

**ARBORICULTURAL REPORT
AND
ARBORICULTURAL IMPACT ASSESSMENT
to BS 5837:2012
at
North Bierley WWTW
Cliff Hollins Lane
Oakenshaw
Bradford
West Yorkshire
BD12 7ET**

Client:
KPP Architects Ltd

Client Address:
Lodge House
12 Town Street
Horsforth
Leeds
West Yorkshire
LS18 4RJ

Client Contact:
0113 2390460 (Tel)

JCA Ref:
24294/AJB

JCA Limited
Arboricultural & Ecological Consultants

Contents

1. Introduction	3
1.1 Purpose of the Report	3
1.2 Terms of Reference.....	3
1.3 Tree Survey Details and Methodology	3
2. Status of the Trees	4
3. Tree Survey Details	4
3.1 Tree Retention Categories	4
3.2 Recommended Work for Arboricultural Reasons	4
4 Arboricultural Impact Assessment (AIA).....	5
4.1 Proposed Development.....	5
4.2 Tree Removals for Development.....	5
5 Summary	6
 Appendix 1: Tree Descriptions and Recommendations.....	 8
Appendix 2: Explanation of Tree Descriptions	9
Appendix 3: General Guidelines.....	11
Appendix 4: Author Qualifications.....	12
Appendix 5: Tree Constraints Plan	13
Appendix 6: Arboricultural Implications Plan	14

1. Introduction

1.1 Purpose of the Report

- 1.1.1 JCA Limited has been instructed by **KPP Architects Ltd** to survey the trees at **North Bierley WWTW, Cliff Hollins Lane, Oakenshaw, Bradford** and to prepare the findings in a report.
- 1.1.2 This report provides detailed, independent, arboricultural advice on the trees in the context of potential development, conducted in accordance with the guidelines contained within BS5837: 2012 '*Trees in relation to design, demolition and construction – Recommendations*' (BS5837:2012).
- 1.1.3 The specific design of the proposed development has been considered within the Arboricultural Impact Assessment in **Section 4** and is detailed on the Arboricultural Implications Plan at **Appendix 6**.

1.2 Terms of Reference

- 1.2.1 For this purpose, a topographical survey undertaken in March 2014 (**Ref: SH10534-004**) has been supplied, which forms the basis for the Tree Constraints Plan at **Appendix 5**. The topographical survey, along with all other documents supplied to JCA, is assumed to be correct. No checking of such documents will be undertaken and JCA cannot be held responsible for incorrect data supplied by other parties.

1.3 Tree Survey Details and Methodology

- 1.3.1 The survey took place during October 2026 and was conducted by **Andrew Bussey** *LANTRA Accredited PTI, TechArborA*.
- 1.3.2 During this survey, all trees were inspected from ground level. Further investigations, such as a climbed inspection or a decay detection survey, have not been undertaken.
- 1.3.3 Only those trees within the site boundary with a stem diameter above 75mm have been included.
- 1.3.4 Tree data was collected in accordance with **Section 4.4** and **Section 4.5** of BS5837: 2012. Full details of all trees surveyed are recorded in the tables at **Appendix 1** which can be cross referenced with the Tree Constraints Plan at **Appendix 5**. A full explanation of the tables can be found at **Appendix 2**.
- 1.3.5 Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible, due to restricted access or other mitigating circumstances, measurements were estimated to the best ability of the surveyor. Where measurements have been estimated, these are clearly highlighted at **Appendix 1** with a '#' symbol.

2. Status of the Trees

- 2.1 A check was made with **Kirklees Metropolitan Council** in September 2026 to determine whether any of the trees surveyed as part of this report are subject to any statutory controls.
- 2.2 We are informed that no trees within our survey are subject to any Tree Preservation Orders (TPO) and the site is not located within a Conservation Area.
- 2.3 However, prior to any works being undertaken to trees, those instructing and proposing to carry out the work should satisfy themselves that all appropriate consents are in place to prevent potential breach of legislation.

3. Tree Survey Details

3.1 Tree Retention Categories

- 3.1.1 Three retention category 'C' trees and one retention category 'C' group of trees were surveyed in accordance with BS5837: 2012. For a full explanation of the retention categories, please refer to **Appendix 2 (Section A2.3)**.
- 3.1.1 Items listed as retention category 'C' are of a low value and the removal of these trees is generally unlikely to be met with resistance by the LPA.

3.2 Recommended Work for Arboricultural Reasons

- 3.2.1 No tree work is required under the current context of the site.

4 Arboricultural Impact Assessment (AIA)

4.1 Proposed Development

- 4.1.1 The development consists of the demolition of the existing filter beds and the construction of two industrial units and associated external works.
- 4.1.2 We have been supplied with drawing **2002 Rev P1 PROPOSED SITE PLAN true north**, which details the proposed development. The tree data has been overlaid onto the proposed designs to create the Arboricultural Implications Plan, which can be found at **Appendix 6**. This provides the basis for which this Arboricultural Impact Assessment has been prepared.
- 4.1.3 All tree works required to accommodate the proposals are detailed in the “Works Required to Accommodate the Proposals” column of the tables at **Appendix 1**.

4.2 Tree Removals for Development

- 4.2.1 All the trees within the site boundary require removal in order to facilitate the development. This includes **T1, T2, T3** and **G4**, each of which a low value items of vegetation which fall into retention category ‘C’.

5 Summary

- 5.1 We are informed that no trees within our survey are subject to any Tree Preservation Orders (TPO) and the site is not located within a Conservation Area.
- 5.2 All the trees within the site boundary require removal in order to facilitate the proposed development. These are discussed in **Section 4.2** and detailed on the Arboricultural Implications Plan at **Appendix 6**.

Appendices

Tree Ref.	Age Common Name Botanical Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread			Observations	Arboricultural Recommendations Priority	Works Required to Accommodate the Proposals	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
						N	W	E									
T 1	Early-mature Hawthorn <i>Crataegus monogyna</i>	3.5	0	0 n/a	12#	2#	2#	2#	Reasonable form. Not fully inspected due to vegetation.	No action required at present. n/a	Remove to facilitate the proposed development.	GOOD	GOOD	LOW	HIGH	40+	C 1
T 2	Early-mature Elder <i>Sambucus nigra</i>	3	0	0 n/a	7x 3	2	2	2	Multi-stemmed at ground level with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required at present. n/a	Remove to facilitate the proposed development.	GOOD	GOOD	LOW	LOW	40+	C 1
T 3	Early-mature Goat Willow <i>Salix caprea</i>	7	0	1 n/a	20 x 6 Avg	5	5	5	Multi-stemmed at 0.5m with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required at present. n/a	Remove to facilitate the proposed development.	GOOD	GOOD	LOW	HIGH	40+	C 1
G 4	Semi to early-mature Hawthorn <i>Crataegus monogyna</i>	To 3.5#	0+	0+ n/a	To 10#	See plan			Scattered self-seeded trees which were viewed from a distance due to limited access. Other species may be present.	No action required at present. n/a	Remove to facilitate the proposed development.	GOOD	GOOD	LOW	HIGH	40+	C 1

Appendix 2: Explanation of Tree Descriptions

A2.1 Measurements/ Reference Information

- A2.1.1 *REF NUMBER*. All items surveyed are allocated a reference number preceded with a letter, identifying the type of vegetation surveyed: T = an individual tree, G = a group of trees or an area of vegetation, W = woodland, H = a hedgerow.
- A2.1.2 *SPECIES: COMMON AND BOTANICAL NAME*. The common and botanical names of the species present are noted. If the species is not clear or identifiable, then a general common name and genus will be noted.
- A2.1.3 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, over-mature, veteran or dead.
- A2.1.4 *HEIGHT* of the tree is measured in metres from the stem base to the top of the crown.
- A2.1.5 *CROWN HEIGHT* is an indication of the height above ground level at which the crown begins.
- A2.1.6 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; diameter measurements are taken for each stem. If more than five stems are present, an average stem diameter is taken. If for whatever reason it is not practical to measure multiple-stemmed trees in this way, the diameter is measured close to ground level, just above the root buttress.
- A2.1.7 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches to all four cardinal points.
- A2.1.8 *HEIGHT AND DIRECTION OF LOWEST BRANCH*. The height and direction of the lowest significant branch is noted because of potential issues relating to clearances and the need for tree pruning.
- A2.1.9 *NHBC WATER DEMAND*. The water demand of each tree is listed in accordance with current NHBC Standards. This is included to aid structural engineers, architects and other members of the design team as it determines foundation depth and other considerations with regard to trees.

A2.2 Evaluations

A2.2.1 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health and vitality of the tree and takes into account vigour, presence of disease and dieback.

A2.2.2 *STRUCTURAL CONDITION* is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.

A2.2.3 *LIFE EXPECTANCY* is classed as; 0, less than 10 years, 10+ years, 20+ years, or 40+ years. This is an indication of the minimum number of years before removal of the tree is likely to be required.

A2.2.4 *AMENITY VALUE*. A general indication is given in respect to the amenity/landscape value of the tree/group within the surrounding area.

A2.2.5 *PRIORITIES*. A priority rating is given concerning the time periods in which the recommended works should be undertaken. LOW priority works should be undertaken within 12 months of the survey, MOD (moderate) priority works should be undertaken within 6 months and HIGH priority works should be completed as soon as practically possible. If no works are recommended, N/A (not applicable) will be used.

A2.3 Retention Categories

A2.3.1 ***A (marked green on the Tree Constraints Plan) = Trees of high quality.***

These trees are of high quality and value with a good life expectancy (usually with an estimated remaining life expectancy of 40 years).

A2.3.2 ***B (marked in blue on the Tree Constraints Plan) = Trees of moderate quality.***

These trees are of moderate quality and value with a reasonable life expectancy (usually with an estimated life expectancy of at least 20 years).

A2.3.3 ***C (marked in grey on the Tree Constraints Plan) = Trees of low quality.***

These trees are of low quality and value but which are in adequate condition to remain or are young trees with a stem diameter below 15cm (usually with an estimated life expectancy of at least 10 years).

A2.3.4 Trees categorised as retention category 'A', 'B' or 'C' are then justified by being further divided into 3 subcategories:

1 = Mainly arboricultural qualities.

2 = Mainly landscape qualities.

3 = Mainly cultural values, including conservation value.

Appendix 3: General Guidelines

- A3.1 All tree work must be undertaken to BS 3998: 2010 '*Recommendations for tree work*' or other recognised industry practice.
- A3.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors. They should be covered by adequate public liability insurance.
- A3.3 This report is based upon a visual inspection. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.
- A3.4 Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.
- A3.5 No liability can be accepted by JCA in respect of the trees unless the recommendations of this report are carried out under the supervision of JCA and within JCA's timescale.
- A3.6 It is advisable to have trees inspected by an arboricultural consultant regularly.

Appendix 4: Author Qualifications

Managing Directors

Charles Cocking *FdSc (Arboriculture), LANTRA Accredited PTI, MArborA*. Charles joined JCA in January 2014 having previously worked for the company on a part time basis during 2013. Charles obtained his Foundation Degree in Arboriculture at Askham Bryan College, York, has achieved LANTRA accredited PTI status and is a Professional Member of the Arboricultural Association. Charles is now Managing Director and oversees all internal and on-site operations for the company.

Toby Thwaites *BSc (Hons), HND (Arboriculture), LANTRA Accredited PTI, MArborA*. Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. He has also achieved LANTRA accredited PTI status. A former JCA team leader and Consulting Arboriculturist, Toby is now Managing Director and oversees all office activities at JCA and is on hand to offer technical support and advice.

Director of Arboriculture

Luke Wickham *FdSc (Arboriculture and Urban Forestry), LANTRA Accredited PTI, MArborA*. Luke joined JCA in 2021 after obtaining his Foundation Degree in Arboriculture and Urban Forestry at Askham Bryan College and has since achieved LANTRA accredited PTI status. Having worked within the arboricultural sector since 2016, running his own small business and sub-contracting for local firms, Luke is now the Director of Arboriculture who brings a sound knowledge and understanding of the practical and academic sides of the industry.

Consulting Staff: Arboriculture

Andrew Bussey *LANTRA Accredited PTI, TechArborA*. Andrew started working in consultancy at JCA in 2006 having spent 12 years working as an arborist for various private companies before joining a Local Authority forestry team. He has various NPTC qualifications, has achieved LANTRA accredited PTI status and is QTRA qualified.

Mick Eltringham *ND (Forestry), LANTRA Accredited PTI, TechArborA*. Mick joined JCA after spending 12 years working in the industry for various private companies in the north and south of England. He has also spent the last five years working as a consultant for two canopy research projects in the Amazon Rainforest, working with Oxford University and the University of Arizona. Mick has various NPTC Qualifications and has achieved LANTRA accredited PTI status.

Dan Kemp *FdSc (Arboriculture), BTEC Dip (Arb), LANTRA Accredited PTI, MArborA*. Dan joined JCA in February 2019 with nearly 30 years' experience in arboriculture with extensive botanical and mycological expertise. He worked as a London Tree Officer for 12 years and in several arboricultural and horticultural management posts, specialising particularly in tree risk assessments and tree related subsidence. Dan has achieved LANTRA accredited PTI status.

David de Peña *BSc (Hons) Ecology and Conservation, LANTRA Accredited PTI, TechArborA*. After earning his degree from Manchester Metropolitan University, David worked as an ecologist at various consultancies, contributing to a wide range of projects, including major infrastructure projects across the UK. More recently, he has transitioned to arboriculture and served as a surveyor for Manchester City of Trees, where he participated in a project to quantify the value of Greater Manchester's woodlands and trees. David has achieved LANTRA accredited PTI status.

Ricky Brian *FdSc (Arboriculture & Tree Management), LANTRA Accredited PTI, MArborA*. Ricky has worked in the arboricultural industry for 10 years and has developed strong practical experience across all aspects of forestry and arboriculture. He obtained a FdSc in Arboriculture and Tree Management at Myerscough College, Preston and spent 3 years leading a forestry team, overseeing operations and project delivery. Ricky has also achieved LANTRA accredited PTI status.

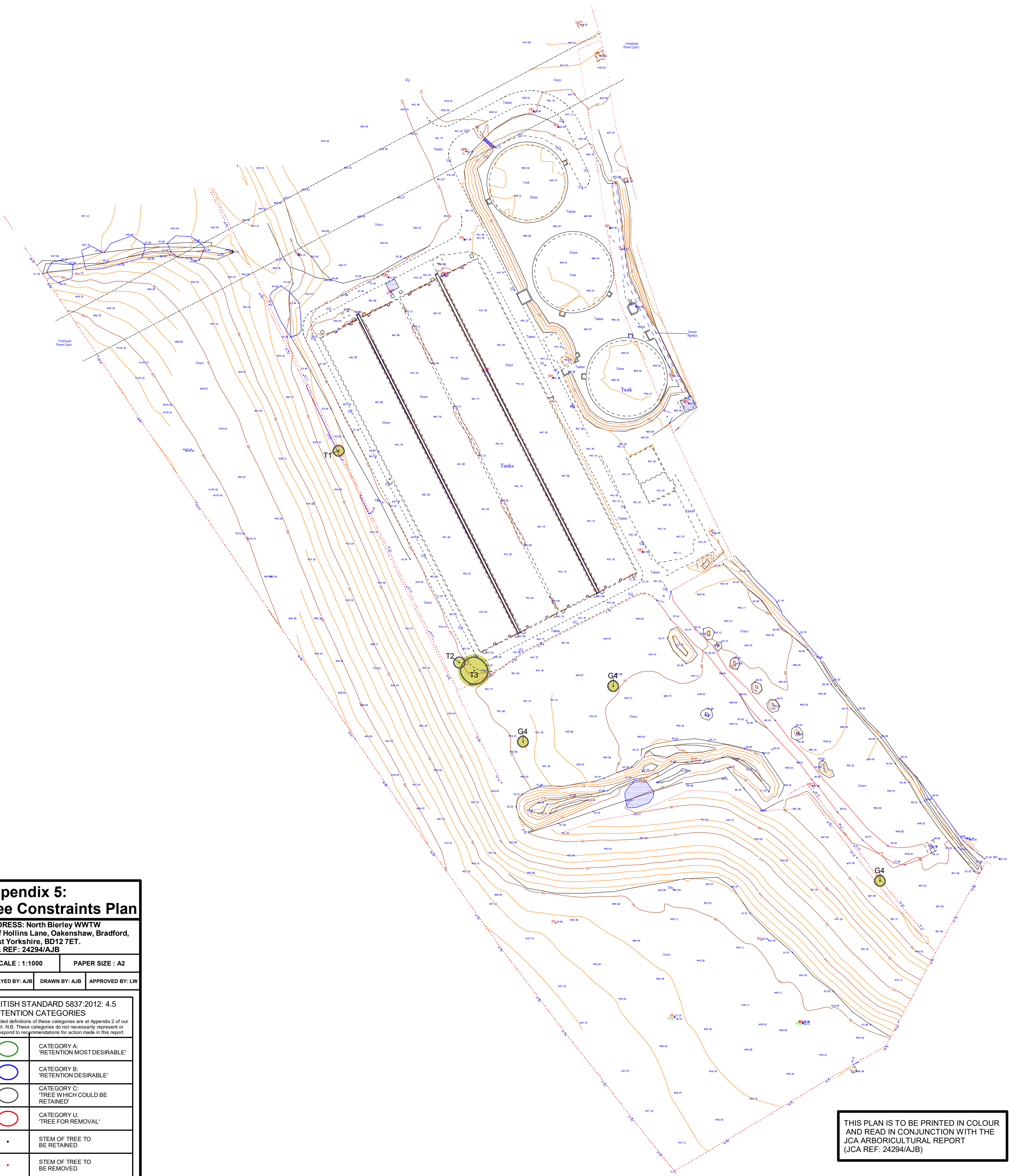
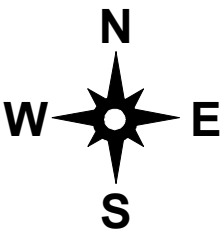
Abbie Graham Cruz *BA (Hons) Outdoor Leadership and Management*. Abbie gained her degree from the University of Derby and worked as an outdoor activity instructor for nearly 5 years. More recently, Abbie decided to enter the world of arboriculture and joined JCA in 2026, gaining her LANTRA accredited BTI, and her Arboriculture Association training in subsidence and BS5837. With a longstanding enthusiasm for the outdoors and the natural world, Abbie is excited to begin building her career in the industry.

Administrative Staff

Lorraine Spink Business Support Coordinator.

Alannah Chapman Accounts Assistant.

Kelly Saunders Credit Control Officer.



Appendix 5: Tree Constraints Plan

ADDRESS: North Bierley WWTW
Cliff Hollins Lane, Oakenshaw, Bradford,
West Yorkshire, BD12 7ET.
JCA REF: 24294/AJB

SCALE : 1:1000

PAPER SIZE : A2

SURVEYED BY: AJB

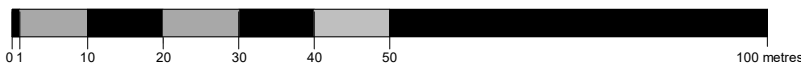
DRAWN BY: AJB

APPROVED BY: LW

BRITISH STANDARD 5837:2012: 4.5 RETENTION CATEGORIES

Detailed definitions of these categories are at Appendix 2 of our report. N.B. These categories do not necessarily represent or correspond to recommendations for action made in this report.

	CATEGORY A: 'RETENTION MOST DESIRABLE'
	CATEGORY B: 'RETENTION DESIRABLE'
	CATEGORY C: 'TREE WHICH COULD BE RETAINED'
	CATEGORY U: 'TREE FOR REMOVAL'
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA



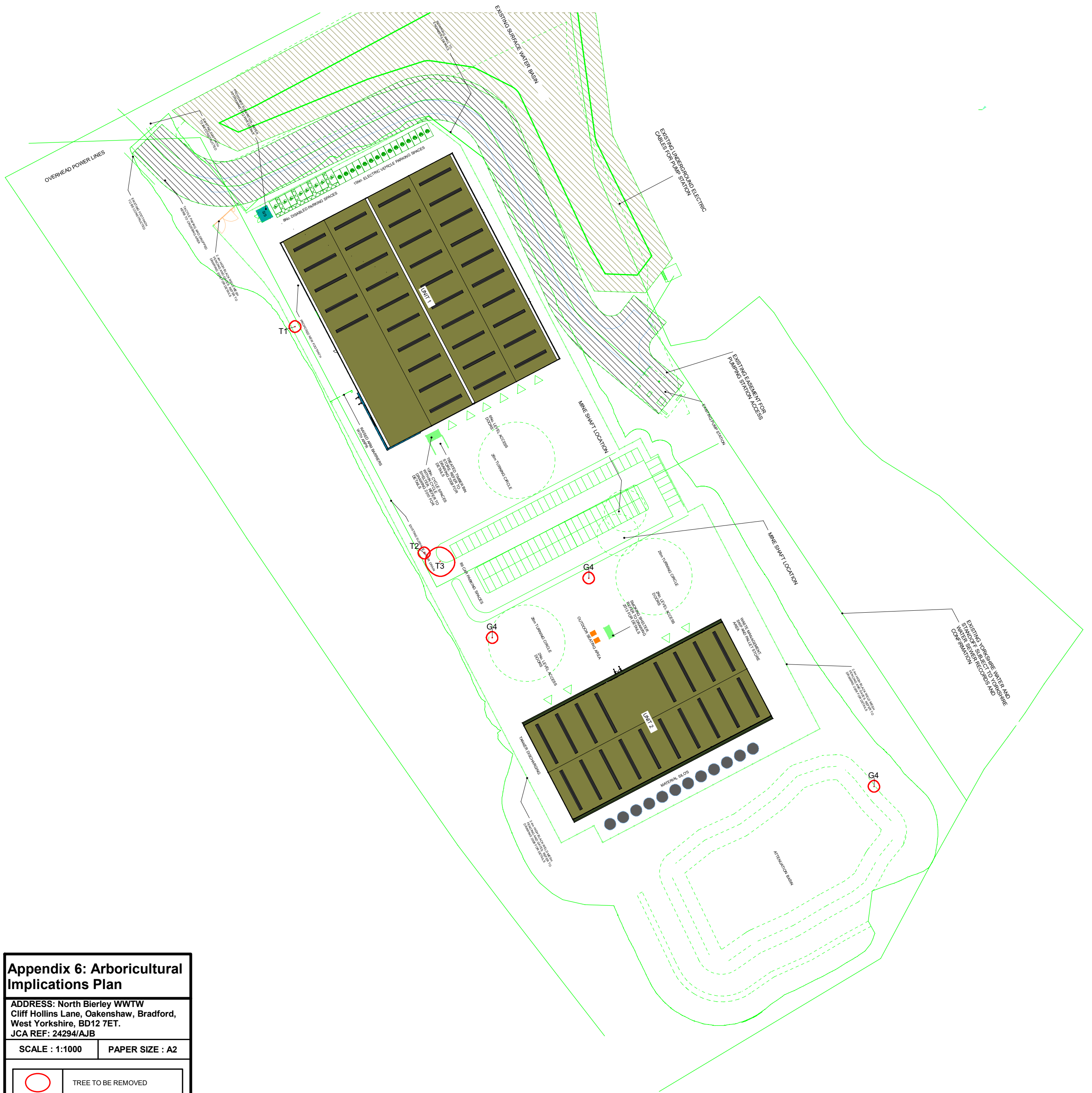
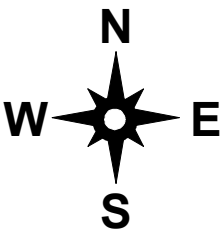
THIS PLAN IS TO BE PRINTED IN COLOUR
AND READ IN CONJUNCTION WITH THE
JCA ARBORICULTURAL REPORT
(JCA REF: 24294/AJB)

Root Protection Area: RPA

THE ROOT PROTECTION AREA SHOULD IDEALLY REMAIN
UNDISTURBED IF THE TREE IS TO BE RETAINED.

THE DEVELOPMENT PROPOSALS SHOULD THEREFORE BE
DESIGNED TO AVOID THE RPA OF ANY TREE WHICH IS TO
BE RETAINED.

IF IT IS NECESSARY FOR THE DEVELOPMENT TO ENCROACH
INTO THE RPA OF A TREE WHICH IS TO BE RETAINED THEN
SPECIALIST CONSTRUCTION TECHNIQUES AND MATERIALS
MUST BE CONSIDERED.



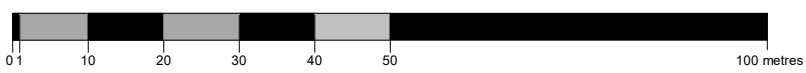
Appendix 6: Arboricultural Implications Plan

ADDRESS: North Bierley WWTW
Cliff Hollins Lane, Oakenshaw, Bradford,
West Yorkshire, BD12 7ET.
JCA REF: 24294/AJB

SCALE : 1:1000	PAPER SIZE : A2
----------------	-----------------

	TREE TO BE REMOVED
	STEM OF TREE TO BE REMOVED

JCA Limited
Arboricultural & Ecological Consultants



THIS PLAN IS TO BE PRINTED IN COLOUR
AND READ IN CONJUNCTION WITH THE
JCA ARBORICULTURAL REPORT
(JCA REF: 24294/AJB)

I hope that this report provides all the necessary information, but should any further advice
be needed please do not hesitate to contact the author.

Signed



.....

Andrew Bussey *LANTRA Accredited PTI, TechArborA.*

16th October 2026

For and on behalf of **JCA Ltd**

Registered Office:

**Unit 80
Bowers Mill
Branch Road
Barkisland
Halifax
HX4 0AD**

**Tel. 01422 376335
Email: info@jcaac.com**

www.jcaac.com

JCA Ltd. Arboricultural and Ecological Consultants

Professional Tree and Ecology Advice nationwide

ARBORICULTURAL SERVICES

Guidance for Architects and Developers

- British Standard 5837 Tree Surveys
- Arboricultural Implication Assessments (AIA)
- Arboricultural Method Statements (AMS)

Advice for Engineers, Loss Adjusters and Insurers

- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

Advice for Local Authorities and Social Housing

- Tree Condition Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)

HEAD QUARTERS:

Unit 80 Bowers Mill,
Branch Road,
Barkisland,
Halifax, HX4 0AD.

Tel: 01422 376335
Email: info@jcaac.com
Website: www.jcaac.com

