BS5837:2012 TREE SURVEY / Arboricultural Impact Assessment

Customer No: MBHDE05
Document No: 800871
02/03/2023



Site Address:
FS387 - Ravensthorpe Service Station,
Huddersfield Road, Dewsbury,
West Yorkshire. WF13 3LR

Client:

MBH Design Studion Ltd
Rosemont House, Rosemont Avenue
West Byfleet
Surrey
KT14 6LB

Steve Launchbury
Dip.Hort. (Kew)
R.F.S.Cert Arb.
Tech. Cert. (Arbor A.)
TechArbor A

Alltree Consultancy Ltd
'Lochinvar' Kingsingfield Road
West Kingsdown, Kent. TN15 6LH
01474 853749

Contents

Contents 2
Site 3
1.0 Terms of Reference 3
2.0 General Information 4
3.0 The Tree Survey 5
4.0 Observations and Discussion 6
5.0 Arboricultural Impact Assessment 7
6.0 Arboricultural Method Statement 9
Appendix 11
Photos 13
Survey Data 15
TPO Map – screenshot from LPA website 16
Survey Map – Tree Constraints 17
Survey Map – Design Overlay 18
Survey Map – Tree Removal 19

Site

Site: FS387 - Ravensthorpe Service Station, Huddersfield Road, Dewsbury, West Yorkshire. WF13 3LR
Inspection date: 4th March 2023
Inspected by: Steve Launchbury

1.0 Terms of Reference

I am instructed by MBH Design Studio Ltd to carry out a BS5837:2012 Tree Constraints Survey and Arboricultural Implication Assessment at the above address.

This report contains survey information in accordance with BS 5837:2012 Trees in Relation to design, demolition and construction – Recommendations.
It details the quality and the value of the trees on site or immediately adjacent to the proposed development site.

A proposed development is to be considered in terms of an Arboricultural Impact assessment.

Remedial or other works may also be recommended along with Tree Protection measures as required.

A site visit was carried on 4th March 2023 to survey the site and immediately adjacent to prepare a Tree Constraints report. An Arboricultural Impact Assessment of the proposed development using the provided proposed site development plan. Preliminary detail for Tree Protection and other operations is included.

Two trees were recorded within the PFS site, and one tree adjacent.

Trees have been categorized as follows:

T1 Sycamore, Category B
T2 Sycamore, Category C
T3 Copper Beech in the next door property, Category A and has a Tree Preservation Order.

Trees or groups of trees that are categorized A or B should be considered as constraints to development and every effort should be made to keep them within the design. Trees categorized C will not usually be seen as a constraint unless by virtue of for example grouping, they attain a higher categorization. Trees categorized U are rarely a constraint to development and may generally be felled.

Steve Launchbury of Alltree Consultancy Ltd trained at Kew Gardens in Horticulture in the early 80's and specialised in Arboriculture.
Since then he has worked in the tree industry for nearly 40 years, gaining further professional qualifications including passing and further refreshing the Professional Tree Inspection course by Lantra.

2.0 General Information

2.1 **The Brief**
Visit site and assess Tree Constraints in relation to a proposed redevelopment of the Service Station site, to include 6 Electric Vehicle (EV) Charging bays, Sub Station and associated control equipment. The site will also have new Jetwash facilities, one open and one covered.

Prepare an Arboricultural Impact Assessment of the proposed design in relation to the Tree Constraints.

2.2 **Scope of Report**
This report is a preliminary report and as such did not entail an examination of the root system, did not ascend the tree or use internal decay detection equipment.
Further inspections may be required as a result of these preliminary findings.

2.3 **References**
The British Standard Institute publication BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' is the basis for this report.

2.4 **List of relevant documents** provided by the client:

13664 - Ravensthorpe - LP-1 - 387 Location Plan.pdf
13664 - Ravensthorpe - BP-1 - 387 Block Plan.pdf
13664 - Ravensthorpe - P01 - 387 Existing Site Layout.pdf
13664 - Ravensthorpe - P02 - 387 Proposed Site Layout.pdf

2.5 **Limitations**
The information contained in this report is for the use of the client for whom it was prepared.
The contents are copyright and may not be used by third parties without written consent from Alltree Consultancy Ltd
This document is a report identifying trees, their locations and their condition in respect of planning.

It is not a tree health or safety report, it has not been prepared for use in a mortgage application or for insurance claims.
Detailed inspection, aerial access, drillings and soundings were not done for this report.

A tree owner is advised to have their trees regularly inspected, and again after strong winds or other severe weather.

This report is valid for one year from the Survey date. If previous survey data is used again by request, the validity cannot be assumed. A further visit is advised.
No liability will be accepted for changes, eg by third parties or other changes outside of my control.

2.6 **Tree Preservation Orders**
A visit to https://mapping.kirklees.gov.uk/connect/analyst/mobile/#/main?mapcfg=Tree%20Preservation%20Orders%20(Public)&lang=en-gb showed that there is no Tree Preservation order on site , but be aware, the tree next door (Copper Beech) is protected by Tree Preservation Order 09/99/T2

Due to the planning process being under way, trees are effectively protected while the impact of the proposed development is determined. It is therefore prudent to liaise with the Kirklees Council Local Planning Authority before any tree-works are carried out.

2.7 **Disclaimer**

This report was prepared for the named client and the Local Authority Planning Department.
This report does not constitute advice to any third party not directly involved. No liability for any loss or damage will be accepted from any third party reliant on this report who is able to access the content by any means.

3.0 The Tree Survey

Methodology

Data is collected in accordance with BS5837 requirements.
All data is collected from ground level without climbing or other potentially invasive methods including digging to expose the root system.
Tools normally used are a diameter tape, laser measure and a handheld GPS data capture device.
Heights may also be estimated by using a surveyor's pole next to the tree.

Measurements

Where there is no access into the next door property, measurements are estimated where 'hands on' measuring is not possible.
Complete accurate tree data is therefore not possible for trees on adjoining properties unless there is access granted and no reliance should therefore be made on the limited data possible.
Parts of the tree obscured by ivy or other climbing plants or materials cannot be assessed accurately and no reliance must be made without further inspection.

Data is plotted using PT-Mapper Professional from Pear Technology.

Where tree canopies are symmetrical, one measurement is taken of the radius. Where the crown is asymmetrical, readings are taken at North, East and South. These will give a general idea of the shape as a representation.
Tree stems are measured at 1.5m above ground level.
A Root Protection Zone figure is derived from this reading with variations for multiple stems.

Rooting Zone

Ground features or obstructions may limit or encourage root spread into an asymmetrical area rather than the plotted area.
The plotted data will show the Root Protection Area as an idealized area and must be subject to confirmation or otherwise by hand dug trial pits if required.

For the Constraints survey the trees are recorded as at the present with no reference to any proposed plan or development.

For the Arboricultural Impact Assessment, the tree data is used where applicable in conjunction with the proposed construction layout to establish Tree Protection requirements.

The survey data will detail the recorded measurements.

Survey findings are shown in the appendix.

4.0 Observations and Discussion

Category A and B trees should normally be retained and be a constraint to development. Category C trees should not normally be a significant barrier to development by that may depend on other controls and the LPA policy. Category U trees can normally be removed as good Arboricultural practice. Any trees within neighbouring properties that affect or are affected by a proposed development may then be subject to negotiation.

Root Protection Areas are recommendations due to the difficulty of mapping the extent of the root system. Hand digging is recommended to locate the main roots if required.

Ideally any conflicts with trees (roots, canopies, and trunks) should be designed out with careful consideration of building location and size and special design arrangements where required.
Trees that overhang or are close to a new building are often subject to excessive pruning over time or even removal.
Surgery may be required to trees adjacent to new structures, but this should be kept to a minimum due to the potential adverse long term health impact and retention of the tree. All surgery works must be agreed beforehand and must conform to BS3998:2010

Before any works (including demolition) commence on site, storage of materials, or changes of levels, a plan must be submitted to and approved by the Planning Authority.
Protective fencing that is required must be set up and remain operational and not repositioned without the advice of the Arboricultural Consultant.

Consent for any works to protected trees (either Conservation Area, Tree Preservation Order or Planning Conditions) must be obtained prior to being carried out. If the trees are in adjoining properties under third party ownership, permission must be obtained in writing from the tree owner in addition.

5.0 Arboricultural Impact Assessment

Assesses how the development will affect local character from a tree perspective

The Constraints

T1 is a mature Sycamore of moderate quality, but with a defect at approx3m in the formation of its forks. The potential solution would be to reduce the crown to reduce the failure risk during adverse weather, or removal in its entirety.
T2 is a low grade tree of unremarkable quality with a limited useful future.
T3, next door, Copper Beech is a high quality tree, with a TPO administered by Kirklees Council. The Crown reaches over the boundary of the PFS, though at an angle of approx 35degrees from horizontal.
Note that any required removal of branches / crown lifting or trimming will require formal permission via a TPO application.

The Proposal

The document FS387 - Ravensthorpe Service Station, Huddersfield Road, Dewsbury, West Yorkshire. WF13 3LR shows the location of the proposed development of the EV Chargers, Sub Station and Jetwash Bays.

Implications of the proposal

Trees potentially affected:

Tree	Arboricultural Implication
T1 and T2	Required to be removed to allow for the EV Charger installation.
T3 Copper Beech (TPO)	Possible minor crown reduction back of the lower crown over the boundary, subject to operational requirements for the installation of the Jetwash bays and in particular, the Sub Station. It is expected that any pruning required will be minor and confined to the lower branches being reduced back to the boundary to ensure a height of approx 5m over the PFS site. Due to the difference in ground levels. There is not expected to be any Root Protection Area implications. The RPA has been adjusted in the Survey Maps to exclude the RPA from PFS Land.

Impact of the development on the next door Copper Beech tree (TPO).

Adequate space has been built in for the Jetwash bays and the overhanging crown. It is recommended that there is likely to be a minor crown lift to ensure satisfactory vertical clearance for the Sub Station installation.
Consequently the proposal shall not result in increased pressure to remove or further prune the Copper Beech (T3).

Potential Conflict areas

Potential solutions

Tree Protection

Tree Protection is not required to limit access to the vicinity of the trees. The only two trees on site are to be removed. The boundary fencing to T3 is sufficient physical barrier to ensure access into the RPA of T3 is not permitted.

Mitigation, eg planting area

There is no space identified within the PFS that would be suitable for mitigation planting, therefore, non is recommended.

Summary

The site is compact and elevated above the surrounding industrial unit to the rear and the T3 Copper Beech in the adjacent garden.

T2, the principle tree in the PFS has an inbuilt long term weakness in the forks that will require works for remediation, or removal to allow the installation of the design as shown in the document FS387 - Ravensthorpe Service Station, Huddersfield Road, Dewsbury, West Yorkshire. WF13 3LR.

The benefit of the installation in my opinion, outweighs the retention of the trees on site.

6.0 Arboricultural Method Statement

The trees on the site are to be assumed to be protected under planning conditions, it is essential that the process detailed in this method statement is followed in order to prevent damage to the trees.

The site must be carefully managed in order to avoid damage to T3 Copper Beech
No access is to be allowed within the Root Protection Area next door or damage to the overhanging branches.

An individual such as the Contract Manager is to be identified as a point of contact for arboricultural affairs during building works. This individual is to be fully aware of the arboricultural planning requirements on the site and is to be responsible for the monitoring and enforcement of tree protection measures.

It is advisable to have a Project Arboriculturalist who can oversee and direct Tree Protection and operations that involve the trees on site.

Operations that may damage trees

The following operations are likely to result in significant damage to trees. Damage resulting from these operations may take immediate effect resulting in the rapid death of a tree, or alternatively may result in years or even decades of gradual decline and ultimately an early death.

Compaction of Soil
Repeated pedestrian movements, vehicle parking, storage of materials or waste will result in a measure of soil compaction which within a Root Protection Area will inevitably lead to some root death and may reduce the longevity of a tree.

Storage or Spillage of Toxic Materials
The following materials that are commonly used on development sites are toxic to trees:
- Builders Sand which may contain some salt or other leachates.
- Cement
- Fuels eg Petrol, Diesel etc.
- Tarmac
- Washings eg from mixing cement or plaster

The uncontrolled storage or use of such materials within 10 metres of trees is likely to be detrimental to their long-term health.

Excavation, Soil Grading, Alteration of Soil Levels
Contrary to popular belief nearly all of a tree root system is located within the top 1 metre of soil, with the majority of roots found within 600mm of the soil surface.
Tree Root distribution may also be affected by steep banks.
The Root Protection Area must be considered the minimum area of protection required to retain a tree. The full root system of a tree will extend beyond this, usually to a distance at least equivalent to the height of the tree.
For this reason any excavations within a Root Protection Area present a risk of damage to the tree root system.
Damage to the larger structural roots may have an immediate detrimental effect to the stability of the tree as well as the longer term health.

Raising of Levels

Roots breath, requiring gaseous exchange and take water from the soil and therefore normally develop in free-draining, aerated soil.
Where levels are raised over tree roots the ability to access oxygen and respire Carbon dioxide is reduced and moisture filtration hindered, tree roots will subsequently be starved of oxygen and water leading to root death, potential disease and reduced longevity.

Damage to the main stem and branches
Damage caused by equipment or plant movements and can result in long-term decline in tree health and serve as an entry point for decay fungi.
No access for plant/vehicles is permitted within the specified Root Protection Areas.

Pruning carried out by untrained operatives
Poor pruning practice can increase the risk of limb or complete tree failure, as well as providing entry points for decay fungi.
All tree work is to be carried out by a competent arborist in accordance with BS3998:2010 who is certified and insured.

Appendix

Contains

BS 5837:2012 Chart for Tree Quality Assessment
Photos
The survey data table
Survey maps

Table 1 (BS5837:2012) – Cascade Chart for Tree Quality Assessment.

Category & Definition	Criteria (Including subcategories where appropriate)			Identification On Plan
TREES UNSUITABLE FOR RETENTION (See Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby or very low quality trees suppressing adjacent trees of better quality NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
Category & Definition	**Criteria — Subcategories**			
	1 Mainly arboricultural values	**2 Mainly landscape values**	**3 Mainly cultural values, including conservation**	
Category A **Trees of high quality** With an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
Category B **Trees of moderate quality** With an estimated remaining life expectancy of at least 20 years	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	MID BLUE
Category C **Trees of low quality** With an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	GREY

Photos





Potential fault in the fork at approx 3m ringed.





Protected tree in the next door garden. TPO 09/99/t2



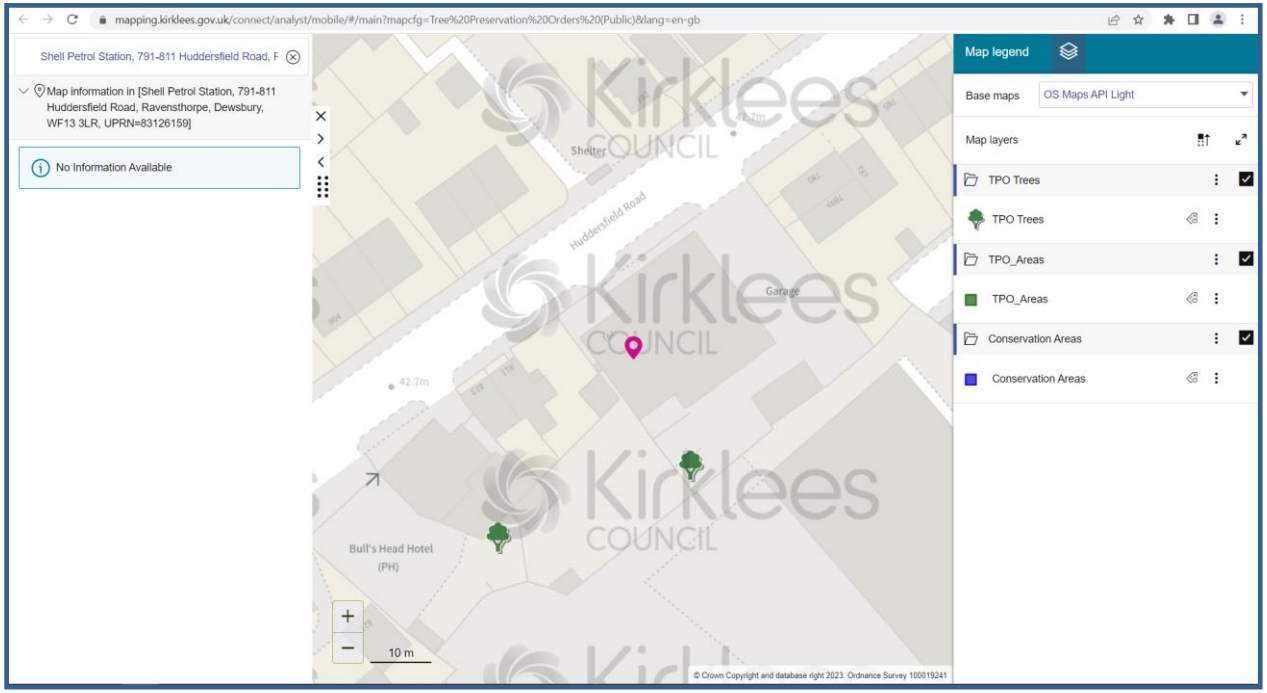


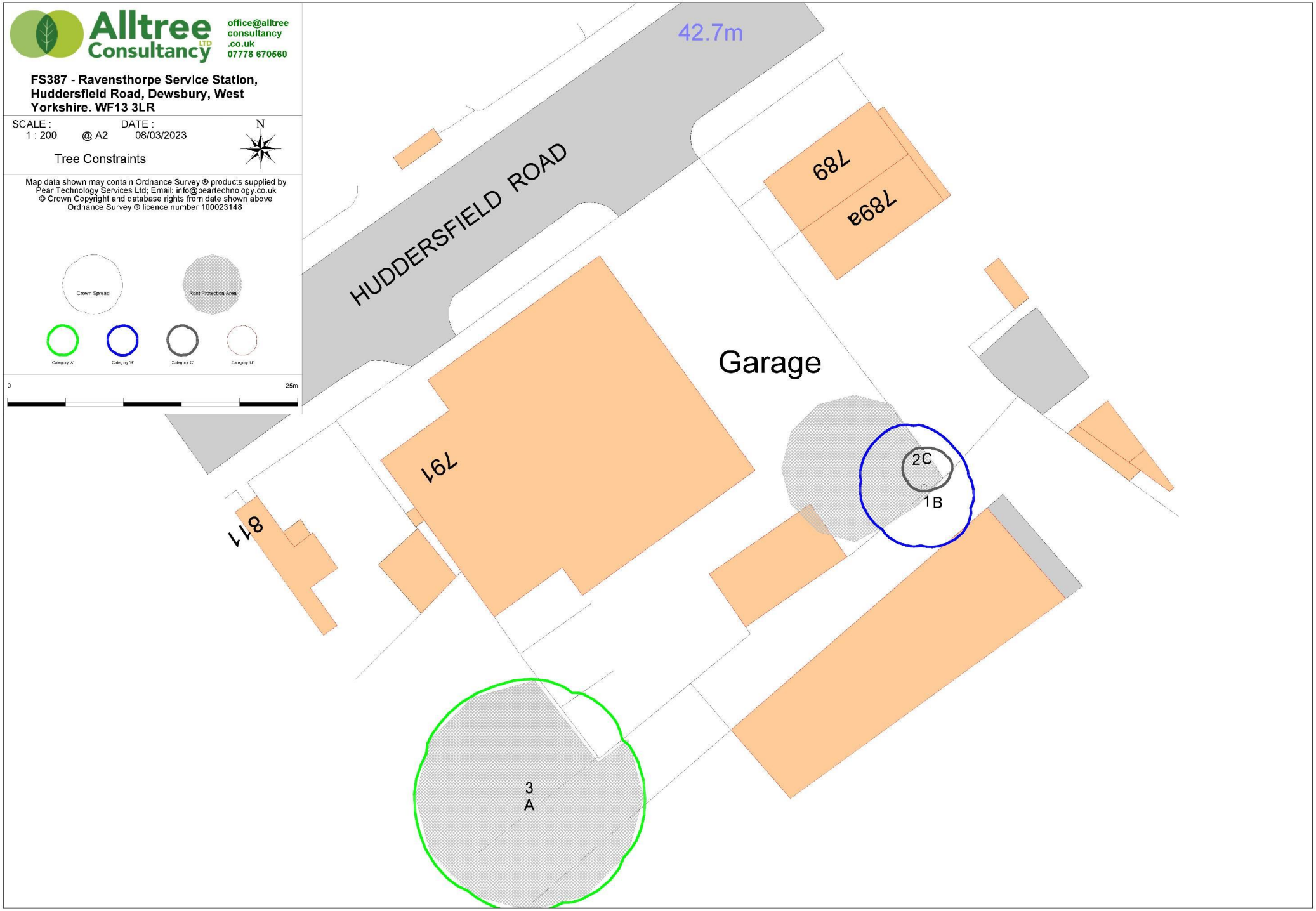
Survey Data

Tree ID	Common Name	Maturity	Height (m)	Stem (mm)	Spread N E S W (m)	Crown Height over PFS (m)	Crown	Stem	Basal Area	Category	Life Expectancy	Phys Condition	Comment
1	Sycamore	Mature	15	515	5.5 4 5.6 5.5	6	Good	Fair	Good	B1	20 to 40 yrs	Fair	Single trunk, forked at approx 3m originally with included bark. Now developed into a potentially weak fork with 'Elephants Ears' reaction growth around the fork. These forks are expected to have a considerable disconnect inside and due to the expansion stresses is likely to have potential decay internally. Long term, if retained, reduction works are required to reduce the loading on the forks.
2	Sycamore	Semi-mature	6	200	1.8 2.5 2 1.8	3	Fair	Fair	Fair	C1	10 to 20 yrs	Fair	Small tree in the shadow of T1. No long term useful future is likely with T1 shading T2.
3	Copper Beech	Mature	20	800	10 10 10 10	2.5	Good	Good		A1,2	>40 yrs	Good	Next door tree with TPO Number 09/99/t2administered by Kirklees Council. Note the ground level is considerably lower than the PFS ground level. No roots are expected to be in the PFS area due to the difference in ground levels. Therefore the RPA is adjusted in the Survey Maps.

TPO Map – screenshot from LPA website

https://mapping.kirklees.gov.uk/connect/analyst/mobile/#/main?mapcfg=Tree%20Preservation%20Orders%20(Public)&lang=en-gb




Alltree Consultancy LTD
office@alltree consultancy .co.uk
07778 670560
FS387 - Ravensthorpe Service Station, Huddersfield Road, Dewsbury, West Yorkshire. WF13 3LR
SCALE : 1 : 200 @ A2
DATE : 08/03/2023
N
Tree Constraints
Map data shown may contain Ordnance Survey ® products supplied by Pear Technology Services Ltd; Email: info@peartechnology.co.uk
© Crown Copyright and database rights from date shown above
Ordnance Survey ® licence number 100023148
Crown Spread
Root Protection Area
Category 'A'
Category 'B'
Category 'C'
Category 'U'
0
25m
42.7m
HUDDERSFIELD ROAD
Garage
789
789a
791
811
2C
1B
3
A

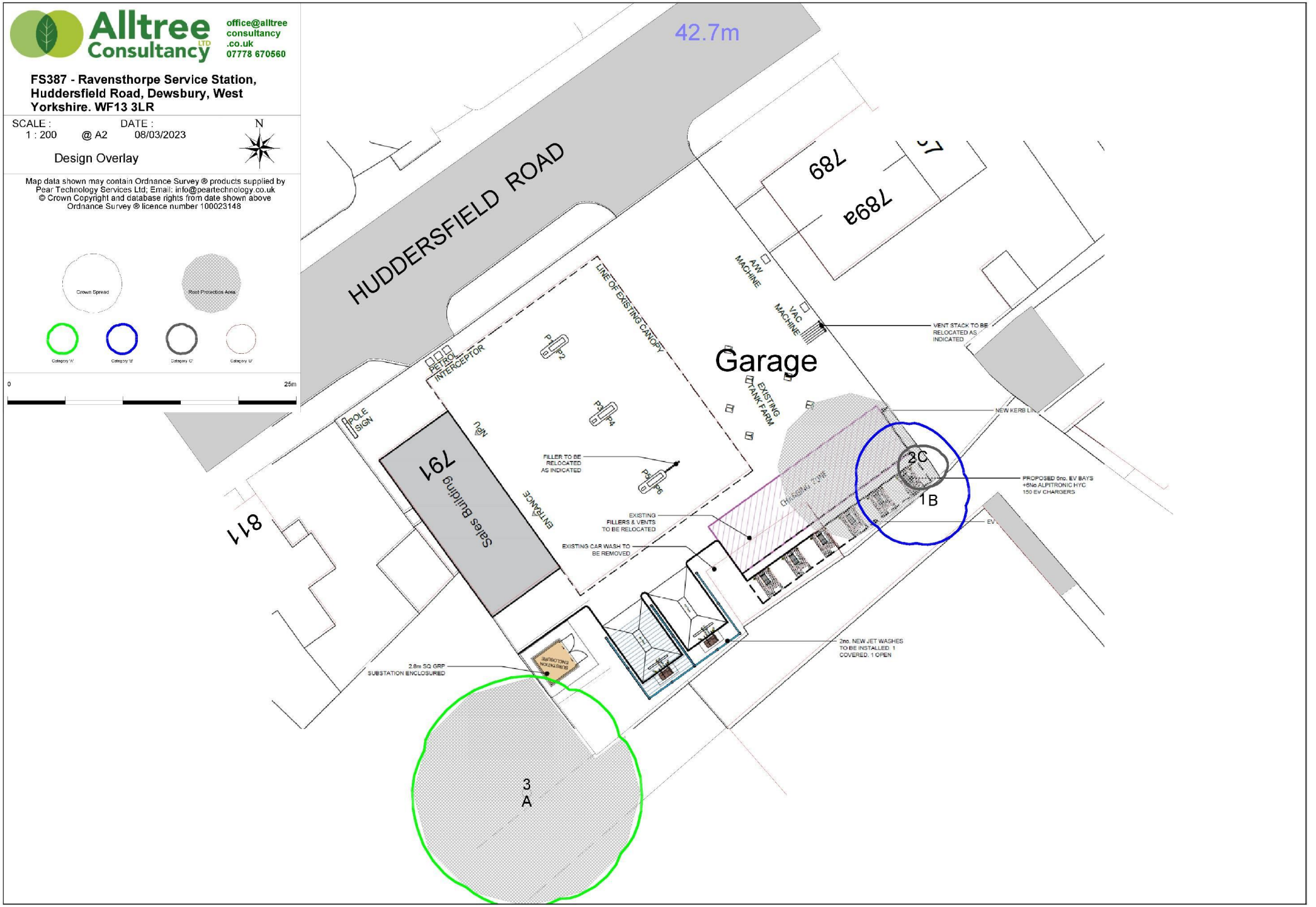
Alltree Consultancy LTD
office@alltree consultancy .co.uk
07778 670560

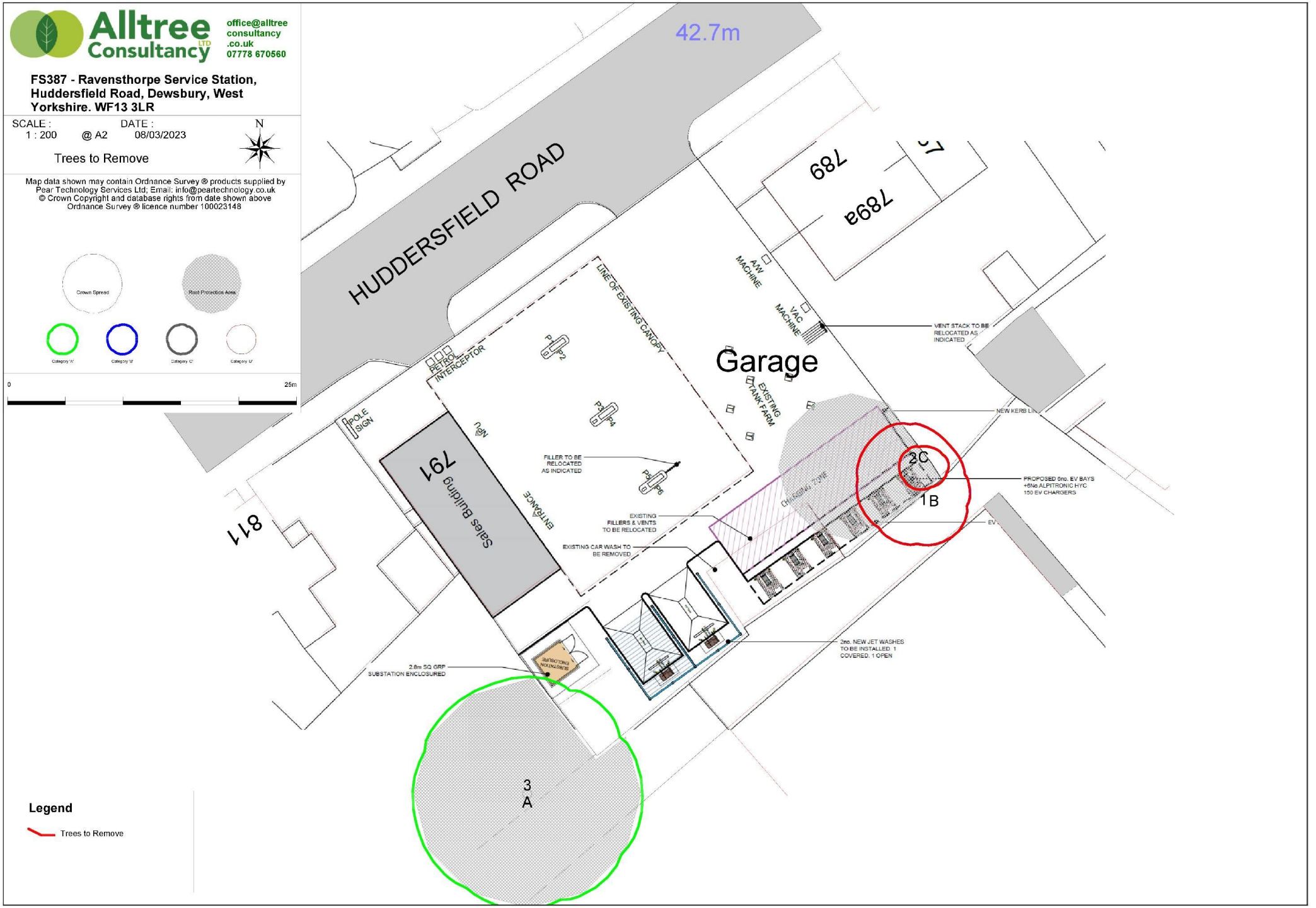
FS387 - Ravensthorpe Service Station, Huddersfield Road, Dewsbury, West Yorkshire. WF13 3LR

SCALE : 1 : 200 @ A2
DATE : 08/03/2023

Design Overlay

Map data shown may contain Ordnance Survey ® products supplied by Pear Technology Services Ltd; Email: info@peartechnology.co.uk
© Crown Copyright and database rights from date shown above
Ordnance Survey ® licence number 100023148




Alltree Consultancy LTD
office@alltree consultancy .co.uk
07778 670560
FS387 - Ravensthorpe Service Station, Huddersfield Road, Dewsbury, West Yorkshire. WF13 3LR
SCALE : 1 : 200 @ A2
DATE : 08/03/2023
N
Trees to Remove
Map data shown may contain Ordnance Survey ® products supplied by Pear Technology Services Ltd; Email: info@peartechnology.co.uk
© Crown Copyright and database rights from date shown above
Ordnance Survey ® licence number 100023148
Crown Spread
Root Protection Area
Category 'A'
Category 'B'
Category 'C'
Category 'U'
0
25m
42.7m
HUDDERSFIELD ROAD
789
789a
A/W MACHINE
VAC MACHINE
VENT STACK TO BE RELOCATED AS INDICATED
LINE OF EXISTING CANOPY
PETROL INTERCEPTOR
Garage
EXISTING TANK FARM
NEW KERB LINE
POLE SIGN
791
Sales Building
ENTRANCE
FILLER TO BE RELOCATED AS INDICATED
EXISTING FILLERS & VENTS TO BE RELOCATED
EXISTING CAR WASH TO BE REMOVED
CHARGING ZONE
2C
1B
PROPOSED 6no. EV BAYS +6No ALPITRONIC HYC 150 EV CHARGERS
EV
2no. NEW JET WASHES TO BE INSTALLED 1 COVERED, 1 OPEN
2.8m SQ GRP SUBSTATION ENCLOSURED
811
3
A
Legend
Trees to Remove