

NICHOLSONS LOCKHART GARRATT

Leading solutions for the natural environment

Arboricultural Report

Arboricultural Implications Assessment

White Cross Farm, Proposed Extraction
Site, Wallingford

Report prepared for:

Simon Rees

Greenfield Environmental

February 2022



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ARBORICULTURAL SURVEY

1. Report Summary

- 1.1. Trees in the vicinity of proposed quarry works at White Cross Farm, Wallingford have been subject to a quality and condition survey in line with British Standard 5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations [BS5837].
- 1.2. The purpose was to assess the impact of proposed quarrying works on adjacent trees and to identify trees which may be lost or that will require protection during the extraction process.
- 1.3. The works proposed were assessed to be likely to negatively impact a number of lower grade trees and trees groups. High profile and higher quality trees adjacent to the proposals can be successfully retained with appropriate mitigation procedures.

2. Introduction

- 2.1. Planning application reference: MW.0115/21 dated 09th September 2021 seeks permission for the *“Extraction and processing of sand and gravel including the construction of new site access roads, landscaping and screening bunds, minerals washing plant and other associated infrastructure with restoration to agriculture and nature conservation areas, using inert fill”* Nicholson Lockhart Garrett was instructed by Simon Rees of Greenfield environmental, to carry out the Arboricultural survey.
- 2.2. The site was visited on Tuesday 8th February 2022 by arboricultural surveyors Jon Emanuel and Bob Staig. The survey was carried out unaccompanied. This report is based on observations made on the day and conclusions derived from the surveyor’s experience and technical knowledge. Details of their qualifications and experience are listed in Appendix 1.
- 2.3. **Plans Provided;** Nicholson Lockhart Garratt was provided with a digital topographical map of the site dated 25th August 2021, a site plan (PA21-5), a phasing plan (PA21-7), a conceptual restoration plan (PA21-9) together with a follow up application response from SODC dated 25th November 2021. An image of the phasing plan is shown at Fig 1 below. A link was also provided to the OCC application site.

2.4. On 15th February 2022 a digital plan entitled Extraction Outlines was provided showing the extent of proposed works (Fig2). This data has been used as the primary document for assessing the arboricultural impact of the proposal in association with the phasing plan showing the bunding and phases of extraction.

2.5. Fig 1; Phasing plan

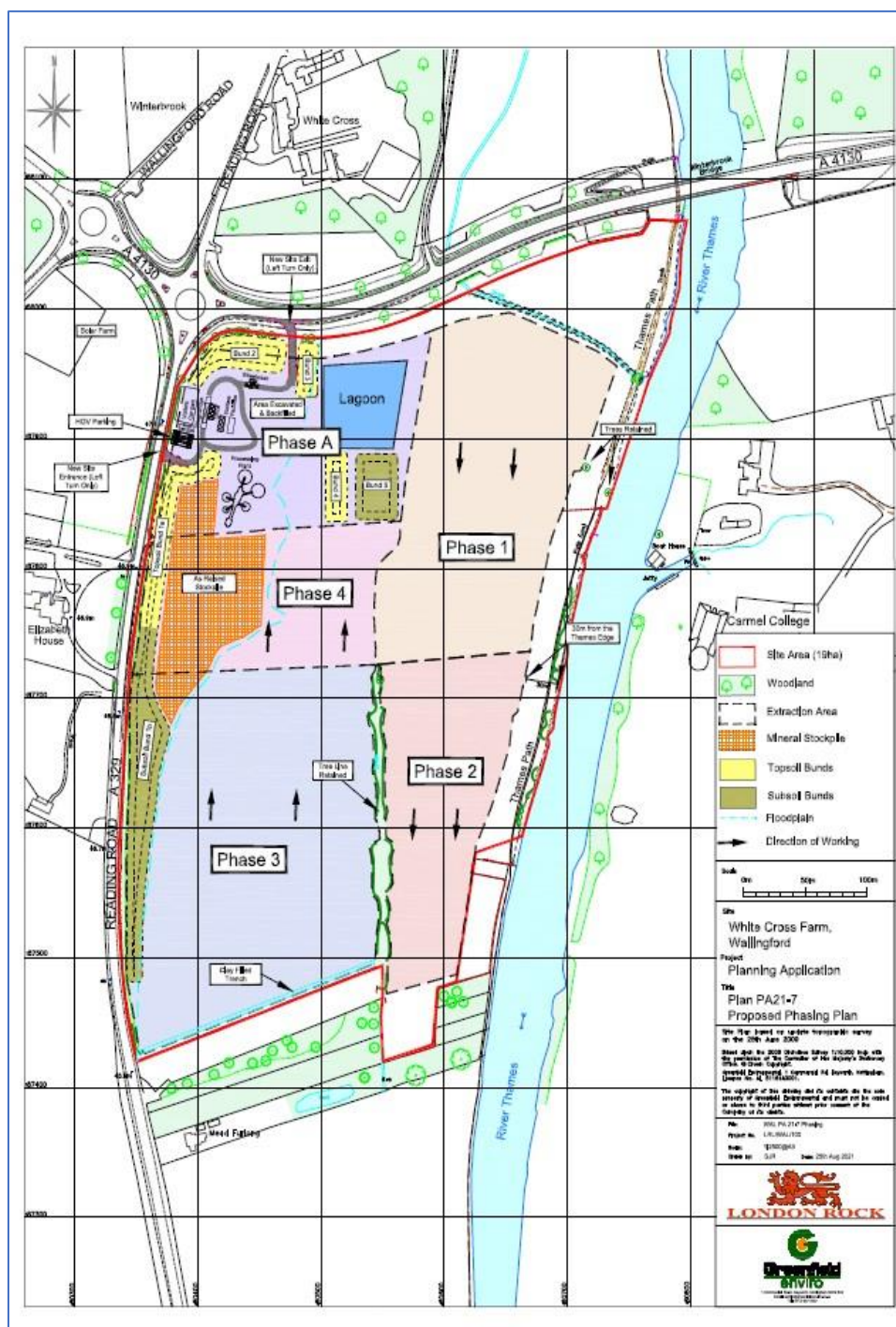
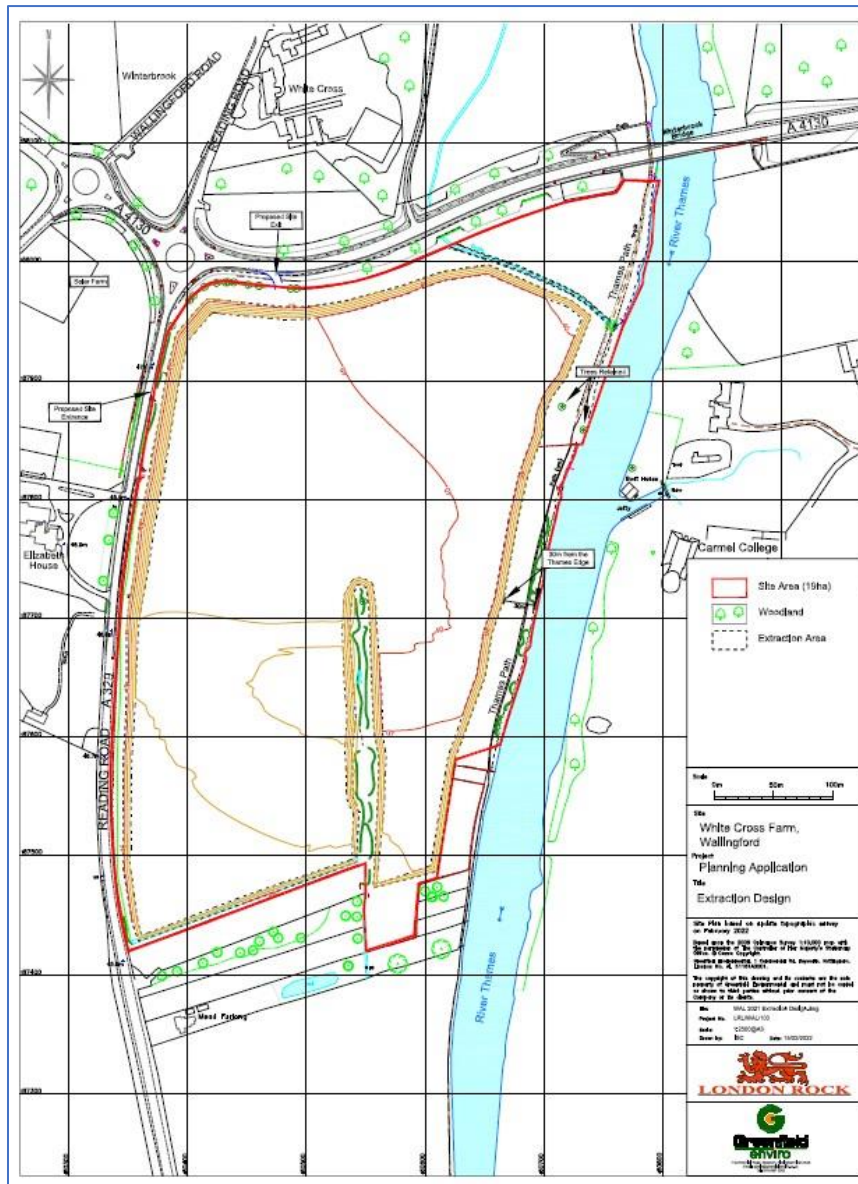


Fig 2 Red line boundary & Extraction limits



3. Site Description & Context

- 3.1. The area surveyed is approximately 19.03ha. it includes pasture for grazing in the northwest, an arable field in the south west and marshy rough grazing to the east. The site is bisected north-south by a shallow drain and associated overgrown hedgerow. The north, west and southern edges of the site are bounded by post and wire or post and rail fences. A derelict Dutch barn occupies an area to the north west quadrant.

- 3.2. The site is bounded to the north and west by A roads with mature trees and hedgerow to the west. To the north an embankment to the A 4130 is planted with hybrid Poplars.

4. Survey Methodology

- 4.1. The survey is concerned with the arboricultural aspects of the site only. Only trees likely to be impacted by the development were surveyed. This was taken to be any tree within 20m of any proposed works or bunding. With any inaccessible trees judgements were made from a distance and from the best possible vantage point.
- 4.2. In terms of condition, the trees were inspected broadly on the basis of the Visual Tree Assessment method expounded by Mattheck and Breloer in 'The Body Language of Trees', Department for Transport, Local government and the Regions book Research for Amenity Trees No. 4, 1994).
- 4.3. The survey was undertaken using British Standard 5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations [BS5837] as a guide to tree quality categorisation.
- 4.4. The survey provides an overview of tree cover and condition. Within the hedgerows, trees with a girth of 250mm were individually surveyed in accordance with BS5837. Smaller trees were assessed as a woodland or hedgerow group. Within groups the stem diameter of the largest trees on the periphery of each group has been used as the basis for calculating the maximum Root Protection Area (RPA) for the group as a whole and to determine the location of any Construction Exclusion Zones (CEZ) and associated protective fencing.
- 4.5. The survey was conducted from ground level with the aid of binoculars where necessary. The survey should not be substituted for a tree safety report. No tissue samples were taken nor was any internal investigation of the subject trees undertaken. The height of trees is estimated and for general guidance only.
- 4.6. All trees inspected during the site visit are detailed on the Arboricultural Constraints Plan. Please note that the attached plan is for indicative purposes only.

4.7. The Root Protection Area shown on the attached plan is calculated in accordance with BS5837.

4.8. The trees or groups of trees on the plan are categorised according to British Standard 5837: 2012. The categories are as follows:

- Category A – Those of a high quality with an estimated remaining life expectancy of at least 40 years.
- Category B – Those of a moderate quality with an estimated remaining life expectancy of at least 20 years.
- Category C – Those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.
- Category U – Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.

5. Assessment of Tree Cover

5.1. 119 trees and 18 groups of trees or hedgerows were assessed as potentially impacted by the proposed development. In terms of quality they were assessed as follows;

Quality Category	Number
A	2
B	18
C	95
U	4

5.2. All understory and hedgerow tree groups have been categorised as quality C features apart from group G2 which is assessed as Category U.

5.3. To the western boundary the hedgerow comprises primarily Elm regeneration with Hawthorn and Blackthorn. A number of visually significant trees are planted or have self-sown within the hedge line. There are some reasonably good quality mature Sycamore and Horse Chestnut categorised as B quality and one mature Walnut assessed as A.

- 5.4. To the northern boundary outside the site is a planted line of commercial clone Hybrid Poplars of narrow habit (possibly variety TT32) mixed with occasional Ash and Sycamore.
- 5.5. To the north east quadrant and on the edge of the proposed workings is a notable late mature Black Poplar assessed as a Category A because of its Landscape, Arboricultural, and Habitat value (T70).
- 5.6. Within the extraction area itself the tree cover is characterised by groups of self-sown Blackthorn, Willow, Ash, Elder and Elm together with remnants of unmanaged former Hawthorn hedgerow. There is one Birch of significant size and age for the species but it is now in the early stages of decline. It is considered to have only a limited future lifespan and has been assessed as category C for this reason.

6. Impact Assessment

- 6.1. **Losses:** The proposal involves the loss of 7 groups of category C trees all of which are primarily low grade scrub or hedgerow remnants. Two similar groups will be partially impacted. 6 category C trees will also be lost. The appended Schedule provides more detail on the individual trees.
- 6.2. **Level changes:** The extraction limits plan shows level change for the purposes of mineral extraction. Level changes outside the recommended Root Protection Area (RPA) of retained trees are unlikely to have a significant impact. The majority of the root system of most trees is to be found in the top 600mm of ground and they are not dependant on water table levels for their survival.
- 6.3. The current proposal avoids conflicts with the RPA of retained groups, hedgerows and individual trees. Please note that the extent of G12 and G13, the central retained strip, was plotted as slightly larger than the topographical survey indicated.
- 6.4. Excavations limits have been adjusted to avoid the RPA of the Category A Black Poplar tree T70.

- 6.5. Bunding is shown to the north and west of the site on the phasing plan. Raising the grade or soil level over existing roots can have a significant effect on the future growth and survival of trees. When soil or any type of fill is placed over the existing root system, it causes a reduction in the oxygen supply to the tree roots and slows down the rate of gas exchange between the roots and the air in the soil pore space
- 6.6. Bunding to the west is unlikely to impact the hedgerow trees provided that it remains no closer than 8 meters from the existing fence line or 4m from the drip line of the tree whichever is the further from the boundary. To protect the off-site poplar trees to the northern boundary bunding should not be placed within 6 metres of the existing boundary fence.
- 6.7. **Access:** The access cuts through a part of G4 an unmanaged hedgerow but in an area where there are no significant trees. The proposed exit is shown as being to the north of the site. T33, a hybrid poplar will be lost. The exit road will avoid the RPA's of other retained trees.
- 6.8. **Service runs;** Details are not currently available. There is adequate space at both access points to provide services runs that do not conflict with retained trees.
- 6.9. **Other matters;** Issues relating to demolition, temporary and permanent ground protection, shading, etc normally considered as part of an arboricultural survey are not considered relevant to this project.

7. Mitigations

- 7.1. To protect retained trees during the period of extraction the establishment of secure Construction Exclusion Zones (CEZ) will be required.
- 7.2. The Environment Agency requires that fencing within the flood plain is kept to a minimum therefore where practicable, protective fencing will be combined with the site security fencing and should only be erected at the start of the adjacent phase of the mineral extraction works and removed as necessary after each phase is progressively restored.

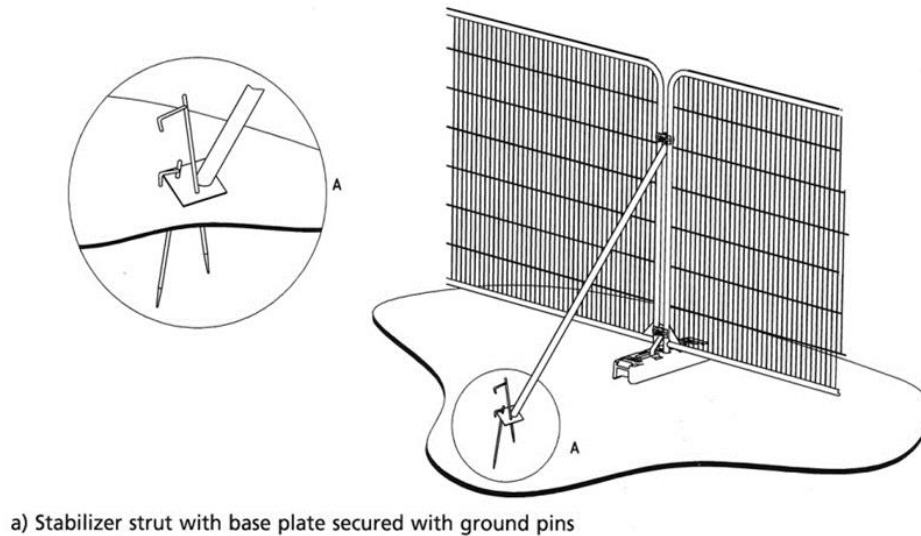
- 7.3. It is recommended that a phased works exclusion area is maintained and cordoned off from the works area, to ensure that all trees outside the works area to be retained are not adversely affected by any aspect of the works. This should be achieved by the installation of appropriate fencing or barrier sufficient to prevent parking or access by plant and equipment. Section 8 below provides further guidance.

8. Protective Fencing & Construction Exclusion Zones

- 8.1. Trees adjacent to areas of significant construction activity should be protected by Construction Exclusion Zones (CEZ) by installing protective fencing that meets the requirements of Section 6.2.2.4 of BS5837:2012.
- 8.2. The position of the proposed CEZ's are shown on the Draft Tree Protection Plan (Appended).
- 8.3. All fencing should be constructed with weld mesh panels, at least 2m high, securely fixed with wire or scaffold clamps, to ground supports as per Figure 3 of BS5837: 2012.
- 8.4. Tree protection barriers will be erected prior to the construction process and shall remain in place until completion of any construction, extraction phase or development. Operatives are to be made aware of the restrictions of the working area and are to be briefed on the trees present on site which are to be retained and protected.
- 8.5. Any adjustments or removals of the tree protection measures will only be carried out following consultation and agreement with the project arboriculturist and/or the Local Authority tree officer.
- 8.6. The following shall apply to the areas within the CEZ:
- No mechanical excavation and excavation by other means only with Arboricultural supervision
 - Hand digging shall only be carried out following a written method statement approved by the project arboriculturist.
 - No adjustment to ground levels
 - No storage of plant or material
 - No storage or handling of any chemicals including cement washing.

- No vehicular access
- No fires

Fig 3 Example of Protective Barrier Fence



9. Conclusions

- 9.1. The proposal will involve the loss of a range of relatively low grade trees or groups of trees. The creation of construction exclusion zones through appropriate approved fencing as the project progresses can ensure protection of retained trees and prevent lasting damage.
- 9.2. The implementation of the draft comprehensive restoration plan will more than adequately restore and enhance any lost canopy and vegetation cover over time.

10. Declaration

- 10.1. The statements in this report are based on information provided by the client. It does not take into account, the effects of extremes of climate, vandalism or accident. Nicholsons cannot accept liability in connection with these factors, nor where prescribed work is not carried out in a correct and professional manner in accordance with current good practice.
- 10.2. The authority of this report is effective for twelve months from the date of the survey or when any site conditions change, whichever is the sooner. It is recommended that a new survey be carried out after twelve months or following any severe weather event or change in the site.

11. APPENDIX 1 - Surveyors

Brief qualifications and experience of Mr. Bob Staig

Bob Staig has been practising arboriculture and open space management since 1979. Bob was involved in practical arboricultural operations and training students from 1979 until 1985 and thereafter has been responsible of the management of a diverse range of environments including street trees, arboretums, parks, nature reserves, cemeteries and private estates. Bob has worked as a consultant for a number of local authorities over many years providing both advice on strategic open space management together with specialist arboricultural services.

- National Diploma (Arboriculture)
- National Certificate (Horticulture)
- LANTRA Professional Tree Inspection Certificate (2017)
- Bat habitat protection and awareness (2018)

Brief qualifications and experience of Mr. Jon Emanuel

I have been practising in the Arboriculture Industry for over 25 years with wide scope of experience from climbing, all aspects of pruning, tree surgery works. I have attended many courses, seminars in relation to Arboriculture & Forestry. My experience over the years has been a diverse range being involved in local Authority tree surveys and management, private Estates, Housing associations tree stock surveys, single tree condition reports, climbing inspections. BS5837 AIA/MS Reports. Full understanding of BS3998, experience in dealing with the aspect of trees in relation to construction BS5837. I undertake regular CPD activity which includes attending seminars/conferences etc.

- LANTRA Certificate Professional Tree Inspection.
- Risk Assessment for Arboriculture.
- BS5837 Training
- LANTRA Awards Bats and Arboriculture
- NPTC Certifications

12. APPENDIX2 - Tree Schedule

Key to schedule

Tree Ref No: This relates to the numbers on the plan.

Species: Both the 'common name' and species specific "Latin" names are provided.

DBH (Diameter at breast height): This is the stem diameter at 1.5 metres (breast height') above ground level, given in millimetres. Where trees are multi-stemmed trees the square root of the combined stem diameter is calculated.

H (Height): The height of the tree measured where possible or estimated and recorded in metres.

Canopy Spread (Crown radius): The average crown spread taken from the centre of the trunk to the tips of the live lateral branches given in metres. Measurements follow the compass points North, East, South and West.

Canopy height: Ave - Average Crown Height Clearance: (HaB Height above ground) — ground clearance of lowest part of canopy given in metres.

Age: Age assessment is based on growth stages rather than actual age in years and are recorded as follows

Y: Young

SM: Semi Mature – having reached up to 1/3 life expectancy

EM: Early mature - having reached 1/3 of the expected life expectancy and is transitioning into maturity.

M: Mature - over 2/3 life expectancy

OM: Over-mature - fully mature, past peak condition and beginning to decline

V: Veteran - trees of interest biologically, aesthetically or culturally because of significant age.

Physiological Condition: An assessment of the health and vitality of the tree compared to what would normally be considered typical of a healthy tree of the species. Any notable diseases, symptoms or conditions observed. Any notes considered relevant are recorded here including local features which may be affected by or affect the tree

Condition & Observations: An assessment of the physical state of the trees highlighting any decay, weakness or damage. Condition categories are given as good, fair, poor or dead.

Life Expectancy: An estimate of the potential worthwhile remaining contribution – future life expectancy of the tree(s) in the present setting given normal circumstances, given in years (< = less than > = greater than) categorised <10 years, 10 – 20 years, 20 – 40 years and > 40 years.

Category grade: A quality assessment of the trees based on criteria detailed in BS5837:2012 Table 1

U: Trees unsuitable for retention

A: Those of high quality and value

B: Those of moderate quality and value

C: Those of low quality and value

Development consequences and Recommendations; Preliminary management recommendations in relation to the proposed development are made where appropriate. These may include remedial tree works that are deemed necessary to improve the quality of the tree or for safety reasons.

NICHOLSONS LOCKHART GARRATT							BS 5837 Tree Survey Schedule						Appendix 2							
Site: White Cross Farm, Walingford													Surveyors: Bob Staig & Jon Emanuel						February 2022	
Map No.	Common Name	Latin Name	Age Class	Height (m)	Diameter at 1.5m (mm)	Physiological condition	Branch Spread				Crown Height	Remaining useful life	Observations	Development implications	BS5837 Quality Grading	Sub Category	Advised Arboricultural Action			
							N	E	S	W										
Impacted Trees and Groups																				
1	Sycamore	Acer pseudoplatanus	Semi-mature	9	230	Good	2	2	2	3	1	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
2	Common Ash	Fraxinus excelsior	Young	4	100	Good	1	1	1	1	1	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
3	Common Ash	Fraxinus excelsior	Young	4	100	Good	1	1	1	1	1	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
4	Common Ash	Fraxinus excelsior	Young	4	100	Good	1	1	1	1	1	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
5	Common Ash	Fraxinus excelsior	Young	4	100	Good	1	1	1	1	1	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
6	Common Ash	Fraxinus excelsior	Mature	14	550	Fair	5	4	4	5	2	20 to 40 yrs	Hedgerow tree, possible signs of Ash Dieback	Retain & protect RPA	C	1 Arboricultural Values				
7	Sycamore	Acer pseudoplatanus	Semi-mature	6	280 260	Fair	4	1	4	2	1	21 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
8	Sycamore	Acer pseudoplatanus	Semi-mature	11	300	Good	2	1	2	3	4	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
9	English Elm	Ulmus procera	Semi-mature	6	290	Fair	2	2	2	2	4	10 to 20 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
10	Sycamore	Acer pseudoplatanus	Semi-mature	12	280	Fair	2	1	2	3	4	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
11	Sycamore	Acer pseudoplatanus	Semi-mature	5	390	Dead	3	1	2	3	3	n/a	Hedgerow tree	NA	U		Fell			
12	Sycamore	Acer pseudoplatanus	Semi-mature	8	280	Poor	2	1	2	3	4	n/a	Hedgerow tree	NA	U		Fell			
13	Sycamore	Acer pseudoplatanus	Semi-mature	11	330	Fair	2	2	3	3	4	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
14	Sycamore	Acer pseudoplatanus	Semi-mature	11	330	Fair	2	2	3	3	4	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
15	Hybrid Poplar	Populus canescens	Semi-mature	15	600	Good	5	4	5	5	1	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	2 Landscape Values				

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							N	E	S	W										
Impacted Trees and Groups																				
16	Common Ash	Fraxinus excelsior	Young	5	120	Good	2	2	1	2	2	10 to 20 yrs	Hedgerow tree	Retain & protect RPA	C	2 Landscape Values				
17	Wild Cherry	Prunus avium	Semi-mature	8	260	Good	2	3	3	3	2	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	2 Landscape Values				
18	Common Alder	Alnus glutinosa	Semi-mature	13	320	Fair	2	2	3	3	4	20 to 40 yrs	Off Site	Protect RPA	C	2 Landscape Values				
19	Field Maple	Acer campestre	Semi-mature	6	300	Good	4	4	4	4	1	20 to 40 yrs	Off Site	Protect RPA	C	2 Landscape Values				
20	Sycamore	Acer pseudoplatanus	Semi-mature	6	260	Fair	1	2	2	2	3	10 to 20 yrs	Off Site	Protect RPA	C	2 Landscape Values				
21	Hybrid Poplar	Populus canescens	Semi-mature	19	490	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
22	Hybrid Poplar	Populus canescens	Semi-mature	19	520	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
23	Hybrid Poplar	Populus canescens	Semi-mature	19	490	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
24	Hybrid Poplar	Populus canescens	Semi-mature	16	420	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
25	Hybrid Poplar	Populus canescens	Semi-mature	16	420	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
26	Hybrid Poplar	Populus canescens	Semi-mature	12	220	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
27	Common Alder	Alnus glutinosa	Semi-mature	12	290	Good	3	2	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	2 Landscape Values				
28	Hybrid Poplar	Populus canescens	Semi-mature	17	460	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
29	Hybrid Poplar	Populus canescens	Semi-mature	17	460	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
30	Hybrid Poplar	Populus canescens	Semi-mature	17	460	Good	4	5	4	4	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				

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							N	E	S	W										
Impacted Trees and Groups																				
31	Hybrid Poplar	Populus canescens	Semi-mature	17	460	Good	4	5	4	4	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
32	Hybrid Poplar	Populus canescens	Semi-mature	16	420	Good	4	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
33	Hybrid Poplar	Populus canescens	Semi-mature	16	420	Good	4	3	3	3	2	20 to 40 yrs	Off Site	Lost due to proposed exit route	C	1 Arboricultural Values				
34	Hybrid Poplar	Populus canescens	Semi-mature	20	620	Good	6	7	5	7	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
35	Hybrid Poplar	Populus canescens	Semi-mature	14	400	Good	4	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
36	Hybrid Poplar	Populus canescens	Semi-mature	21	480	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
37	Hybrid Poplar	Populus canescens	Semi-mature	21	480	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
38	Hybrid Poplar	Populus canescens	Semi-mature	21	480	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
39	Hybrid Poplar	Populus canescens	Semi-mature	21	480	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
40	Hybrid Poplar	Populus canescens	Semi-mature	23	680	Good	5	5	6	4	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
41	Hybrid Poplar	Populus canescens	Semi-mature	20	650	Good	5	5	6	4	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
42	Hybrid Poplar	Populus canescens	Semi-mature	20	650	Good	5	5	6	4	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
43	Hybrid Poplar	Populus canescens	Semi-mature	23	680	Good	5	5	6	4	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
44	Hybrid Poplar	Populus canescens	Semi-mature	20	650	Good	5	5	6	4	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				
45	Hybrid Poplar	Populus canescens	Semi-mature	25	730	Good	7	8	7	5	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values				

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							N	E	S	W									
Impacted Trees and Groups																			
46	Hybrid Poplar	Populus canescens	Semi-mature	20	650	Good	5	5	6	4	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values			
47	Scots Pine	Pinus sylvestris	Semi-mature	12	280	Fair	1	2	1	1	2	20 to 40 yrs	Off Site	Protect RPA	C	1 Arboricultural Values			
48	Common Horse Chestnut	Aesculus hippocastanum	Semi-mature	11	350	Fair	4	4	4	4	2	10 to 20 yrs	Off Site	Protect RPA	C	1 Arboricultural Values			
49	Common Oak	Quercus robur	Young	4	220	Poor	3	3	3	3	2	10 to 20 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values			
50	Hybrid Poplar	Populus canescens	Semi-mature	20	630	Good	5	3	6	4	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values			
51	Hybrid Poplar	Populus canescens	Semi-mature	20	650	Good	5	5	6	4	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values			
52	Hybrid Poplar	Populus canescens	Semi-mature	20	630	Good	5	4	6	4	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values			
53	Hybrid Poplar	Populus canescens	Semi-mature	20	630	Good	5	4	6	4	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values			
54	Hybrid Poplar	Populus canescens	Semi-mature	20	630	Good	5	4	6	4	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values			
55	Common Alder	Alnus glutinosa	Mature	17	490	Good	3	3	2	2	4	20 to 40 yrs	Off Site	Not Impacted by proposal	C	2 Landscape Values			
56	Silver Birch	Betula pendula	Mature	18	330	Good	2	2	2	2	3	20 to 40 yrs	Off Site	Not Impacted by proposal	C	2 Landscape Values			
57	Hybrid Poplar	Populus canescens	Semi-mature	20	630	Good	5	4	6	4	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values			
58	Hybrid Poplar	Populus canescens	Semi-mature	20	730	Good	5	4	5	4	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values			
59	Hybrid Poplar	Populus canescens	Semi-mature	20	730	Good	5	4	5	4	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values			
60	Hybrid Poplar	Populus canescens	Semi-mature	20	730	Good	5	4	5	4	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values			

NICHOLSONS LOCKHART GARRATT							BS 5837 Tree Survey Schedule											Appendix 2						
Site: White Cross Farm, Walingford													Surveyors: Bob Staig & Jon Emanuel										February 2022	
Map No.	Common Name	Latin Name	Age Class	Height (m)	Diameter at 1.5m (mm)	Physiological condition	Branch Spread				Crown Height	Remaining useful life	Observations	Development implications	BS5837 Quality Grading	Sub Category	Advised Arboricultural Action							
							N	E	S	W														
Impacted Trees and Groups																								
61	Hybrid Poplar	Populus canescens	Semi-mature	19	700	Good	5	4	5	4	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values								
62	Hybrid Poplar	Populus canescens	Semi-mature	19	700	Good	5	4	5	3	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values								
63	Hybrid Poplar	Populus canescens	Semi-mature	19	450	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values								
64	Hybrid Poplar	Populus canescens	Semi-mature	19	540	Good	5	5	5	5	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values								
65	Hybrid Poplar	Populus canescens	Semi-mature	19	450	Good	3	3	3	3	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values								
66	Hybrid Poplar	Populus canescens	Semi-mature	19	540	Good	5	5	5	5	2	20 to 40 yrs	Off Site	Not Impacted by proposal	C	1 Arboricultural Values								
67	Crack Willow	Salix fragilis	Mature	5	500	Fair	4	2	3	3	2	20 to 40 yrs	Riverside tree	Retain & protect RPA	C	1 Arboricultural Values								
68	Crack Willow	Salix fragilis	Mature	19	1100	Fair	6	8	6	7	4	20 to 40 yrs	Riverside tree	Retain & protect RPA	C	1 Arboricultural Values 2 Landscape Values								
69	Crack Willow	Salix fragilis	Mature	16	850	Fair	3	4	6	4	4	20 to 40 yrs	Riverside tree	Retain & protect RPA	C	1 Arboricultural Values 2 Landscape Values								
70	Black Poplar	Populus nigra	Late Mature	30	1680	Good	9	10	9	9	4	>40 yrs	Significant landscape feature, possibly genuine Black Poplar (would require DNA test to confirm). Likely Bat habitat.	Retain & protect RPA	A	1 Arboricultural Values 2 Landscape Values 3 Cultural								
71	Black Poplar	Populus nigra	Mature	26	950	Good	7	6	7	7	4	20 to 40 yrs	Significant landscape/waterside feature. Potential Bat habitat	Retain & protect RPA	B	2 Landscape Values								
72	Goat Willow	Salix caprea	Mature	7	490	Fair	5	5	3	5	3	10 to 20 yrs	Self sown	Remove to facilitate development	C	3 Cultural 2 Landscape Values								
73	Goat Willow	Salix caprea	Mature	7	530	Fair	1	5	6	5	3	10 to 20 yrs	Self sown	Remove to facilitate development	C	3 Cultural 2 Landscape Values								
74	Silver Birch	Betula pendula	Late Mature	18	690	Fair	5	5	6	6	4	10 to 20 yrs	Visually significant, in decline upper crown dieback, suspected decay to basal area.	Remove to facilitate development	C	1 Arboricultural Values								

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Site: White Cross Farm, Walingford													Surveyors: Bob Staig & Jon Emanuel						February 2022	
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							N	E	S	W										
Impacted Trees and Groups																				
75	Goat Willow	Salix caprea	Semi-mature	5	290	Fair	3	3	3	3	2	20 to 40 yrs	Self sown	Remove to facilitate development	C	1 Arboricultural Values				
76	Common Hawthorn	Crataegus monogyna	Mature	4	290	Good	3	3	3	3	2	>40 yrs	Self sown	Remove to facilitate development	C	1 Arboricultural Values				
77	Goat Willow	Salix caprea	Mature	6	360 490	Good	4	5	6	6	3	20 to 40 yrs	Self sown	Retain & protect RPA	C	1 Arboricultural Values				
78	Goat Willow	Salix caprea	Late Mature	7	680	Fair	6	6	7	6	3	20 to 40 yrs	Several horizontal cracks and partly failed limbs. Potential Bat habitat	Retain & protect RPA	C	1 Arboricultural Values				
79	Common Ash	Fraxinus excelsior	Semi-mature	9	370	Fair	4	4	4	4	3	10 to 20 yrs	Declining	Retain & protect RPA	C	1 Arboricultural Values				
80	Common Alder	Alnus glutinosa	Semi-mature	6	250 180	Good	3	3	3	3	2	20 to 40 yrs	Riverside tree	Not Impacted by proposal	C	2 Landscape Values				
81	Common Alder	Alnus glutinosa	Mature	9	390	Good	4	4	4	4	3	20 to 40 yrs	Riverside tree	Not Impacted by proposal	C	2 Landscape Values				
82	Hybrid Poplar	Populus canescens	Mature	17	430	Good	3	3	4	4	2	20 to 40 yrs	Riverside tree	Not Impacted by proposal	C	2 Landscape Values				
83	Scots Pine	Pinus sylvestris	Mature	19	370	Good	3	3	3	2	8	20 to 40 yrs	Off site	Not Impacted by proposal	B	1 Arboricultural Values 2 Landscape Values				
84	Scots Pine	Pinus sylvestris	Mature	19	370	Good	3	3	3	2	8	20 to 40 yrs	Off site	Not Impacted by proposal	B	1 Arboricultural Values 2 Landscape Values				
85	Black/Grey Poplar	Populus nigra var betulifolia	Mature	31	900	Good	6	4	6	8	11	20 to 40 yrs	Off site	Not Impacted by proposal	B	2 Landscape Values				
86	Black/Grey Poplar	Populus nigra var betulifolia	Mature	30	890	Good	7	5	5	6	6	20 to 40 yrs	Off site	Not Impacted by proposal	B	2 Landscape Values				
87	Black/Grey Poplar	Populus nigra var betulifolia	Mature	30	890	Good	7	7	7	7	5	20 to 40 yrs	Off site	Not Impacted by proposal	B	2 Landscape Values				
88	Black/Grey Poplar	Populus nigra var betulifolia	Mature	30	890	Good	7	7	7	7	5	20 to 40 yrs	Off site	Not Impacted by proposal	B	2 Landscape Values				
89	Sycamore	Acer pseudoplatanus	Mature	12	100 200 200	Fair	4	4	4	4	3	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				

NICHOLSONS LOCKHART GARRATT							BS 5837 Tree Survey Schedule						Appendix 2							
Site: White Cross Farm, Walingford													Surveyors: Bob Staig & Jon Emanuel						February 2022	
Map No.	Common Name	Latin Name	Age Class	Height (m)	Diameter at 1.5m (mm)	Physiological condition	Branch Spread				Crown Height	Remaining useful life	Observations	Development implications	BS5837 Quality Grading	Sub Category	Advised Arboricultural Action			
							N	E	S	W										
Impacted Trees and Groups																				
90	Sycamore	Acer pseudoplatanus	Mature	13	300 350	Good	4	4	4	4	3	20 to 40 yrs	Hedgerow tree, Ivy Clad	Retain & protect RPA	C	1 Arboricultural Values				
91	Sycamore	Acer pseudoplatanus	Mature	18	520	Poor	4	4	4	4	4	10 to 20 yrs	Hedgerow tree, declining	Retain & protect RPA	C	1 Arboricultural Values				
92	Sycamore	Acer pseudoplatanus	Mature	10	280	Good	3	3	3	3	4	>40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
93	Elm	Ulmus Glabra	Mature	6	250	Dead	5	5	5	5	2	N/A	Area of dead elms some presenting a current danger to highway.		U	NA	Fell			
94	Sycamore	Acer pseudoplatanus	Semi-mature	8	220 230	Good	3	3	3	3	3	>40 yrs	Ivy clad.	Retain & protect RPA	C	1 Arboricultural Values				
95	Sycamore	Acer pseudoplatanus	Semi-mature	7	280	Good	3	3	3	3	2	>40 yrs	Hedgerow tree	Retain & protect RPA	C	1 Arboricultural Values				
96	Sycamore	Acer pseudoplatanus	Mature	13	520	Good	4.5	4.5	4.5	4.5	3	20 to 40 yrs	Heavily ivy clad, inspection limited.	Retain & protect RPA	C	1 Arboricultural Values				
97	Common Ash	Fraxinus excelsior	Mature	18	340 400	Good	4	4	4	4	2	20 to 40 yrs	Hedgerow tree	Retain & protect RPA	B	1 Arboricultural Values				
98	Sycamore	Acer pseudoplatanus	Mature	13	490	Good	4.5	4.5	4.5	4.5	3	>40 yrs	Ivy clad	Retain & protect RPA	B	1 Arboricultural Values				
99	Sycamore	Acer pseudoplatanus	Mature	13	510	Good	4.5	4.5	4.5	4.5	3	>40 yrs	Ivy clad	Retain & protect RPA	B	1 Arboricultural Values				
100	Sycamore	Acer pseudoplatanus	Mature	9	500	Fair	4.5	4.5	4.5	4.5	2	10 to 20 yrs	Declining	Retain & protect RPA	C	1 Arboricultural Values				
101	Sycamore	Acer pseudoplatanus	Mature	10	530	Fair	4.5	4.5	4.5	4.5	2	10 to 20 yrs	Declining	Retain & protect RPA	C	1 Arboricultural Values				
102	Sycamore	Acer pseudoplatanus	Mature	10	480	Fair	4	4	4	4	4	>40 yrs	Stunted. Ivy clad.	Retain & protect RPA	C	1 Arboricultural Values				
103	Sycamore	Acer pseudoplatanus	Mature	12	530	Fair	5	5	5	5	2.5	>40 yrs	Ivy clad.	Retain & protect RPA	B	1 Arboricultural Values				
104	Common Horse Chestnut	Aesculus hippocastanum	Mature	13	580	Fair	5	5	5	5	2	>40 yrs	Hedgerow tree	Retain & protect RPA	B	1 Arboricultural Values				

NICHOLSONS LOCKHART GARRATT							BS 5837 Tree Survey Schedule						Appendix 2							
Site: White Cross Farm, Walingford													Surveyors: Bob Staig & Jon Emanuel						February 2022	
Map No.	Common Name	Latin Name	Age Class	Height (m)	Diameter at 1.5m (mm)	Physiological condition	Branch Spread				Crown Height	Remaining useful life	Observations	Development implications	BS5837 Quality Grading	Sub Category	Advised Arboricultural Action			
							N	E	S	W										
Impacted Trees and Groups																				
105	Sycamore	Acer pseudoplatanus	Mature	11	490	Fair	1	4	3	5	2	20 to 40 yrs	Suppressed by adjacent tree.	Retain & protect RPA	C	1 Arboricultural Values				
106	Sycamore	Acer pseudoplatanus	Mature	12	470	Fair	4.5	4.5	4.5	4.5	4	20 to 40 yrs	In slight decline.	Retain & protect RPA	C	1 Arboricultural Values				
107	Sycamore	Acer pseudoplatanus	Mature	16	660	Good	6	6	6	6	2	>40 yrs	Ivy clad.	Retain & protect RPA	B	1 Arboricultural Values				
108	Sycamore	Acer pseudoplatanus	Mature	16	580	Good	4.5	4.5	4.5	4.5	3	>40 yrs	Heavily ivy clad.	Retain & protect RPA	B	1 Arboricultural Values				
109	Common Walnut	Juglans regia	Mature	9	460	Good	4	4	4	4	2	>40 yrs	Hedgerow tree	Retain & protect RPA	B	1 Arboricultural Values				
110	Sycamore	Acer pseudoplatanus	Mature	12	480 160	Fair	4.5	4.5	4.5	4.5	2	20 to 40 yrs	Heavily ivy clad.	Retain & protect RPA	C	1 Arboricultural Values				
111	Sycamore	Acer pseudoplatanus	Mature	13	500	Good	4.5	4.5	4.5	4.5	2	20 to 40 yrs	Ivy clad.	Retain & protect RPA	B	1 Arboricultural Values				
112	Common Horse Chestnut	Aesculus hippocastanum	Mature	9	460	Fair	2	3	4	4	2	20 to 40 yrs	Stunted and suppressed.	Retain & protect RPA	C	1 Arboricultural Values				
113	Sycamore	Acer pseudoplatanus	Mature	11	510	Fair	4.5	4.5	4.5	4.5	2.5	20 to 40 yrs	Declining.	Retain & protect RPA	C	1 Arboricultural Values				
114	Sycamore	Acer pseudoplatanus	Mature	15	530	Fair	5	5	5	5	2	>40 yrs	Declining.	Retain & protect RPA	C	1 Arboricultural Values				
115	Sycamore	Acer pseudoplatanus	Mature	15	500	Good	4.5	4.5	4.5	4.5	2	>40 yrs	Ivy clad.	Retain & protect RPA	B	1 Arboricultural Values				
116	Sycamore	Acer pseudoplatanus	Mature	13	580	Good	4.5	4.5	4.5	4.5	2	>40 yrs	Ivy clad.	Retain & protect RPA	B	1 Arboricultural Values				
117	Unknown		Dead	8	450	Dead	3	3	3	3	2	N/A	Hedgerow tree	NA	U	NA	Fell			
118	Common Walnut	Juglans regia	Mature	19	620	Good	5	5	5	5	1	>40 yrs	Significant tree for species in good physiological and structural condition.	Retain & protect RPA	A	1 Arboricultural Values				
119	Sycamore	Acer pseudoplatanus	Mature	19			5	5	5	5	2	>40 yrs	Off site.	Not Impacted by proposal	B	1 Arboricultural Values				
Groups																				

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LOCKHART GARRATT

BS 5837 Tree Survey Schedule

Appendix 2

Site: White Cross Farm, Walingford

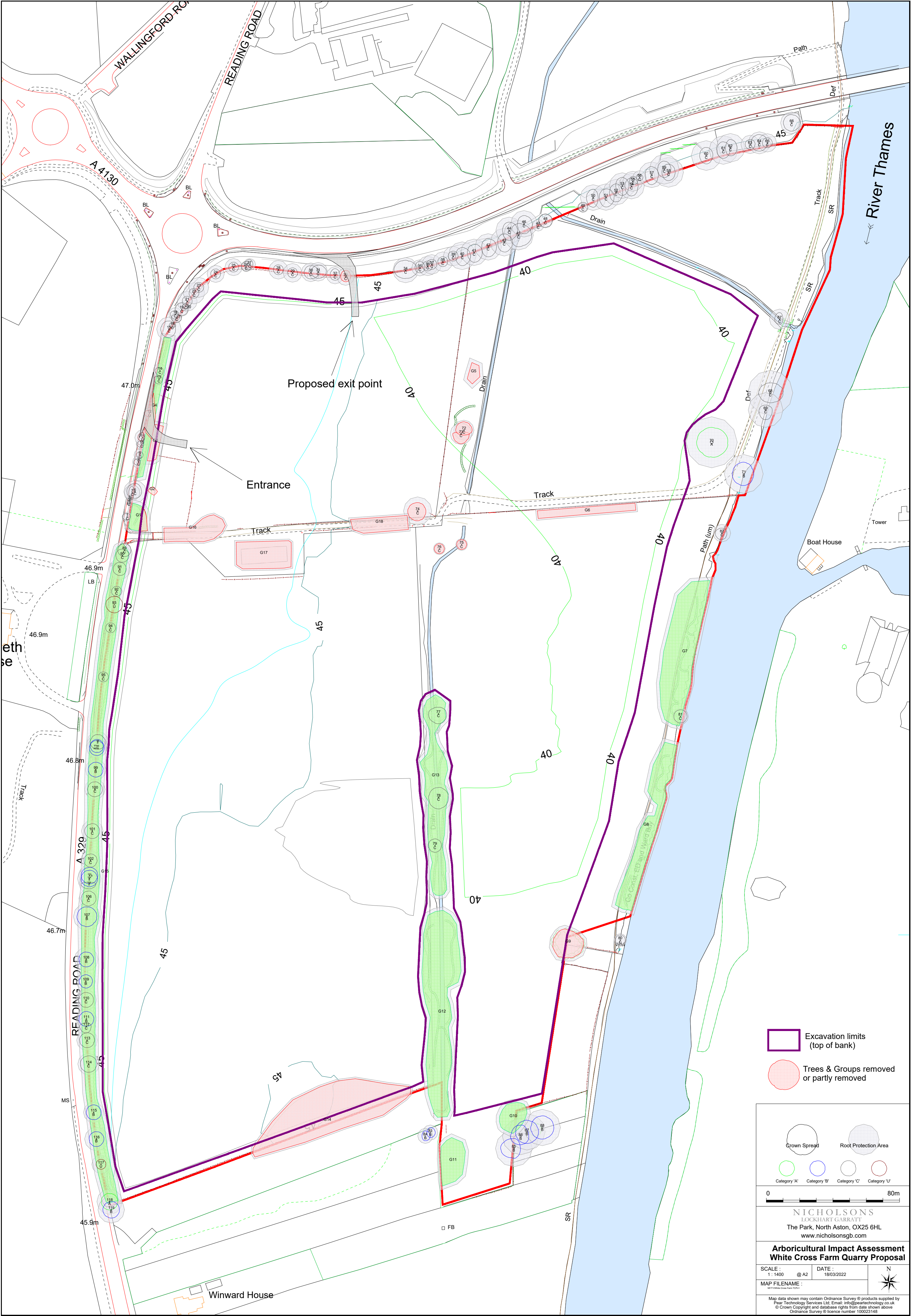
Surveyors: Bob Staig & Jon Emanuel

February 2022

Map No.	Common Name	Latin Name	Age Class	Height (m)	Diameter at 1.5m (mm)	Physiological condition	Branch Spread				Crown Height	Remaining useful life	Observations	Development implications	BS5837 Quality Grading	Sub Category	Advised Arboricultural Action	
							N	E	S	W								
Impacted Trees and Groups																		
G1	Ash	Fraxinus excelsior	Semi-mature	4	140 ave	Fair						>40 yrs	Self sown		Majority of group likely to be lost to entrance work and extraction area.	C	1 Arboricultural Values	
G2	Ash	Fraxinus excelsior	Semi-mature	4	140 ave	Fair						>40 yrs			Remove to facilitate development	C	1 Arboricultural Values	
G3	Elm	Ulmus Glabra	Semi-mature	3	150 ave	Dead						NA			Remove to facilitate development	U	1 Arboricultural Values	
G4	Hawthorn	Crataegus monogyna	Semi-mature	6	200 ave	Good						20 - 40 yrs	Hedgerow unmanaged, Hawthorn Elm Sycamore		Partially lost (19m frontage) due to proposed entrance route	C	1 Arboricultural Values	
G5	Hawthorn	Crataegus monogyna	Semi-mature	4	200 ave	Good						20 - 40 yrs	Hawthorn, group of 6 self sown		Remove to facilitate development	C	1 Arboricultural Values	
G6	Hawthorn	Crataegus monogyna	Semi-mature	7	200 ave	Good						20 - 40 yrs	Former hedge line with Hawthorn remnant trees		Remove to facilitate development	C	1 Arboricultural Values	
G7	Blackthorn	Prunus spinosa	Semi-mature	4	120 ave	Good						20 - 40 yrs	Blackthorn scrub regeneration		Not Impacted by proposal	C	1 Arboricultural Values	
G8	Blackthorn	Prunus spinosa	Semi-mature	4	150 ave	Good						20 - 40 yrs	Blackthorn regeneration		Not Impacted by proposal	C	1 Arboricultural Values	
G9	Blackthorn	Prunus spinosa	Semi-mature	4	150 ave	Good						20 - 40 yrs	Blackthorn regeneration		Remove to facilitate development	C	1 Arboricultural Values	
G10	Blackthorn	Prunus spinosa	Semi-mature	4	150 ave	Good						20 - 40 yrs	Blackthorn regeneration		Retain & protect RPA	C	1 Arboricultural Values	
G11	Goat Willow	Salix caprea	Semi-mature	6	300 ave	Fair						20 - 40 yrs	Fallen re-rooted group		Retain & protect RPA	C	1 Arboricultural Values	
G12	Blackthorn	Prunus spinosa	Semi-mature	5	300 ave	Good						20 - 40 yrs	Former hedgerow unmanaged. Hawthorn with Goat Willow and extensive Blackthorn regeneration		Retain & protect RPA	C	1 Arboricultural Values	
G13	Blackthorn	Prunus spinosa	Semi-mature	7	300 ave	Good						20 - 40 yrs	Former hedgerow unmanaged. Hawthorn with Goat Willow and extensive Blackthorn regeneration		Retain & protect RPA	C	1 Arboricultural Values	
G14	Blackthorn	Prunus spinosa	Semi-mature	7	200 ave	Good						20 - 40 yrs	Blackthorn scrub with Ash		Remove to facilitate development	C	1 Arboricultural Values	
G15	Elm	Ulmus Glabra	Semi-mature	6	300 ave	Fair						> 40 yrs	Hedgerow to western boundary. Elm, Sycamore Hawthorn. Many elm dying.		Retain & protect RPA	C	1 Arboricultural Values	Remove dead Elm within range of Highway

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							N	E	S	W											
Impacted Trees and Groups																					
G16	Hawthorn	Crataegus monogyna	Semi-mature	4	250 ave	Good						20 - 40 yrs	Area of isolated hedgerow remnants. Hawthorn & Elder.	Remove to facilitate development	C	1 Arboricultural Values					
G18	Elder	Sambucus nigra	Mature	5	250 ave	Good						10 - 20 yrs	Derelict Dutch barn surrounded by Elder	Remove to facilitate development	C	1 Arboricultural Values					
G19	Hawthorn	Crataegus monogyna	Mature	4	150 ave	Good						20 -40 yrs	Hawthorn hedgerow remnants. 4of	Remove to facilitate development	C	1 Arboricultural Values					





- Excavation limits (top of bank)
- Trees & Groups removed or partly removed

Crown Spread

Root Protection Area

Category 'A'

Category 'B'

Category 'C'

Category 'U'

0

80m

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The Park, North Aston, OX25 6HL

www.nicholsonsgb.com

Arboricultural Impact Assessment

White Cross Farm Quarry Proposal

SCALE : 1:1400 @ A2

DATE : 18/03/2022

MAP FILENAME : 1801 White Cross Farm T001

N

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