Arboricultural Impact Assessment

Land at
Greenfields Farm
Crowborough Road
Biddulph Moor

Ref:
AIA/GFF/06/16

Date:
16th June 2016

Commissioned by:
Mr P. Kelsall

Prepared by
S. Shields

Shields Arboricultural Consultancy
T: **01691 657189**
M: **07989 626923**
Email: info@shieldsac.co.uk
59 Oakhurst Road Oswestry Shropshire SY11 1BL

Institute of Chartered Foresters
Registered Consultant

Shields Arboricultural Consultancy
Ref: AIA/GFF/06/16
Date 16th June 2016

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

Arboricultural Impact Assessment

Greenfields Farm

Crowborough Road

Biddulph Moor

This Arboricultural Impact Assessment has been prepared in accordance with the protocols, standards and procedures set out in BS 5837: 2012 'Trees in relation to design, demolition and construction'.

Summary

Planning permission is being sought to provide a replacement dwelling at the above address. There are a number of trees and hedgerows present at the site which have been assessed in accordance with the recommendations of BS 5837: 2012. This assessment has identified 1 category A (high value) tree, 2 category B (moderate value) trees, 2 category b sections of hedgerow and 2 category C (low value) groups of trees.

The proposed development will require the removal of 1 cat B tree, 2 cat C groups and a 40 metre section of hedgerow. The impact to public amenity is considered to be small owing to the relatively low value of the trees to be removed, the quiet, rural nature of the area and the potential to improve the landscape through new planting associated with the development.

.

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

Contents

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

Instruction

1.1 Shields Arboricultural Consultancy received instructions from Mr P. Kelsall to provide an Arboricultural Impact Assessment in respect of trees at the above property. The client or their agents may copy and distribute this report as required for the purpose of applying for planning permission for or preparing any documents or plans for this or future applications at this site.

1.2 Planning permission is being sought to redevelop the site, demolishing the existing structures and constructing a new dwelling along with agricultural outbuildings.

Scope & Limitations

2.1 The purpose of the report is to assess the environmental and amenity values of all trees on or adjacent to the area affected by the proposed development. The report will assess the long-term contribution that the trees can make to the area and the arboricultural implications of retaining them and seek to find a satisfactory juxtaposition between the trees and the new development. The report will assess the potential impact that may arise as a result of the proposed construction works and make recommendations for protecting trees, hedges and shrubs where appropriate

2.2 The report is prepared in accordance with the recommendations of the British Standard Document BS 5837: 2012 'Trees in Relation to Construction'.

2.3 This report is not an ecological assessment and does not identify habitats or constitute a protected species survey.

Statutory Controls & Obligations

3.1 Forestry Act; the felling of trees is controlled by the Forestry Act, which requires that a felling licence is obtained prior to cutting down any trees. The Forestry Act does not apply to the felling of trees growing within an orchard, private garden, churchyard or public open space. The Forestry Commission has the responsibility for enforcing the Forestry Act.

3.2 Tree Preservation Orders & Conservation Areas; Local Authorities have specific powers under the Town & Country Planning Act 1990 as amended, to protect trees through the use of Tree Preservation Orders. Where trees are protected under such orders it is a criminal offence (subject to any exemptions for which provision may be made by the act or order) to undertake, cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of trees except with the consent of the local planning authority. Similar controls apply to all trees growing within a designated Conservation Area.

3.3 Bats, wild birds and other protected species; The Wildlife & Countryside Act & the Conservation (Natural Habitats & C.) Regulations make it an offence to disturb or destroy bats and bat roosts and wild birds and their nests. Other species of plant and

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

animal are also protected. These creatures often inhabit trees and sufficient care must be taken to ensure they are not affected during forestry and arboricultural works.

Site description

4.1 Greenfields Farm is a part derelict dwelling and complex of out buildings situated off Crowborough Road in the Staffordshire Moorlands. The development site extends to approximately 1000 m2 and is set in open countryside adjacent to highway which forms the south boundary. It is proposed to develop the site to provide a replacement dwelling and associated agricultural outbuildings.

4.2 There are a number of trees on and adjacent to the site, the most prominent are the hedge and trees adjacent to the road and a mature sycamore on the north east boundary. The site is reasonably level, at an elevation of 295m AOD and is moderately exposed.

Soils

4.3 Soils appeared to be slow draining, peaty gley with indications of waterlogging and the requirement for drainage ditches. There are a number of existing structure on the site that may have restricted root development.

*NB. This soil assessment is undertaken in situ using visual and manual techniques and is **only** for the purpose of establishing the influence of site soils on tree growth. The assessment **must not** be relied upon to inform any engineering decisions.*

Development Proposal

5.1 It is proposed to construct a replacement dwelling and associated outbuildings.

Tree Survey Methodology

6.1 All trees within and adjacent to the site have been assessed where they are within 15 m of any area that may be disturbed as a result of the proposed development and have a stem diameter over 75mm at 1.5 metres. Measurements have been taken in accordance with the procedures and protocols set out in BS 5837: 2012 and the Forest Mensuration Handbook. Height measurements are approximate unless otherwise stated. Trees have been assessed as individuals, groups or woodlands as appropriate. Where access to trees has been restricted, either as a result of their situation on private land or where vegetation or ground conditions are unfavourable, an estimation of trunk diameter has been made. This entails using a set of callipers to approximate the measurement. Estimates are rounded up to provide a margin. This technique has only been used where there is a sufficient buffer between the RPAs and any area disturbed by development. Where trees are in woodlands or groups only the outside edge trees are assessed unless there are larger trees with RPAs or crowns that would overlap the edge trees.

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

6.2 BS 5837: 2012 provides the framework through which tree can be categorised in terms of their health, amenity value and long-term viability for retention on a development site. There are four categories, A,B,C & U.

Category A: Trees of high quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years)

1 Trees that are particularly good examples of their species, or essential components of groups or formal arboricultural features.

2 Trees, groups or woodlands that provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance.

3 Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality and value in such a condition to make a significant contribution (a minimum of 20 years)

1 Trees that might be included in a higher category but are downgraded because of impaired condition.

2 Trees present in numbers, usually as groups of woodlands that form distinctive landscape features.

3 Trees with clearly identifiable conservation or other cultural benefits.

Category C: Trees of low quality and value currently in adequate condition to remain until new planting could be established. Trees in this category would not usually be retained if they would pose a significant constraint to development.

Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons.

The most significant or valuable trees are placed in the categories, A & B. Site design should make provision to retain trees in these categories and most Local Planning Authorities will insist upon this (or in exceptional circumstances will require that significant compensation planting is incorporated into the design), whilst trees that should not be a constraint to development are recorded with a C category. Trees categorised as U are in a poor condition and should be removed prior to the commencement of work.

6.3 Where trees are to be retained, it is necessary to ensure that they are suitably protected to avoid damage during the construction phase of the development. It is also important to consider any long term implications; such as issues with shading or leaf litter that may arise as a result of tree retention.

6.4 To ensure that trees are not adversely affected by the construction works it is necessary to:

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

a. The avoidance of physical damage to the aerial parts of the trees (i.e. Impact and other damage to trunk and branches)

b. The avoidance of damage to retained trees as a result of the severance or other physical damage to their roots

c. Preserve of the character of the soil, through the avoidance of any activity that would cause it to become compacted or otherwise disturbed or disrupted, and to avoid contamination by potentially harmful substances

d. To ensure free gaseous exchange is permitted between the upper layers of soil and the atmosphere

e. To ensure adequate (but not excessive) water supply to the soil and hence to tree roots

This would normally be achieved by establishing an area, known as a construction exclusion zone (CEZ) around each tree. The CEZ is derived from the root protection area (RPA) and the crown spread of the tree. The RPA represents the area occupied by the tree's root system and is calculated for each tree based on its stem diameter and the ground conditions present taking account of and any impediment to rooting. The RPA should represent the most probable position of the tree's root system.

The CEZ must be considered sacrosanct and be maintained completely undisturbed. No construction should take place within this area and it should not be used for storage of materials or fuels. Access for vehicles machinery or personnel is prohibited and to ensure that it is not damaged by construction activity it must be suitably protected during the construction phase, using robust fencing or alternative ground protection methods, to prevent disturbance and damage occurring.

6.5 In addition to the implications that a new development may have for existing trees it is also important to assess any long term issues or concerns that may arise as a result of retaining trees close to a new dwelling or structure. This can include problems associated with leaf litter and other debris that may fall from trees, the potential that a tree has to cause damage to a structure in the future, any on-going maintenance requirements that may arise and the level of shade that the tree may cast, it is particularly important to consider the effects of shading where trees are to the south of houses and gardens. Trees can also cause feelings of apprehension to the occupiers of nearby buildings and can have an over bearing impact on a property if adequate space is not provided.

6.6 The report assesses all trees with regard to their size, position and natural characteristics, and taking into account of their future growth makes provides recommendations as to their long term suitability for retention.

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

Arboricultural Assessment

7.1 Full details of the tree surveyed are provided in appendix A. and their relative positions, crown spreads, root protection areas are indicated on the attached plans.

7.2 No checks have been undertaken to establish the status of the trees with regards to Tree Preservation Orders or Conservation Areas, however all the trees will be subject to the Forestry Act (see section 3.1) and all hedges subject to the Hedgerow regulations (see section 3.3). No trees or hedges should be felled, lopped, topped or in otherwise removed or damaged without prior permission from the relevant authority.

7.3 The survey recorded 3 individual trees, 2 groups of trees and 2 hedges which were categorised as follows:

Category	Quantity
Category A: Trees of high quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years)	**1**
Category B: Trees of moderate quality and value in such a condition to make a significant contribution (a minimum of 20 years)	**3**
Category C: Trees of low quality and value currently in adequate condition to remain until new planting could be established. Trees in this category would not usually be retained if they would pose a significant constraint to development.	**3**
Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons.	**0**

Arboricultural merits and the significance of the trees in the landscape

7.4 The surrounding area is typified by an upland agricultural landscape with rows of trees running adjacent to streams and drainage ditches, hedgerows forming field boundaries and small groups of trees clustered around the scattered farm houses and cottages. The hedgerow to the front of the site is a reasonably prominent feature as is the individual sycamore tree, T1, to the north east boundary.

Design Considerations

7.5 The site design should seek to incorporate T1 & T3 into the layout and provide sufficient space and separation to ensure that they can develop and mature without having a negative impact on the reasonable enjoyment of the new dwelling. In order to prevent damage to the root systems of any tree to be retained, no ground disturbance should take place within the minimum RPA distances as specified in appendix A.

7.6 Opportunity should be taken to improve and enhance the tree stock on site through new planting which would help to mitigate any impact

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

arising from the loss of trees required to facilitate the proposed development.

7.7 All services both under and over ground must be located outside the CEZ around retained trees. All services must be installed in compliance with NJUG chapter 4 recommendations.

Arboricultural Implications of the Development

7.8 To implement the redevelopment of the site and provide a reasonable level of residential amenity would require that tree T2, groups G4 & G5 and hedgerow H6 were removed. This would allow the site to be developed in a way that would be harmonious with the retained trees and would also provide the opportunity for further planting to enhance the tree stock of the area.

7.9 The loss of the trees and hedgerow would have a minor level of impact on the landscape in the short term. However, the site is in a quiet rural area with few direct neighbours and only infrequent passing traffic and therefore tree loss is not expected to have a significant impact on public amenity.

7.10 In order to ensure that the character of the area is maintained and that there is not permanent depletion of the tree resource, it is recommended that the planting of new trees forms part of the development. This approach will retain canopy cover in the local area and safeguard the landscape in the longer term and is compatible with the premise of sustainability. A detailed landscape scheme can be prepared following a finalisation of the site layout.

7.11 The proposed development would result in the loss of 1 tree (cat B), 2 groups (cat, C) and approximately 40 metres of overgrown hedgerow from the site. Given the lack of amenity associated with the trees and hedge to be removed and the potential to enhance the area through new landscape planting, the impact of this development is considered to be low.

Arboricultural Operations

Permission to remove any tree must be obtained from the Local Planning Authority and must not be undertaken until all pre-commencement conditions have been discharged.

8.1 Tree removal and pruning will be required, subject to a grant of planning permission, to implement this development. It is recommended that the work should be undertaken by a suitably qualified person, holding public liability insurance for the sum of £5,000 000. All operators must hold relevant NPTC certificates. A site specific risk assessment must be prepared and operators must work to a health and safety method statement. The use of Arboricultural Association Approved Contractors www.trees.org.uk/find-a-professional/Directory-of-Tree-Surgeons is recommended.

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

8.2 The contractor undertaking the work is responsible for any loss or damage arising as a result of the operations and agrees to indemnify the owner against such occurrences.

8.3 All tree protection measure specified in the following section and shown on the accompanying TPP are to be fully installed prior to the commencement of the arboricultural works. Where access is required to the trees, then suitable ground protection must be used in lieu of the tree protection fences.

Arboricultural Method Statement

9.1 This arboricultural method statement (AMS) sets out the details of tree protection measures afforded to the retained trees on and adjacent to the site.

9.2 This document should be read in conjunction with the Tree Protection Plan (GFF/TPP/10/16). The TPP indicates the construction exclusion zone (CEZ) that must be maintained around each retained tree. These areas must remain undisturbed during the construction process and must be protected using suitable fencing or ground protection as specified.

9.3 Copies of the TPP & the AMS must be available on site and all tree protection requirements explained to all persons undertaking activities on the site during the site induction process.

9.4 All tree protection measures must be installed and inspected prior to bringing onto the site any plant, materials or equipment or undertaking any construction works or demolition or any arboricultural works. The LPA must be informed in writing once the tree protection measures are installed.

9.5 The site is to be inspected by the consulting arboriculturalist in accordance with the schedule of inspections (see 9.17).

9.6 All measurements are given in metric using standard abbreviations.

Fencing and Ground Protection

9.7 The TPP indicates the position all protective fences.

9.8 Protective fencing will comprise herras fencing or as agreed with the Local Planning Authority.

9.9 No ground protection is specified for this site.

9.10 The protective fencing must be inspected on installation and will remain in place until completion of the construction phase and then only removed with the consent of the LPA.

9.11 Other than works approved in writing by the LPA, no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing.

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

General Precautions

9.12 No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10m of the trunk of a tree that is to be retained or within any part of the CEZ. Spills kits, suitable for the type fluids, fuels and chemicals stored on site must be available on site and site operatives must have training in their use.

9.13 No fires will be lit within 20m of the trunk of any tree that is to be retained.

9.14 Storage and mixing areas, contactor parking and all site huts must be outside the CEZ.

9.15 Access to the work area is via the main site entrance and must not traverse the CEZ.

9.16 All service and drainage routes, below or above ground must avoid the CEZ. All services are to be installed in accordance with NJUG volume 4 Guidelines.

9.17 To ensure that all tree protection measures are properly installed and maintained the site shall be monitored by Shields Arboricultural Consultancy to the following schedule. Details of the findings and photographic evidence of the site inspection visits will be reported to the LPA by email within 24 hrs of the visit. All tree protection measures must remain in place until development work is completed and only removed after receiving written confirmation from the LPA.

Schedule of Inspection

1. On completion of erection of fencing and installation of ground protection prior to commencement of development works

2. Monthly throughout the project

9.18 Prior to the commencement on site of any work, a competent person is to be appointed to monitor the day to day activities on site. In the case of a tree being damaged or where an unexpected event arises it will be for this person to contact Shields Arboricultural Consultancy to seek advice on contingency measures.

Conclusion

10.1 Providing the recommendations of this report are followed, the proposed development can be undertaken with minimum impact to the existing arboricultural environment.

S.J.A. Shields

Uni Cert For. & F.P. (Bangor),
Dip. Arb. (RFS), M.Arbor.A, MICFor.
Chartered Forester

16th June 2016

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

Arboricultural Assessment

Ref. No.	Species	Top Height	Stem Dia mm	Stems	N	E	S	W	CC	FSB	Age	Rem Cont.	Cat.	RPA m^2	Notes
T1	Sycamore *(Acer pseudoplatanus)*	12	650	1	4.3	4.6	6.3	4.5	2		M	40+	A2	192	**Condition:** Good **Notes:** T1 is a reasonably prominent tree in the landscape. This tree will be retained and protected in accordance with the recommendations of BS 5837: 2012.
T2	Sycamore *(Acer pseudoplatanus)*	10	350,340,310	3	3	8.2	6	6	2		M	20+	B2	152	**Condition:** Fair - tree has a weak branch union at the point where the main stem trifurcates. **Notes:** Although T2 is in a prominent position it has a significant structural defect, is affecting the existing stone boundary wall and its low spreading

Institute of Chartered Foresters
Registered Consultant

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

															crown dominates the garden area of the property. It is proposed to remove T2 as part of the development and any loss of amenity will be mitigated through new landscape planting.
T3	Alder *(Alnus glutinosa)*	10	380, 330		2	4.2	4.6	3	1		M	20+	B2	115	**Condition:** Good **Notes:** T3 will be retained and protected in accordance with the recommendations of BS 5837: 2012.
G4	Mixed	3	120 max										C3		**Condition:** Fair **Notes:** Small group of trees comprised hawthorn, holly and elder that appear to have spread from an old hedgerow. G4 has a low public amenity value and will be removed as part

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

															of the development. Any loss of amenity will be addressed through new landscape planting on the site.
G5	Mixed	3	120 max										C2		**Condition:** Good **Notes:** Small group of fruit trees of limited amenity value, G5 will be removed as part of the development. Any loss of amenity will be addressed through new landscape planting on the site.
H6	Mixed	4	350 max									40+	C2		**Condition:** Fair **Notes:** Mixed species hedgerow to the front of the site, currently growing out of and through the existing boundary wall. It will be

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

															necessary to remove H6 to allow for the restoration of the wall and adjacent ditch. Any loss of amenity will be addressed through new landscape planting on the site.
H7	Mixed	4	975									20+	B2		**Condition:** Good **Notes:** Overgrown hedgerow running along a significant portion of the site. H7 will be brought back into management and will be retained and protected in accordance with the recommendations of BS 5837: 2012.

Ultimate Heights of Main Species

Alder 15 Sycamore 18

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

Notes

BS 5837: 2012 provides the framework through which tree can be categorised in terms of their health, amenity value and long-term viability for retention on a development site. There are four categories, A,B,C & U.

Category A: Trees of high quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years)

1 Trees that are particularly good examples of their species, or essential components of groups or formal arboricultural features.
2 Trees, groups or woodlands that provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance.
3 Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality and value in such a condition to make a significant contribution (a minimum of 20 years)

1 Trees that might be included in a higher category but are downgraded because of impaired condition.
2 Trees present in numbers, usually as groups of woodlands that form distinctive landscape features.
3 Trees with clearly identifiable conservation or other cultural benefits.

Category C: Trees of low quality and value currently in adequate condition to remain until new planting could be established. Trees in this category would not usually be retained if they would pose a significant constraint to development.

Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons.

Institute of Chartered Foresters
Registered Consultant

T 01691 657189
M 07989 626923
Email: info@shieldsac.co.uk

Key

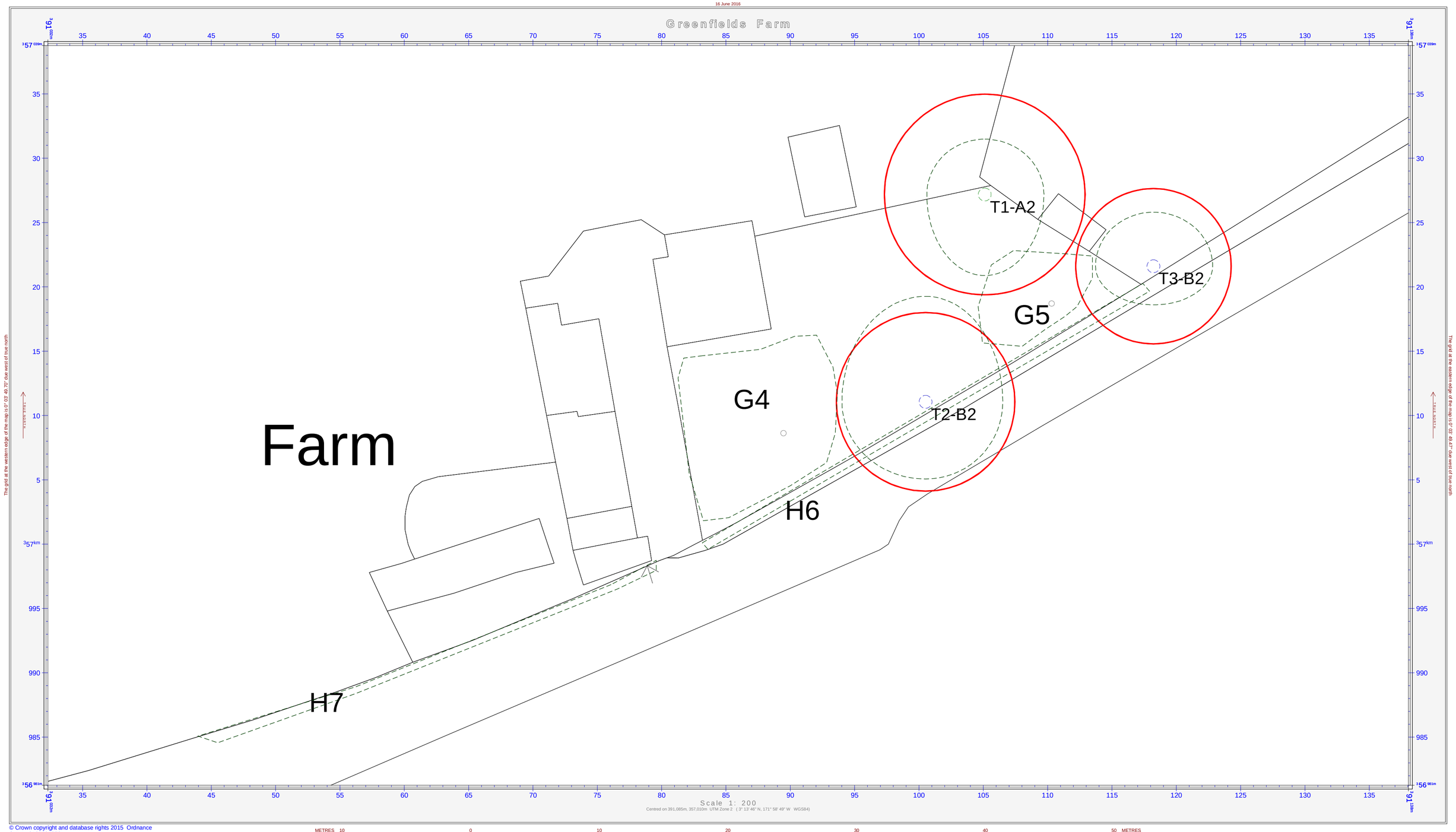
Tag No	Identification number for tree	**Species**	Species of tree
Top Height	Estimated height of tree	**Stem Dia.**	Diameter of stem at 1.5 metres
Stems	Number of stems	**N, E, S, W**	Crown spread at compass points
CC	Crown Clearance	**FSB**	Direction of first significant branch
Rem. Cont	Remaining safe life expectancy in years	**RPA**	Root protection area in m^2
Cat.	BS Category (see above)	**AIA**	Arboricultural Implication Assessment

Age	**Y -**	Young Trees
	SM	Semi Mature
	EM	Early Mature
	M	Mature
	LM	Late Mature exceeds normal life expectancy for species
	VET	Veteran Tree
Condition	**Good**	Relatively free from defects and / or major pests and diseases
	Fair	Some defects, which could be addressed through tree surgery or minor pests or early symptoms of diseases
	Poor	Substantial defects or terminal decline
	Dead	Dead

Institute of Chartered Foresters
Registered Consultant

16 June 2016

Greenfields Farm



Scale 1: 200

Centred on 391,085m, 357,010m UTM Zone 2 (3° 13' 46" N, 171° 58' 49" W WGS84)

The grid at the western edge of the map is 0° 03' 49.70" due west of true north

The grid at the eastern edge of the map is 0° 03' 49.47" due west of true north

METRES 10 0 10 20 30 40 50 METRES

Shields Arboricultural Consultancy

Tree & Woodland Management Solutions

Tree Constraints Plan

Greenfields Farm

Ledgend

- Tree Cat A
- Tree Cat B
- Tree Cat C
- Canopy Spread
- RPA

Drawing No: GFF/TCP/06/16/01

Drawn By: S. Shields

Scale: 1:200 @ A2

Date: 16th June 2016

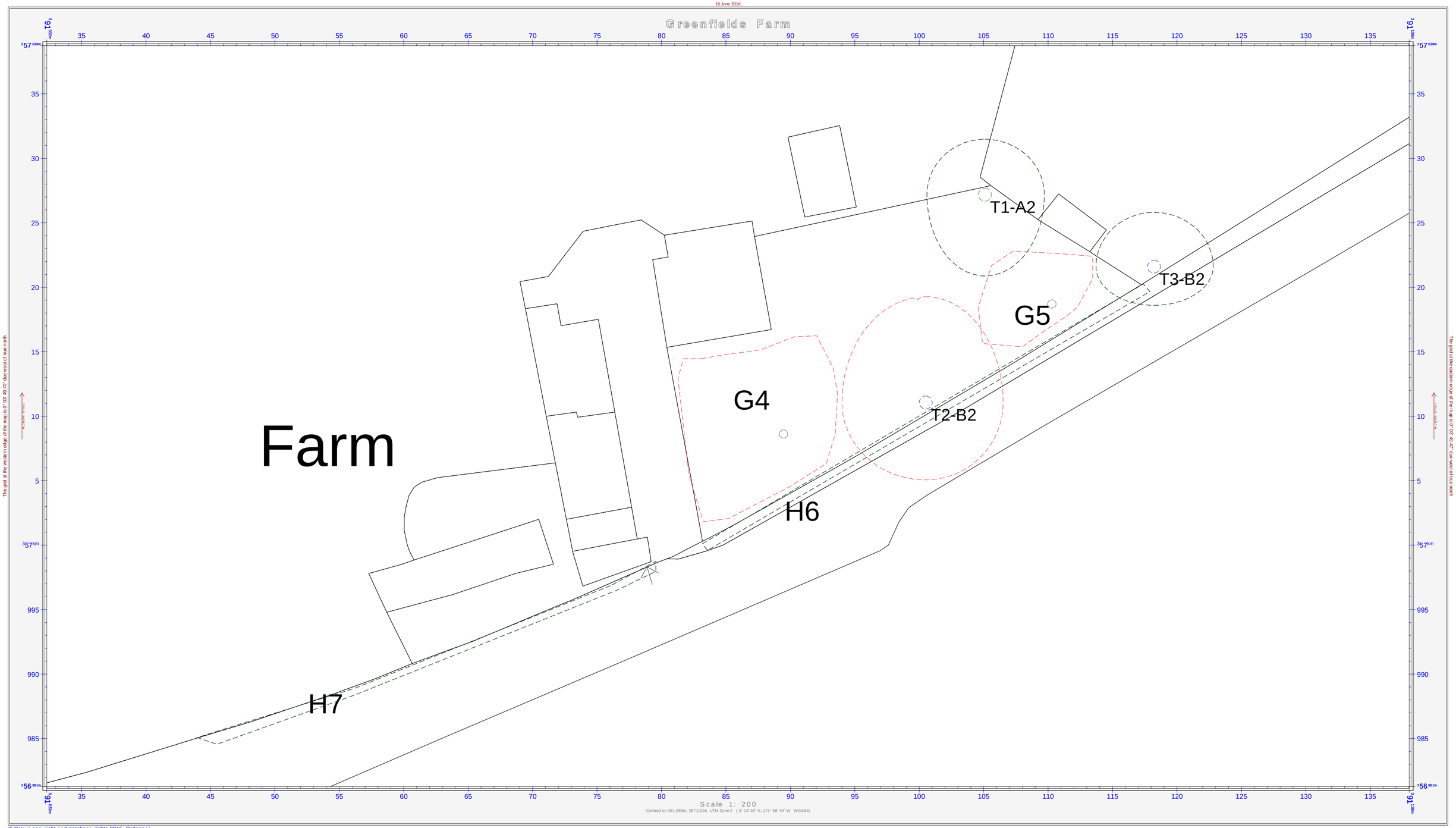
Revision:

Do not scale from this drawing all dimensions to be checked on site

Drawing is colour coded and a monochrome copy should not be relied upon

16 June 2016

Greenfields Farm



METRES 10 0 10 20 30 40 50 METRES

Shields Arboricultural Consultancy

Tree & Woodland Management Solutions

Tree Removal Plan

Greenfields Farm

Ledgend

- Tree Cat A
- Tree Cat B
- Tree Cat C
- Canopy Spread
- Trees for Removal

Drawing No: GFF/TRP/06/16/01

DrawnBy: S. Shields

Scale: 1:200 @ A2

Da te: 16th June 2016

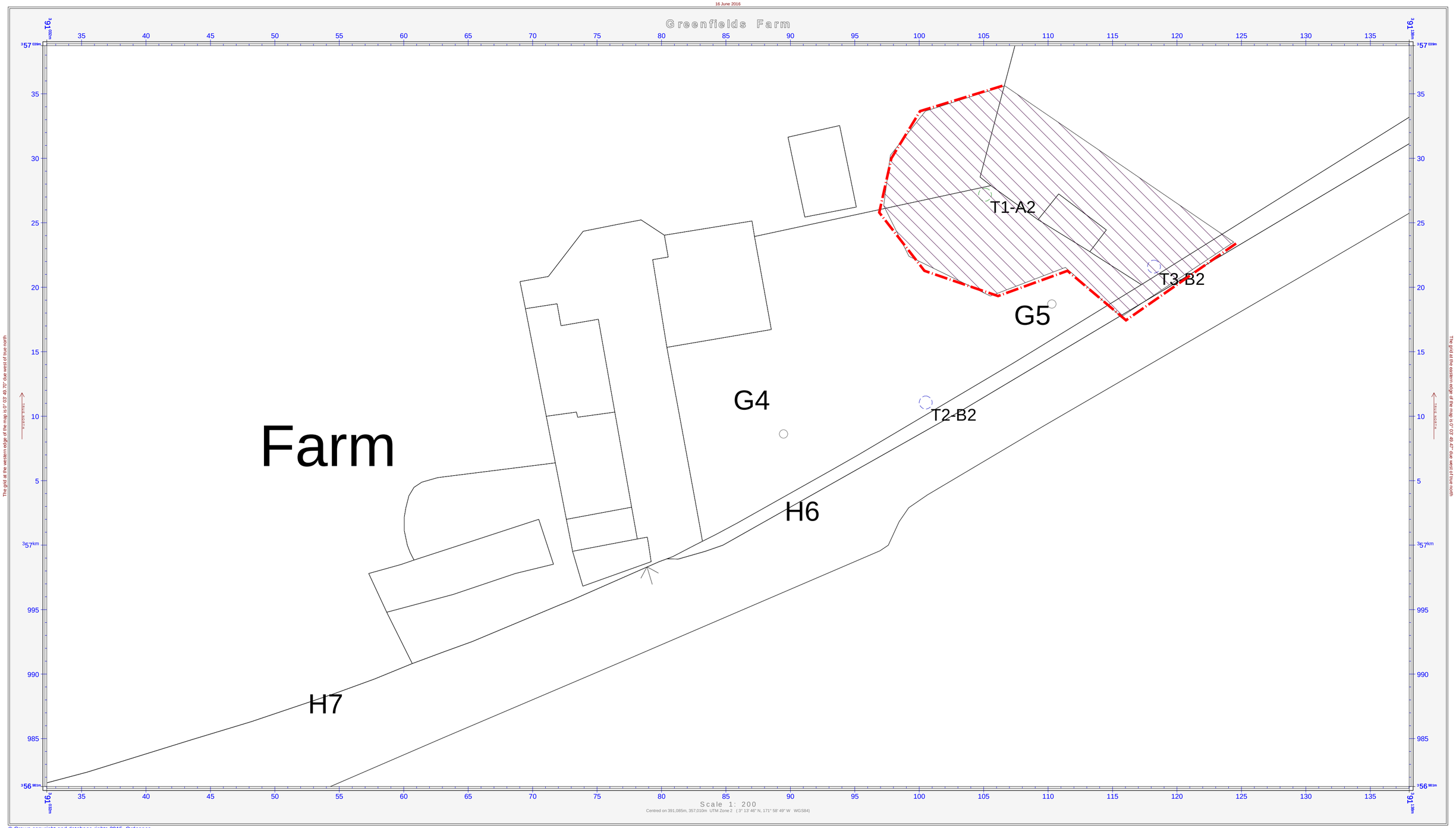
Revision:

Do not scale from this drawing all dimensions to be checked on site

Drawing is colour coded and a monochrome copy should not be relied upon

16 June 2016

Greenfields Farm



Shields Arboricultural Consultancy

Tree & Woodland Management Solutions

Tree Protection Plan

Greenfields Farm

Ledgend

- Tree Cat A
- Tree Cat B
- Tree Cat C
- CEZ
- Tree Protection Fencing

Drawing No: GFF/TPP/06/16/01

Drawn By: S. Shields

Scale: 1:200 @ A2

Date: 16th June 2016

Revision:

Do not scale from this drawing all dimensions to be checked on site

Drawing is colour coded and a monochrome copy should not be relied upon