SF3154 Blackmoorfoot Road, Crossland Moor

ARBORICULTURAL SURVEY REPORT I BS 5837:2012

Revision B - August 2021

SMEEDEN FOREMAN

Landscape Architecture • Ecology • Arboriculture

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Document Check Sheet

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1.0 Introduction

Smeeden Foreman Ltd has been appointed to undertake an arboricultural survey of trees at the Blackmoorfoot Road, Crossland.

The survey was undertaken on 24th February 2021 and was based upon topographical survey plan 7965/1 produced by Ellam Land Surveys. The trees have been surveyed in accordance with BS5837:2012. The limitations of survey techniques and analysis are included in Appendix A.

1.1 Site Description

The site is located at Blackmoorfoot Road, Crossland (see Figure 1). The site comprises an existing caravan sales business. The majority of the trees on site are located along the southeast boundary adjacent to Blackmoorfoot Road, including a small area of woodland.

1.2 Legal status of trees

The trees located in the south west corner of the site are protected by a Tree Preservation Order (ref: TPO 04/94). The site is not situated within a Conservation Area (Digital mapping provided by Kirklees Council, accessed 01.03.2021).

Trees may be subject to legal protection under a range of legislation, which is aimed at wildlife and habitat protection, particularly nesting birds and bats.

Figure 1 – Location Plan

2.0 Aims and Methodology

2.1 Aims

The aims of the survey are to undertake a non-invasive survey of the identified trees and any trees which have the potential to be affected by future works within the vicinity. The Tree Constraints Plan shows the location and category of the surveyed trees.

2.2 Survey Methodology

The survey was carried out to British Standard 5837:2012 using the categories explained below:

2.2.1 The trees were assessed visually from ground level. Where potential problems were identified, further inspection by tree climbing is recommended. No digging or drilling methods were employed during this survey

2.2.2 The tree numbers or group numbers within the schedules refer to the order in which the trees were recorded and shown on the tree survey plan

2.2.3 The approximate height of each tree is measured from ground level to top of canopy using a clinometer;

2.2.4 The diameter of each tree is measured at 1.5m above ground level. Where a tree stem divides below 1.5m each stem is measured at 1.5m above ground level in accordance with Annex C of the British standard. The diameter of trees where the trunk was inaccessible have been estimated and marked as such within the schedules.

2.2.5 The age of each tree is based upon our experience and is divided into young, semi-mature, early-mature, mature, over-mature.

2.2.6 The water demand of each tree (As listed in table 12, appendix 4.2 – A, NHBC standard chapter 4.2) noted on or adjacent to the site is recorded. Shrinkable soils are subject to changes in volume as their moisture content is altered. Soil moisture content varies seasonally and is influenced by a number of factors including the action of tree roots. The resulting shrinkage or swelling of the soil can cause subsidence or heave damage to foundations, the structures they support or services.

Engineers should consider the soil condition and the potential impact of the species of the trees/ hedges on and adjacent to the site when preparing building/structure design.

2.2.7 The physiological condition of the trees is based upon our experience and is an assessment of the health and vigour of the tree.

2.2.8 The structural condition and description is also based on our experience.

2.2.9 Estimated remaining contribution and category/rating of each tree is based on our experience;

2.2.10 The retention category of each tree or group of trees is based upon the information detailed above using the following categories:

- A Trees of high quality and estimated remaining life expectancy of at least 40 years (Light green on plan)
- B Trees of moderate quality and estimated remaining life expectancy of at least 20 years (Mid blue on plan)
- C Trees of low quality and estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm Grey on plan)
- U Trees cannot realistically be retained as living trees in context of current land use for longer than 10 years (Dark red on plan)

2.2.10 The following subcategories have been used in rating tree value:

- 1 Mainly arboricultural value
- 2 Mainly landscape value
- 3 Mainly cultural values, including conservation

2.3 Key to Survey Schedules

Tree no.	Tree number as recorded on the plan: T1, T2 etc and for tree groups: G1, G2 etc. Hedges: H1, H2 etc. Woodland: W1, W2 etc.
Species	Common name / Scientific name
Height	Overall estimated height of the tree in metres (rounded up to the nearest metre for trees over 10m high).
Stem Dia	Stem diameter measured in millimetres at 1.5m above ground (on sloping ground measured on the upslope of the stem) in accordance with Annex C of BS5837:2012.
Branch spread	Measured in metres (rounded up to the nearest half metre) along the four cardinal points: north, east, south and west to derive an accurate representation of the crown.
Ht crown clearance	The existing height, measured in metres, above ground level of: the first significant branch and direction of growth and the canopy.
Age class:	
Young (**Y**)	Recently planted or establishing tree. Typified by vigorous growth and distinct apical dominance (definite, discernible leader).
Semi-mature (**SM**)	Tree that has not reached its ultimate potential height. Phase includes considerable girth thickening and the start of crown spreading.
Early mature (**EM**)	A tree that is reaching its ultimate potential height. The growth rate is slowing down but the tree, will still increase in stem diameter and crown spread.
Mature (**M**)	The tree has attained its largest proportions and has reached its ultimate height. The tree is typified by thicker bark plates and a large spreading crown.
Over-mature (**OM**)	The tree has attained its maximum height and growth rate slows considerably. Characterised by the loss of large limbs, large amounts of deadwood and decay. Limited safe life expectancy.
Water Demand	High, Moderate, Low (As listed in table 12, appendix 4.2 – A, NHBC standard chapter 4.2)
Physiological condition	Good (G), moderate (M), poor (P), dead (D).
Structural condition	Overall form of tree, presence of any decay, any physical defects and observations
Preliminary Management Recommendations	Including any further investigations required, wildlife habitat potential, management or pruning works.
ERC	The estimated remaining contribution measured in years: <10, 10+, 20+, 20-30+, 40+)
Cat	Category U or A to C grading as defined in Table 1 BS 5837: 2012
RPA	Root protection area measured in square metres, calculated according to BS 5837:2012

Other abbreviations used:

N	North
S	South
E	East
W	West
GL	Ground level
Asym.	Asymmetrical (crown shape)
OSB	Outside site boundary
MS	Multi-stemmed
#	Estimate
NWR	No work required

3.0 Tree Survey Schedules

Tree No. (Tag)	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
T1	Acer pseudoplatanus (Sycamore)	10(2)	4	4	3	3	150	SM	M	Fair	Multiple stems below 1.5m. Included bark present in fork.	20+	No works required	C2
T2	Fraxinus excelsior (Ash)	8(2)	3	3	2	2.5	200	SM	M	Fair	Branches restricting highway light.	10+	No works required	C2
T3	Fraxinus excelsior (Ash)	6(3)	1	1	1	1	130	Y	M	Fair	Spindly. Epicormics on stem.	10+	No works required	C2
G4	Sorbus intermedia (Swedish Whitebeam)	7(2)	3	3	3	3	300	EM	M	Fair	Stem divides above 1.5m. crown lifted.	20+	Removal to facilitate development	B2
T5	Acer platanoides (Norway Maple)	7(2)	4	4	4	4	300	EM	M	Good	Crown lifted NE side.	40+	No works required	B2
T6	Fraxinus excelsior (Ash)	10(2)	4	6	4	4	400	SM	M	Good	Unbalanced crown shape.	20+	Removal to facilitate development	B2
T7	Betula pendula (Silver Birch)	16(2)	5	5	5	4	400	M	L	Good	Leaning East. Shallow roots damaging tarmac. Trunk is damaging existing retaining wall.	20+	Removal to facilitate development	B2
G8.1	Sorbus aucuparia (Rowan)	4(2)	1.5	1.5	1	1	180	SM	M	Fair	Stem divides above 1.5m. Unbalanced crown shape. Crown distorted due to group pressure.	10+	No works required	C2

Tree No. (Tag)	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
G8.2	Sorbus aucuparia (Rowan)	6(3)	2	3	3	0	250	EM	M	Fair	Stem divides above 1.5m. Unbalanced crown shape. Crown distorted due to group pressure.	10+	No works required	C2
G8.3	Sorbus aucuparia (Rowan)	6(3)	3	3	3	3	300	EM	M	Fair	Stem divides above 1.5m. Included bark present in fork.	10+	No works required	C2
T9	Fraxinus excelsior (Ash)	8(2)	3	5	4	2	400	SM	M	Good	Unbalanced crown shape.	10+	Removal to facilitate development	C2
T10	Fraxinus excelsior (Ash)	10(2)	3	5	4	2	350	SM	M	Good	Leaning South-East. Unbalanced crown shape.	10+	Removal to facilitate development	C2
T11	Sorbus aucuparia (Rowan)	5(2)	2.5	4	3	1	250	SM	M	Poor	Declining. Leaning South-East. Decay present on stem. Major bark wounding on stem.	<10	Removal to facilitate development	U
T12	Acer platanoides (Norway Maple)	12(3)	5	6	6	5	480	EM	M	Good	Leaning East. Stem divides above 1.5m.	40+	Removal to facilitate development	B2
G13.1	Pinus sylvestris (Scots Pine)	5(3)	1	1	1	1	150	Y	M	Fair	Poor form	10+	Removal to facilitate development	C2
G13.2	Pinus sylvestris (Scots Pine)	2(3)	1	1	1	1	150	Y	M	Fair	Poor form	10+	Removal to facilitate development	C2

Tree No. (Tag)	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
G13.3	Pinus sylvestris (Scots Pine)	3(3)	1	1	1	1	150	Y	M	Poor	Poor form	<10	Removal to facilitate development	U
G13.4	Salix caprea (Goat Willow)	17(4)	7	7	7	7	200 to 450	OM	H	Fair	Fungal brackets visible on stem. Multiple stems at ground level. Included bark present in fork. Broken branches in crown.	10+	Removal to facilitate development	C2
G13.5	Salix caprea (Goat Willow)	17(4)	7	7	7	7	200 to 450	OM	H	Fair	Fungal brackets visible on stem. Multiple stems at ground level. Included bark present in fork. Broken branches in crown.	10+	Removal to facilitate development	C2
G13.6	Salix caprea (Goat Willow)	17(4)	5	5	5	5	250	OM	H	Fair	Leaning South.	10+	Removal to facilitate development	C2
T15	Acer pseudoplatanus (Sycamore)	18(3)	4	6	8	4	450,350	M	M	Fair	Ivy on tree. Unable to inspect stem due to Ivy. Stem divides below 1.5m. Included bark present in fork. Unbalanced crown shape. Crown distorted due to group pressure.	10+	No works required	C2
T16	Acer pseudoplatanus (Sycamore)	18(3)	4	6	8	4	450,350	M	M	Fair	Stem divides below 1.5m. Included bark present in fork. Unbalanced crown shape. Crown distorted due to group pressure.	10+	No works required	C2

Tree No. (Tag)	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
G17	Salix caprea (Goat Willow)	18(5)	5	5	5	5	400	M	H	Fair	Ivy on tree. Unable to inspect stem due to Ivy. Unable to inspect stem due to undergrowth. Stem divides above 1.5m. Broken branches in crown. Major deadwood in crown.	10+	No works required	C2
T18	Acer pseudoplatanus (Sycamore)	10(7)	3	1	0	0	250	SM	M	Poor	Spindly. Epicormics on stem. Unbalanced crown shape. Crown distorted due to group pressure.	<10	Removal to facilitate development	U
G19.1	Acer pseudoplatanus (Sycamore)	16(5)	6	7	7	3	450	EM	M	Good	Stem divides above 1.5m. Crown distorted due to group pressure.	40+	Removal to facilitate development	B2
G19.2	Acer pseudoplatanus (Sycamore)	16(5)	6	4	7	4	450	EM	M	Good	Stem divides above 1.5m. Crown distorted due to group pressure.	40+	Removal to facilitate development	B2
G19.3	Acer pseudoplatanus (Sycamore)	16(5)	4	3	6	1	300	EM	M	Good	Stem divides above 1.5m. Unbalanced crown shape. Crown distorted due to group pressure.	40+	Removal to facilitate development	B2
G19.4	Acer pseudoplatanus (Sycamore)	16(5)	1	3	5	1	300	EM	M	Good	Leaning South-East. Unbalanced crown shape. Crown distorted due to group pressure.	40+	Removal to facilitate development	B2
G19.5	Acer pseudoplatanus (Sycamore)	16(5)	5	3	0	0	300	EM	M	Good	Leaning North-East. Unbalanced crown shape. Crown distorted due to group pressure.	10+	Removal to facilitate development	C2

Tree No. (Tag)	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
G19.6	Acer pseudoplatanus (Sycamore)	16(5)	5	4	7	4	650	EM	M	Good	Stem divides above 1.5m. Included bark present in fork.	10+	Removal to facilitate development	B2
G19.7	Acer pseudoplatanus (Sycamore)	16(5)	4	1	6	4	440	EM	M	Good	Stem divides above 1.5m. Included bark present in fork.	10+	No works required	B2
T21	Acer platanoides (Norway Maple)	12(4)	6	4	6	5	450	EM	M	Good	Leaning South.	40+	No works required	B2
T22	Larix decidua (European Larch)	14(2)	4	6	5	3	550	EM	M	Good	Leaning South-East.	20+	No works required	B2
T23	Fraxinus excelsior (Ash)	4(2)	1	1	1	1	100	Y	M	Fair	Multiple stems at ground level.	10+	Removal to facilitate development	C2
T24	Pinus sylvestris (Scots Pine)	6(2)	1	1	1	1	100	Y	M	Poor	Low vitality. Spindly.	10+	Removal to facilitate development	C2
T25	Acer pseudoplatanus (Sycamore)	12(3)	5	3	1	3	100 to 200	SM	M	Fair	Suckers around stem base. Multiple stems at ground level. Included bark present in fork.	10+	Removal to facilitate development	C2
G26.1	Picea abies (Norway Spruce)	12(2)	2	1	1	1	200	SM	M	Fair	Low vitality.	10+	Removal to facilitate development	C2
G26.2	Picea abies (Norway Spruce)	6(2)	1	1	1	1	100	Y	M	Fair	Low vitality.	10+	Removal to facilitate development	C2

Tree No. (Tag)	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
G26.3	Picea abies (Norway Spruce)	6(2)	1	1	1	1	100	Y	M	Fair	Low vitality.	10+	Removal to facilitate development	C2
T27	Pinus sylvestris (Scots Pine)	10(1.5)	3	3	3	3	400	EM	M	Fair	Stem divides above 1.5m. Included bark present in fork.	20+	Removal to facilitate development	B2
G28.1	Picea abies (Norway Spruce)	8(2)	1.5	1.5	1.5	1.5	150	SM	M	Fair	Low vitality.	10+	Removal to facilitate development	C2
G28.2	Picea abies (Norway Spruce)	9(2)	3	3	3	3	250	SM	M	Good	NVD	20+	Removal to facilitate development	B2
G28.3	Picea abies (Norway Spruce)	9(2)	3	3	3	3	250	SM	M	Good	NVD	20+	Removal to facilitate development	B2
T29	Salix caprea (Goat Willow)	10(1)	4	4	4	4	450	EM	H	Fair	Poor shape & form. Leaning West.	10+	Removal to facilitate development	C2
T30	Betula pendula (Silver Birch)	7(2)	2	2	2	2	150	SM	L	Good	NVD	20+	Removal to facilitate development	C2
G31	Salix caprea (Goat Willow)	5(1)	2	2	2	2	100	Y	H	Fair	Spindly.	10+	Removal to facilitate development	C2
G32	Picea abies (Norway Spruce)	9(2)	3	3	3	3	250	SM	M	Good	NVD	20+	No works required	B2

Tree No. (Tag)	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
T33	Betula pendula (Silver Birch)	12(3)	3	3	3	3	300	EM	L	Good	OSB. Limited inspection.	20+	No works required	B2
G34	Salix caprea (Goat Willow)	8(3)	4	4	4	4	200	SM	H	Fair	OSB. Limited inspection. Multiple stems at ground level.	10+	No works required	C2
G35	Salix caprea (Goat Willow)	5(1)	4	4	4	4	400	SM	H	Fair	OSB. Limited inspection. Multiple stems at ground level.	10+	No works required	C2
T36	Acer pseudoplatanus (Sycamore)	12(4)	4	4	4	4	450	EM	M	Good	Stem divides above 1.5m. Included bark present in fork.osb.	20+	No works required	B2
W37	Salix caprea (Goat Willow),Acer pseudoplatanus (Sycamore),Alnus glutinosa (Common Alder),Prunus avium (Wild Cherry),Sambucus nigra (Elder),Fraxinus excelsior (Ash)	20(2)	5	5	5	5	600	M	H	Fair	Dead. Poor shape & form. Declining. Spindly. Ivy on tree. Unable to inspect stem due to Ivy. Decay present on stem. Fungal brackets visible on stem. Multiple stems at ground level. Included bark present in fork. Broken branches in crown. Major deadwood in crown. Unbalanced crown shape. Crown distorted due to group pressure.	10+	No works required	C2
G38	Populus serotina (Hybrid Black Poplar)	25(5)	6	6	6	6	600	M	H	Good	Part of linear group. Unable to inspect stem due to undergrowth.	20+	No works required	B2

Tree No. (Tag)	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
G39	Salix caprea (Goat Willow)	12(3)	4	4	4	4	250	EM	H	Fair	Stem divides below 1.5m. Included bark present in fork. Broken branches in crown. Major deadwood in crown.	10+	No works required	C2
T40	Acer pseudoplatanus (Sycamore)	12(4)	4	4	4	4	300	EM	M	Good	Unable to inspect due to undergrowth.	20+	No works required	B2
T41	Acer pseudoplatanus (Sycamore)	12(4)	4	4	4	4	300	EM	M	Good	Stem divides above 1.5m.	20+	Removal to facilitate development	B2
T42	Acer pseudoplatanus (Sycamore)	12(4)	4	4	4	4	300	EM	M	Good	Stem divides above 1.5m.	20+	Removal to facilitate development	B2
G43	Sorbus aucuparia (Rowan)	4(1.5)	2	2	2	2	200	SM	M	Fair	Stem divides below 1.5m.	10+	Removal to facilitate development	C2
T44	Betula pendula (Silver Birch)	6(2)	2	2	2	2	150	SM	L	Poor	Poor shape & form. Declining.	<10	Removal to facilitate development	U
G45	Prunus laurocerasus (Cherry Laurel)	4(0)	2	2	2	2	100	SM	M	Fair	Multiple stems at ground level.		No works required	C2
G46	Prunus laurocerasus (Cherry Laurel)	5(0)	2	2	2	2	100	SM	M	Fair	Multiple stems at ground level.	10+	Removal to facilitate development	C2
G47	Betula pendula (Silver Birch)	10(4)	3	3	3	3	300	SM	L	Fair	Leaning East.	10+	Removal to facilitate development	C2

Tree No. (Tag)	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
T48	Salix caprea (Goat Willow)	8(3)	4	4	4	4	200 to 300	EM	H	Fair	Multiple stems at ground level. Included bark present in fork. Broken branches in crown. Major deadwood in crown.	10+	Removal to facilitate development	C2
G49	Acer pseudoplatanus (Sycamore)	12(3)	4	4	4	4	300	SM	M	Fair	Stem divides above 1.5m. Included bark present in fork. Unbalanced crown shape. Crown distorted due to group pressure.	10+	Removal to facilitate development	C2
G50	Acer pseudoplatanus (Sycamore)	7(2)	2	2	2	2	150	Y	M	Fair	Poor shape & form. Leaning East. Unbalanced crown shape. Crown distorted due to group pressure.	10+	Removal to facilitate development	C2
T51	Chamaecyparis lawsoniana (Lawson Cypress)	8(2)	3	3	3	3	450	EM	H	Poor	Leaning East. Major bark wounding on stem. Broken branches in crown.	<10	Removal to facilitate development	U
T52	Chamaecyparis lawsoniana (Lawson Cypress)	8(2)	3	3	3	3	400	EM	H	Fair	Leaning East. Major bark wounding on stem. Broken branches in crown.	10+	Removal to facilitate development	C2
G53	Acer pseudoplatanus (Sycamore)	15(3)	4	4	4	4	450	EM	M	Good	MS	40+	Removal to facilitate development	B2
G54	Salix caprea (Goat Willow)	12(5)	5	5	5	5	400	EM	H	Fair	Leaning West. Stem divides above 1.5m.	10+	Removal to facilitate development	C2
G56	Acer pseudoplatanus (Sycamore)	12(2)	4	4	4	4	300	EM	M	Good	Unable to inspect stem due to undergrowth.	20+	No works required	B2

Tree No. (Tag)	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
G57	Sorbus aria (Whitebeam)	7(3)	3	3	3	3	300	EM	M	Fair	Stem divides above 1.5m.	10+	No works required	C2
T58	Sorbus aria (Whitebeam)	7(3)	2	2	2	2	150	EM	M	Fair	Suckers around stem base.	10+	No works required	C2
T59	Fraxinus excelsior (Ash)	8(4)	4	4	4	4	200	SM	M	Fair	Stem divides below 1.5m. Included bark present in fork.	10+	No works required	C2
T60	Pinus sylvestris (Scots Pine)	8(4)	2	2	2	2	300	SM	M	Fair	Poor shape & form. Low vitality.	10+	No works required	C2
T61	Betula pendula (Silver Birch)	7(5)	2	3	3	3	200	SM	L	Fair	Unbalanced crown shape.	10+	No works required	C2
T62	Acer pseudoplatanus (Sycamore)	15(5)	4	5	5	5	400	EM	M	Good	Stem divides below 1.5m.	40+	No works required	B2
T63	Acer pseudoplatanus (Sycamore)	10(4)	3	3	3	3	300,200	SM	M	Fair	Cavity on stem. Multiple stems at ground level.	10+	No works required	C2
T64	Acer pseudoplatanus (Sycamore)	15(5)	5	5	7	5	300	M	M	Good	Multiple stems at ground level.	40+	No works required	B2
T65	Sorbus aucuparia (Rowan)	7(4)	3	0	2	2	150,100	SM	M	Fair	Poor shape & form. Stem divides below 1.5m. Included bark present in fork. Unbalanced crown shape.	10+	No works required	C2
T66	Betula pendula (Silver Birch)	10(4)	2	2	2	2	250	SM	L	Fair	NVD	20+	No works required	B2

Tree No. (Tag)	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
T67	Salix caprea (Goat Willow)	10(5)	3	3	3	3	400	EM	H	Fair	Stem divides above 1.5m. Included bark present in fork.	10+	No works required	C2
T68	Crataegus monogyna (Hawthorn)	4(2)	0	1	3	2	100	Y	H	Fair	Poor shape & form.	10+	No works required	C2
T69	Juglans regia (Walnut)	11(4)	3	3	3	3	200	SM	M	Fair	Spindly. Broken branches in crown.	10+	No works required	C2
T70	Sorbus aucuparia (Rowan)	5(2)	1	2	2	2	150	Y	M	Fair	Stem divides above 1.5m.	10+	No works required	C2
T71 TPO	Acer pseudoplatanus (Sycamore)	15(3)	5	6	5	6	300 to 400	EM	M	Good	Stem divides at ground level.	40+	No works required	B2
T72 TPO	Acer pseudoplatanus (Sycamore)	14(2)	2	3	5	5	350	EM	M	Good	Unbalanced crown shape. Crown distorted due to group pressure.	20+	No works required	B2
T73 TPO	Acer pseudoplatanus (Sycamore)	13(5)	1	7	7	7	300	EM	M	Poor	Poor shape & form. Stem divides below 1.5m. Dieback in crown. Major deadwood in crown. Unbalanced crown shape. Crown distorted due to group pressure.	<10	No works required	U
T74 TPO	Acer pseudoplatanus (Sycamore)	14(3)	4	6	4	3	400	M	M	Good	Unbalanced crown shape. Crown distorted due to group pressure.	20+	No works required	B2
T75 TPO	Acer pseudoplatanus (Sycamore)	15(5)	6	6	5	6	500,450	M	M	Good	Stem divides below 1.5m.	20+	No works required	B2

Tree No. (Tag)	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
T76	Sorbus aucuparia (Rowan)	4(2)	2	2	2	2	150	SM	M	Fair	Stem divides above 1.5m.	10+	No works required	C2
T77	Sorbus aucuparia (Rowan)	5(2)	3	3	2	2	200	SM	M	Fair	Stem divides above 1.5m.	10+	No works required	C2
T78	Fraxinus excelsior (Ash)	12(3)	3	3	3	3	200	SM	M	Fair	Stem divides above 1.5m.	10+	No works required	C2
T79	Betula pendula (Silver Birch)	12(2)	3	3	3	0	300	SM	L	Fair	Unbalanced crown shape. Crown distorted due to group pressure.	10+	No works required	C2
T80	Pinus sylvestris (Scots Pine)	15(2)	3	3	3	3	400	EM	M	Good	NVD	20+	No works required	B2
T81	Sorbus aucuparia (Rowan)	5(2)	2	2	2	2	100	SM	M	Poor	Major bark wounding on stem. Multiple stems at ground level. Included bark present in fork. Unbalanced crown shape. Crown distorted due to group pressure.	<10	No works required	U
T82	Crataegus monogyna (Hawthorn)	3(2)	2	3	2	2	150	Y	H	Fair	Suckers around stem base. Stem divides above 1.5m. Unbalanced crown shape.	10+	No works required	C2
T83	Acer pseudoplatanus (Sycamore)	14(3)	5	6	6	6	300 to 400	M	M	Good	Stem divides below 1.5m. Included bark present in fork. Natural bracing formed between branches above included bark unions.	40+	Removal to facilitate development	B2

3.2 Hedges

Hedge No.	*Species*	*Height (m)*	*Water Demand*	*Physiological condition*
H55	X Cupressocyparis leylandii (Leyland Cypress)	4	H	G

4.0 Above Ground Constraints

4.1 The potential for retaining trees on a development site includes the extent of the influence of the tree at the time of survey. Consideration is also given to the effects of future growth within the context of the proposed development. In addition, the potential nuisance caused by shading to new buildings both after construction and also once trees reach their ultimate size is also considered.

4.2 The extent to which a tree may represent a constraint to development will depend both upon the location of the trunk and size and nature of the canopy and also the extent of the roots below ground. The tree constraints drawing (SF3154 TC01) plots the location and extent of the tree above ground.

5.0 Below Ground Constraints

5.1 The Root Protection Area (RPA) represents a potential constraint to development which may be modified in pattern, although not overall area, by existing site conditions such as structures and surfaces, soil types and drainage, and an appreciation of the nature of particular tree species and root morphology.

5.2 Within the tree root protection area there should be a presumption against excavation, excess vehicular or pedestrian movement, storage of materials, construction, or changes in ground level unless consideration is given to the potential effects on the tree to be retained and the efficacy of any construction techniques designed to reduce adverse effects on the tree.

5.3 The tree constraints drawing (SF3154 TC01) plots the location and extent of the tree below ground through application of the calculation provided in section 4.6 of the BS5837:2012 Trees in relation to design demolition and construction – Recommendations.

6.0 Arboricultural Impact Assessment

6.1 The proposed development produced by Redrow Homes have been assessed in relation to the existing trees on drawing SF3154 AIA01 (Appendix C).

6.2 Summary of proposed tree removal to facilitate development

6.2.1 All trees on site will require removal to facilitate the proposed development. Please refer to drawing SF3154 AIA01 (Appendix C) for details of proposed tree removal.

6.3 Tree Works

6.3.1 All tree works recommend within this report shall be carried out to existing trees on site and shall be in accordance with BS 3998:2010 Recommendations for Tree Work, industry best practice and in line with any works already agreed with the Local Authority.

6.3.2 The Tree Surgeon shall be chosen from The Arboricultural Association's Approved Contractor list and all work shall be undertaken at the appropriate time and with the consent and approval of the Site Agent who shall approve a programme of work.

6.4 New tree planting

6.4.1 The removal of trees will be mitigated with replacement tree planting. New planting will diversify the range of tree species on site and provide a sustainable long term population of better quality trees. Appropriate species selection will take account of the mature tree sizes and existing available space and site conditions. This will ensure new tree planting will successfully establish and will have sufficient space (above and below ground) and light requirements to attain a full term healthy life.

APPENDIX A

Tree survey to BS 5837:2012 -Trees in relation to design demolition and construction limitation notes

This survey to BS 5837:2012 is a visual assessment undertaken from ground level without any physical investigation and should be regarded as a preliminary overview of the trees on site. 'This term [visual] describes a general approach to tree surveying using visual observation and recording, combined with experience and knowledge of tree biology and structure to draw conclusions about tree condition'p8[1]

Observations on structural condition, preliminary management recommendations, (e.g. pruning) and the estimated remaining contribution are based on visual indicators present at the time of inspection (i.e. a single point in time).

It should be noted that numerous potential defects may not be detectable dependent upon timing of inspection, in particular wood decay fungi which may only occasionally produce external fructifications or may not provide external symptoms until an advanced state of invasion is achieved.

Trees are long lived organisms with a significant proportion of growth below ground, (in addition to what is evident above ground) that naturally lose branches and may potentially fail in many ways.

Risk Assessments

Whilst hazards may be identified in this document e.g. a defect 'that may cause harm'. The risk, (i.e. 'the chance high or low) that somebody could be harmed by these and other hazards, together with an indication of how serious the harm could be' is not assessed. [2]

Requirements for ongoing inspections (to monitor observed defects) and risk assessments will be suggested as necessary in the body of the report. The level and frequency of assessment required (in line with HSE advice) will depend on a range of factors for example 'the frequency of public access to the tree' p4 [3]. A balanced and proportionate approach to tree safety management is advocated in the National Tree Safety Group publication 'Common sense risk management of trees'. [4]
The health, (condition) and resulting safety of trees for a risk assessment should be checked on a cyclical basis, alternating between early and late seasons to ensure a full picture of the trees current health is established. Therefore the assessment of risk that trees present on a particular site would be additional to the scope of this BS 5837:2012 tree survey.

Arboricultural Impact Assessments, Tree Protection Plans, Method Statements, Tree Management Plans

These items are additional services identified relating to design demolition and construction in BS5837:2012 which may form part of a strategy to manage risks.

NHBC Guidelines

The technical requirements of the National House Building Council Chapter 4.2 Building near trees are not fully met under the requirements of BS BS5837:2012 in relation to shrinkable soils and 'vegetation surveys' (which include hedgerows and shrubs.). p4 [5]

References/ Further reading

[1] The Arboricultural Association Guidance Note 7 Tree Surveys: A Guide to good Practice.

[2] Health and Safety Executive Guidance http://www.hse.gov.uk/risk/risk-assessment.htm

[3] HSE guidance on Tree Management SIM01/2007/05 Management of the risk from falling trees or branches.

[4] National Tree Safety Group Guidance – Common Sense Risk Management of Trees.

[5] National House Building Council Chapter 4.2 Building near trees (Part 4 Foundations).

APPENDIX B

SF3154 TC01 Tree Constraints Plan

Key

- Existing hedge
- Existing vegetation
- **Tree retention category A** High quality with an estimated life expectancy of at least 40 years
- **Tree retention category B** Moderate quality with an estimated life expectancy of at least 20 years
- **Tree retention category C** Low quality with an estimated life expectancy of at least 10 years, OR young tree with a stem diameter below 150mm
- **Woodland retention category C** Low quality with an estimated life expectancy of at least 10 years, OR young tree with a stem diameter below 150mm
- **Tree removal category U** Poor condition with an estimated life expectancy of less than 10 years
- **RPA** minimum Root Protection Area

Trees have been surveyed and categorized as per the recommendations and guidance in BS 5837:2012 Trees in relation to design, demolition and construction.

This drawing is to be read in conjunction with the Arboricultural Survey report.

This drawing is to be reproduced in colour.

FOR INFORMATION

Rev.	Date	Comments	Drawn	Chkd
-	-	-	-	-

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Project
Blackmoorfoot Road, Crossland Moor

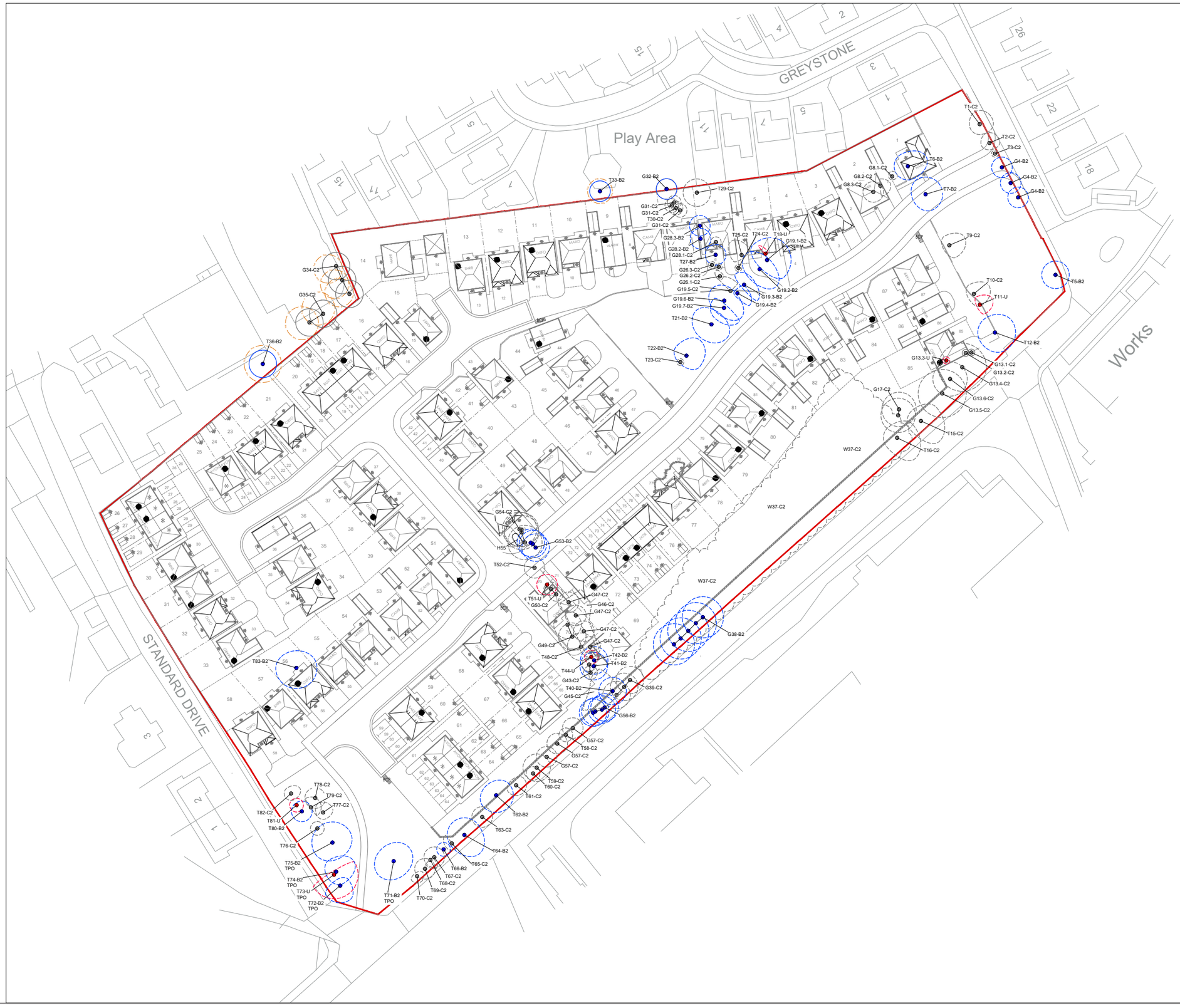
Title
Tree Constraints Plan

Project No.	Drawing No.	Rev.
SF 3154	TC01	-

Scale	Date
1:500 @ A1	01.03.21
Drawn by: DR	Checked by: MS

APPENDIX C

SF3154 AIA01 Arboricultural Impact Assessment Plan



Key

- **Tree retention category A**
  High quality with an estimated life expectancy of at least 40 years
- **Tree retention category B**
  Moderate quality with an estimated life expectancy of at least 20 years
- **Tree retention category C**
  Low quality with an estimated life expectancy of at least 10 years, OR young tree with a stem diameter below 150mm
- **Woodland retention category C**
  Low quality with an estimated life expectancy of at least 10 years, OR young tree with a stem diameter below 150mm
- **Tree removal category U**
  Poor condition with an estimated life expectancy of less than 10 years
- **RPA**
  minimum Root Protection Area
- **Proposed tree removal to facilitate development**

Trees have been surveyed and categorized as per the recommendations and guidance in BS 5837:2012 Trees in relation to design, demolition and construction.

This drawing is to be read in conjunction with the Arboricultural Survey report.

This drawing is to be reproduced in colour.

FOR INFORMATION

Rev.	Date	Comments	Drawn	Chkd
A	06.07.21	Updated to revised layout	DR	MS

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Project	Blackmoorfoot Road, Crossland Moor
Title	Arboricultural Impact Assessment Plan
Project No. SF 3154	Drawing No. AIA01 / Rev. B
Scale 1:500 @ A1	Date 01.03.21
Drawn by DR	Checked by MS