense hedgerow line of Hawthorn Growing @ edge of stream	No works	B 1,2	Retained
761	*Carpinus betulus* Hornbeam	E/M	12	N 3 S 3 E 3 W 3	40		GOOD / GOOD	Good form, ext growth & branch Structure typical of the species – large Root damage to N & E in the past	No work	C 1,2	Removed
762	*Carpinus betulus* Hornbeam	M	12	N 3 S 3 E 3 W 3	40		GOOD / FAIR	Good form, ext growth & branch Structure typical of the species – Tree inaccessible – on private land	No work	C 1,2	Removed