4 SUMMARY AND CONCLUSIONS

- 4.1.1. A desk study was undertaken on land within the Planning Application Site Boundary plus a 50-metre buffer. The desk study revealed the presence of two recorded veteran trees and a single Tree Preservation Order (TPO). The TPO is titled TPO/BN/1/20 and protects 19 individual trees and one tree group.
- 4.1.2. A walkover survey was undertaken on land within the Planning Application Site Boundary plus a 15metre buffer. This buffer was extended to 50 metres in respect of any potentially veteran trees. The walkover survey identified the presence of 77 arboricultural features including 46 trees, 25 tree groups and six hedges. The surveyed arboricultural features include eight high-quality trees and seven moderate-quality trees and two tree groups. They also include 31 low-quality trees, 25 tree groups and six hedges.
- 4.1.3. Four potentially veteran trees were identified. These include the two that were recorded during the desk study and two previously unknown specimens.
- 4.1.4. At the time of the walkover survey, access was not available on land to the southern end of the Planning Application Site Boundary. Aerial imagery indicates the presence of two maintained hedgerows within this area records of which are absent from the Arboricultural Survey Schedule. Both hedgerows are considered as likely to be low-quality features.
- 4.1.5. An Arboricultural Impact Assessment (AMS) has been undertaken. This assessment indicates that construction of the Scheme is likely to require the whole or partial removal of 22 individual trees, 15 tree groups and four hedges. With the exception of the partial removal of moderate-quality tree group G85 removals will be restricted to low-quality features and will include 22 individual trees, 156 linear metres of tree group, 165 linear metres of hedge and 0.7 hectares of tree cover (groups). It is considered likely that an additional 18-metre-long section of low-quality un-surveyed trees may also be removed at the southernmost extent of the Scheme.
- 4.1.6. Thirty-six linear metres of tree group G85 will be removed. This tree group is of moderate quality and is also covered by TPO/BN/1/20. Removals are limited to a short section at its northernmost end and are insufficient to have a significant adverse impact on the visual amenity value of the feature as a whole. The value of G85 as a protected tree group will therefore not be significantly devalued.
- 4.1.7. With the exception of G85 arboricultural removals do not include any high or moderate quality features, any feature covered by TPO/BN/1/20 or any potentially veteran trees.
- 4.1.8. Other identified arboricultural impacts include the potential for construction access to occur within the Root Protection Areas (RPAs) of retained trees. These impacts can be successfully mitigated through the use of tree protection fencing as specified in the Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP). In four instances RPAs cannot be fully protected with protective fencing. However, in each instance the level of encroachment is sufficiently low for trees to be sustainably retained. Other arboricultural impacts will therefore not put any arboricultural feature at risk of removal nor will they result in arboricultural features becoming unsustainable over the longer-term.

vsp

- 4.1.9. Semi-natural buffers have been applied to veteran trees in accordance with standing advice from the Forestry Commission and Natural England. Subject to the installation of protective fencing these buffers can be maintained throughout the construction phase.
- 4.1.10. Mitigation for the loss of arboricultural features is provided as part of a post-development landscaping scheme. This scheme includes the planting of woodland areas, specimen trees, shrubs and hedges all of which represent effective replacements for features which cannot be retained.
- 4.1.11. An AMS and TPP have been provided. These lay out the protection measures which should be applied to ensure the sustainable retention of trees. It is envisaged that these documents will be undated to address any currently unforeseen tree protection matter which may arise during subsequent stages of design.

Appendix A

GLOSSARY OF TERMS AND ACRONYMS

GLOSSARY OF TERMS

Table A-1 - Glossary of Terms

Term	Definition
Ancient Tree	A tree that has passed beyond maturity and is old, or aged, in comparison with trees of the same species. Characterised by biological, cultural or aesthetic features of interest.
Ancient Woodland	Any wooded area that has been continuously wooded since 1600 AD
Arboriculturalist	A person who has, through relevant education, training or experience, gained expertise in the field of trees in relation to construction.
Arboricultural Method Statement	A methodology for the implementation of any aspect of development which is within the root protection area, or has the capacity to adversely affect, any retained tree.
British Standard BS 5837:2012	Provides guidance and recommendations for the integration of trees and development. To be interpreted by appropriately qualified and experienced persons.
Conservation Area	An area of special architectural or historic interest identified by the Local Planning Authority.
Construction Exclusion Zone	An area within which all site clearance and construction activities, access and storage of materials are prohibited.
Crown	The upper part of a tree, measured from the lowest branch, including all branches and foliage.
Root Protection Area	Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's vitality.
Tree Preservation Order	An order made by the Local Planning Authority to protect specific trees, groups of trees or woodlands in the interests of amenity.
Veteran Tree	A tree that has the biological or aesthetic characteristics of an ancient tree but is not ancient in years compared with others of the same species.

۸SD

	Acronyms
AIA	Arboricultural Impact Assessment
AMS	Arboricultural Method Statement
BS 5837	British Standard BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'
CEZ	Construction Exclusion Zone
RPA	Root Protection Area
ТРО	Tree Preservation Order
TPP	Tree Protection Plan

Appendix B

RELEVANT LEGISLATION, POLICY AND GUIDANCE

S])

This report has been compiled with reference to relevant legislation, policy and guidance. An overview and context are provided in **Table B-1**.

Table B-1 – Summary of relevant legislation, policy and guidance

Legislation

Town and Country Planning Act 1990

Section 197 places a duty on the local planning authority to ensure that, where appropriate, planning conditions are imposed which require the preservation or planting of trees.

Section 198 provides local planning authorities with the powers to impose Tree Preservation Orders where it is expedient in the interests of amenity.

The role of a TPO is to protect specific trees, groups of trees and woodlands for the purpose of amenity. In the Secretary of State's view 'Orders should be used to protect trees and woodlands if their removal would have a significant negative impact on the local environment and its enjoyment by the public.

Town and Country Planning (Tree Preservation) (England) Regulations 2012

These Regulations govern the administration of Tree Preservation Orders. They make it a statutory offence to undertake specified activities without the formal consent of the local planning authority. Prohibited activities include:

- cutting down;
- topping;
- lopping;
- uprooting;
- wilfully damaging; and,
- wilfully destroying.

Exemptions for the need to obtain formal consent include, but are not limited to:

- dead trees;
- the removal of dead branches;
- works necessary to remove a risk of serious harm; and,
- works necessary to implement a planning permission (excluding outline planning permission) or where permission is granted under the *Town and Country Planning (General permitted Development Order* 1995)(as amended).

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the Natural Environment and Rural Communities Act 2006 places a duty on local authorities and government departments to have regard for the conservation of biodiversity when exercising their normal functions.

Biodiversity comprises all living things including animals, plants, fungi and micro-organisms and includes the communities and habitats that they form. Trees form integral elements of the natural environment either due to rarity (e.g. Common Juniper (*Juniperus communis*)), as part of an important habitat (e.g. ancient woodland) or because they directly support another species (e.g. a bat roost or nesting bird). Even widespread, common or non-native tree species are important due to their positive contribution towards a sustainable natural environment.

The NERC Act requires that development activities must be undertaken with due regard for trees and their biodiversity value. Trees should be retained wherever practicable and opportunities taken to maintain and enhance their environmental contribution.

Policy

National Planning Policy Framework. (2019)

The National Planning Policy Framework includes relevant guidance in *Chapter 15: Conserving and Enhancing the Natural Environment*. Guidance provided includes:

Paragraph 170(b) recognises the economic and other benefits that trees, and woodlands provide and the fact that they should be considered as part of a planning decision;

Paragraph 175(c) identifies the principle that 'development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists'.

Arun Local Plan 2011-2031 (adopted July 2018)

Policy ENV DM4 – Protection of trees

This policy requires, that for development to be permitted, it should demonstrate that trees protected by a Tree Preservation Order(s), (TPO) identified as Ancient Woodland, in a Conservation Area or contributing to local amenity, will not be damaged or destroyed now and as they reach maturity, unless development:

- Would result in the removal of one or more trees in the interests of good arboricultural practice;
- Would enhance the survival and growth prospects of other protected trees; or,
- The benefits of the proposed development in a particular location outweigh the loss of trees or woodland, especially ancient woodland.

Guidance

British Standards Institute. 5837:2012 Trees in relation to design, demolition and construction – Recommendations (2012)

British Standard BS 5837:2012 provides recommendations and guidance on the relationship between trees and design, demolition and construction processes. It sets out principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures and is applicable whether or not planning consent is required.

Arun Design Guide Supplementary Planning Document Final Draft 2020

The purpose of this document is to provide further guidance on the design policies contained within Arun's Local Plan.

Section E.02 provides guidance on landscape structure and trees. In this section it is recommended that development:

- Is informed by arboricultural surveys carried out by a qualified professional at the time of site appraisal;
- Wherever possible retains and incorporates all trees and hedgerows of value, ensuring that their root structure or access to water and sunlight is not adversely impacted by development;
- Re-provides for any loss of trees and incorporates further new planting of a range of species and sizes wherever possible in order to mitigate the impacts of climate change and the urban heat island effect, improve environmental quality and facilitate groundwater absorption, having regard to the provision of below-ground services and the most appropriate species in response;
- Provides for the ongoing maintenance of landscape structures and trees; and,
- Avoids incursion of all Root Protection Areas (RPA) for significant trees of high quality or with TPOs, particularly for larger scale development. Buffer zones should be implemented around RPAs to provide additional protection for such trees.

Ministry of Housing, Communities & Local Government, Tree Preservation Orders and trees in conservation areas (2014)

Provides explanatory guidance on the administration of trees protected by a Tree Preservation Order (TPO) or conservation area.

A key element includes guidance on the use of Orders in instances where the removal of trees where removal would have a 'significant negative impact on the local environment and its enjoyment by the public.' Further guidance is provided on the definition of amenity and includes:

- Visibility Trees should be visible, in whole or in part, from a public place such as a road, footpath or publicly accessible land.
- Value Public visibility is in itself not sufficient to warrant inclusion within a TPO. Arboricultural features should also exhibit merit in terms of one or more of the following criteria:
 - Size and form;
 - Future potential;
 - Rarity, cultural or historical value;
 - Contribution to, and relationship with, the landscape; and
 - Contribution to the character or appearance of a conservation area.
- Other Factors Other factors such as nature conservation may be considered when making a TPO but on their own would not warrant making an Order.

Forestry Commission and Natural England, Ancient woodland, ancient trees and veteran trees: protecting them from development (2018)

The Forestry Commission and Natural England have published guidance giving information for the protection of ancient woodland, ancient trees and veteran trees from development. In summary this guidance advises on the use of semi-natural buffer zones as a means of protection with minimum distances identified as:

- Fifteen metres between any development and ancient woodland.
- Fifteen times the diameter of its stem or 5m from the edge of its canopy, if that's greater, around any ancient or veteran tree.

Further guidance is provided on the compensation measures which may be applied should adverse impacts arise.

Appendix C

ARBORICULTURAL METHOD STATEMENT

INTRODUCTION

This AMS describes the arboricultural protection measures identified as necessary for the protection of retained trees as part of the Scheme. It presents in principle the arboricultural protection measures which will be applied during construction. It is envisaged that these protection measures will be reviewed by the Design Team prior to the issuing of any tender documentation and that they will be revised to accommodate any design amendment or known construction methodologies.

The following matters have been identified as those which may require inclusion within a revised AMS:

- The phasing of site clearance and construction activities and tree protection measures;
- Arboricultural monitoring and site supervision;
- The location and specification for protective barriers. (Tree protection barriers should be erected prior to any site clearance or construction activities and should remain insitu throughout the construction process. The area to the rear of the protective barriers must be designated as a construction exclusion zone and is an area where all site clearance and construction activities are prohibited);
- The design and construction of boundary fencing;
- The design and construction of surface water drains, ditches and ancillary structures;
- The design and construction of underground services and ducts;
- The design and construction of any structure within the RPA of any retained tree. These should include footpaths, stiles, gates and boundary fencing; and,
- The tree protection measures and working methodology to be applied to soft landscaping activities within the RPA of retained trees.

This AMS must be read in conjunction with the TPP included within **Appendix G** of this report, the Construction Environmental Management Plan and all relevant design drawings, specifications and method statements. This AMS should be viewed as a 'live' document and should be subject to regular review prior to and during construction.

ARBORICULTURAL MONITORING

GENERAL REQUIREMENTS

Effective tree protection can only be achieved by adherence to a logical sequence of works combined with effective arboricultural monitoring. The purpose of arboricultural monitoring is to ensure that all tree protection measures are fit for purpose, are implemented in accordance with any approved details and as a means of enabling any previously unforeseen arboricultural issues to be promptly identified and suitably addressed.

The Principal Contractor will be responsible for ensuring that all site personnel are made aware of the requirements of this AMS and that any future amendments are known and understood. Copies of the approved AMS will be available onsite the requirements of which will be incorporated into all relevant site management documents and site induction procedures.

PRE-COMMENCEMENT

A pre-commencement meeting will be held between the Principal Contractor, local authority tree officer and the project arboriculturist. The purpose of this meeting will be to ensure that all aspects of the tree protection measures are clear and understood and that any future sequencing and supervisory arrangements are agreed. The details of this meeting will be recorded and will be circulated to all parties in writing.

The Principal Contractor shall nominate a person to be responsible for all arboricultural matters onsite. This person must:

- Be present on site whenever work is being undertaken,
- Be aware of their arboricultural responsibilities,
- Have the authority to stop any work that is causing, or has the potential to cause harm to any retained tree,
- Be responsible for ensuring that all site operatives are aware of their responsibilities toward retained trees and the consequences of any failure to observe those responsibilities,
- Make immediate contact with the local authority and/or the project arboriculturist in the event of any tree related problems occurring, whether actual or potential.

DURING / POST-CONSTRUCTION

Once works commence the project arboriculturist will undertake a programme of monitoring. This may include phone and email contact with the site manager, regular site visits and direct monitoring of sensitive works.

The frequency of any monitoring will be determined by the intensity and proximity of works to trees and will be flexible enough to accommodate changes in the scheduling of tasks as they occur on the site.

The project arboriculturist will maintain a record of all aspects of the arboricultural monitoring which has been undertaken. This will provide a record of compliance with any agreed tree protection measures and will assist in the efficient discharge of any relevant planning conditions or demonstration of compliance with any statutory requirements.

TREE PROTECTION FENCING

Purpose

To protect retained trees including their stems, crowns, rooting areas and the soil within which they grow.

General Requirements

Tree protection fencing should be specified by an arboriculturist.

Tree protection fencing will be used to prevent access to the root protection areas (RPAs) of retained trees. In all instances the following specification will be strictly adhered to:

- The area to the rear of the tree protection fencing shall be considered to form a Construction Exclusion Zone. No construction activities, storage of materials or pedestrian or vehicular access shall take place within this area.
- All weather notices will be attached to the tree protection fencing at suitable intervals and shall include suitably sized informative text containing the following statement:

"TREE PROTECTION FENCING

CONSTRUCTION EXCLUSION ZONE - NO ACCESS''

 Regular daily checks will be carried out by an appointed person to ensure that all tree protection fencing is still in place and functioning; any damage will be rectified without delay.

Timing

- Tree protective fencing shall be erected prior to any works onsite including site clearance, ground work or the importation of plant and materials.
- Once erected tree protection fencing shall remain in-situ until all construction activities are complete.

Specification for Fencing

Tree protection fencing shall be fit for the purpose of excluding construction activity and appropriate for the degree and proximity of work taking place. An example of the type of tree protection fencing which may be required is included in Figure C-1.

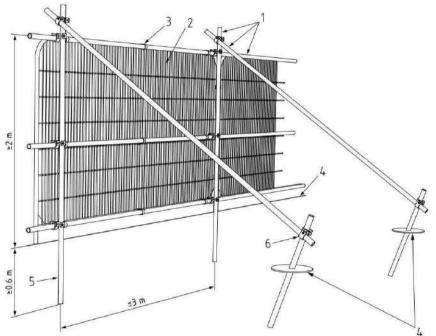


Figure C-1 - Example of appropriate tree protection fencing

Key:

- 1. Standard scaffold poles
- 2. Heavy guage 2m tall galvinised tube and welded mesh infill panels
- 3. Panels secured to uprights and cross-members with wire ties
- 4. Ground level
- 5. Uprights driven into the ground until secure (minimum depth 0.6m)
- 6. Standard scaffold clamps

Appendix D

ARBORICULTURAL SURVEY METHODOLOGY

SURVEY METHODOLOGY

METHOD OF BASELINE DATA COLLECTION

Baseline data collection has been undertaken with reference to BS 5837 and has been undertaken using the following data sources:

- An arboricultural desk study, and;
- A walkover survey of all arboricultural features within the study area.

DESK STUDY

A desk-study has been undertaken as a means of identifying any statutory and non-statutory constraints which may apply to arboricultural features within the Study Area. The desk-based review has considered the following sources:

TPOs and Conservation Areas

Arun District Council is responsible for implementing any legal controls imposed through TPOs and conservation areas within the study area. The statutory status of arboricultural features within the study area was checked using the Council's online mapping system¹¹.

Ancient and Veteran Trees

The potential presence of ancient and veteran trees within the study area was checked using the Woodland Trust's Ancient Tree Inventory¹².

Ancient Woodland

The potential presence of ancient woodlands within the study area was checked using Natural England's Multi Agency Geographical Information for the Countryside (MAGIC) map¹³.

¹¹ Arun District Council, 2020. *Arun Maps* [online] Available at: <u>https://www1.arun.gov.uk/webapps/wml/</u> [Accessed 17 August 2020].

¹² Ancient Tree Inventory, 2020. Ancient Tree Inventory [online] Available at: < <u>https://ati.woodlandtrust.org.uk</u>> [Accessed 17 August 2020].

¹³ Magic (DEFRA), 2020. *Multi Agency Geographic Information for the Countryside* [online] Available at: < <u>https://magic.defra.gov.uk/MagicMap.aspx</u>> [17 August 2020].

\\SD

WALKOVER SURVEY

A walkover survey was undertaken on 08 May 2019. The walkover survey was conducted by Theresa Reichlin (Arboricultural Consultant) with aerial imagery used as base mapping.

The walkover survey was undertaken in accordance with the following criteria:

- Arboricultural features have been recorded as tree groups or wooded areas where this has been deemed appropriate. Tree groups have been recorded on the basis that they form distinct arboricultural features either aerodynamically, visually or because they contain trees of similar cultural and biodiversity value. Wooded areas are recorded where larger expanses of trees exist and included features which may otherwise be referred to as copses, spinneys or shelterbelts.
- Hedges have been recorded where they form substantial internal or boundary features or where they contribute meaningfully to the landscape character of the local area.
- The trees have been inspected using the Visual Tree Assessment methodology as developed by Mattheck and Breoler¹⁴.
- The tree survey was carried out from ground level only.
- No tissue samples were taken nor was any internal investigation of the subject trees undertaken.
- Tree heights and crown spreads have been estimated to the nearest 1m.
- Notes have been recorded where they relate to the quality of the arboricultural feature. Management recommendations have been provided where work is necessary for the abatement of a hazard which presents a high level of risk to persons or property. Such management recommendations have been communicated to the tree owner/manager separately from this report.

Stem diameters have been measured in accordance with Annex C of BS 5837. Diameters of single stem trees on level ground have been measured at 1.5m above ground level. The diameters of other commonly encountered stems have been measured as per the guidance. The combined stem diameters for multi-stemmed trees have been calculated in accordance with BS 5837 paragraph 4.6.1.

By default, Root Protection Areas (RPAs) are calculated as an area equivalent to a circle with a radius 12 times the stem diameter and are capped at a distance of 15 metres. However, for ancient and veteran trees RPAs are calculated with a radius of 15 times the stem diameter or five metres beyond the edge of the tree's canopy, whichever is greater¹⁵. In these instances, the overall size of the RPA remains uncapped.

QUALITY ASSESSMENT

The quality of arboricultural features has been determined in accordance with BS 5837 Table 1 a copy of which is provided in Figure D-1. The purpose of the quality assessment is to enable informed decisions to be made regarding the removal and retention of arboricultural features in the context of development. For an arboricultural feature to be included within a particular quality category it should accord with the description provided.

¹⁴ Mattheck, C., Breloer, H., 2006. *The body language of trees*. Norwich: The Stationary Office

¹⁵ Lonsdale, D., 2013. Ancient and other veteran trees: further guidance on management. London: The Tree Council.

The quality of each arboricultural feature is defined based on its sub-category. Sub-categories carry equal weight, do not influence retention priority and are simply included to indicate the primary value associated with each surveyed item. Sub-categories 1, 2 and 3 are intended to reflect arboricultural, landscape and cultural values, respectively.

The quality and sub-category assigned to each arboricultural feature are identified within the Arboricultural Survey Schedule included in Appendix E of this report.

Figure D-1 - BS 5837 Table 1 - Cascade Chart for Tree Quality Assessment

Category and definition	Criteria (including subcategories where a	ppropriate)		Identification on plan			
Trees unsuitable for retention	(see Note)						
Category U Those in such a condition that they cannot realistically		Ile, structural defect, such that their early loss viable after removal of other category U trees r cannot be mitigated by pruning)		See Table 2			
be retained as living trees in	Trees that are dead or are showing s	igns of significant, immediate, and irreversibl	e overall decline				
the context of the current land use for longer than 10 years	 Trees infected with pathogens of sig quality trees suppressing adjacent trees 	nificance to the health and/or safety of other ees of better quality	trees nearby, or very low				
io years	NOTE Category U trees can have existing see 4.5.7.	g or potential conservation value which it mig	iht be desirable to preserve;				
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation				
Trees to be considered for rete	ention						
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 those that are essential components of groups or 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)	See Table 2			
Category B	Trees that might be included in	Trees present in numbers, usually growing	Trees with material	See Table 2			
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	category A, 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	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	conservation or other cultural value				
Category C	Unremarkable trees of very limited	Trees present in groups or woodlands, but	Trees with no material	See Table 2			
rees of low quality with an stimated remaining life xpectancy of at least 0 years, or young trees with stem diameter below 50 mm	n merit or such impaired condition that they do not qualify in higher categories significantly greater collective landscape value; and/or trees offering low or only tompore/transite landscape tompore/transite landscape to the second						

NOTES AND LIMITATIONS

Arboricultural survey data is of a preliminary nature and has been collected based on a walkover survey. Only defects visible from the ground have been noted and each individual feature may not have been inspected closely due to access difficulties, the presence of dense ivy, other vegetation or safety constraints. Safety related features have recorded on the basis that the arboricultural features will be subject to a normal programme of tree hazard assessment and only those features which materially affect the quality of the feature or pose a real and immediate safety concern have been recorded.

Arboricultural survey data is typically valid for a period of two years unless otherwise stated. Significant environmental events (such as extreme weather conditions) or changes to the Site may render it invalid within a shorter timescale.

Records held on the Ancient Tree Inventory¹⁶ are collected on a voluntary basis, therefore the absence of records does not demonstrate the absence of ancient or veteran trees but may simply indicate a gap in recording coverage.

Whilst arboricultural surveys are not seasonally limited it is the case that certain pests and diseases may be more or less evident at different times of the year. This is especially true of certain wood decaying fungi such as the Giant Polypore (*Meripilus giganteus*) where fruiting bodies are short-lived, and the early stages of root decay may not result in other identifiable symptoms. Walkover survey data is therefore based upon observations made at the time of the site visit and may be subject to change should further or more detailed inspections be undertaken.

The survey has only been undertaken from land within the client's ownership, from public land or from areas where formal access has been arranged.

The position of arboricultural features not recorded on a topographical survey has been estimated using aerial photography. The position and extent of these features should be regarded as approximate only.

¹⁶ Ancient Tree Inventory, 2018. Ancient Tree Inventory [online] Available at: < <u>https://ati.woodlandtrust.org.uk</u>>

Appendix E

ARBORICULTURAL SURVEY SCHEDULE

Кеу:	Description													
REFERENCE NUMBER:	Individual referen	nce number												
TYPE:	T - Tree	G – Tree Group	W – V	Nooded Area	Н-Н	ledge								
SPECIES:	Species listed by	common name												
HEIGHT:		n) – maximum and are deemed to be n			record	ed for tree groups, wooded are	eas and hedges where these vary							
DIAMETER:	Stem diameter (i wooded areas a		accordan	ce with BS 5837 p	aragra	aph 4.6.1. An average stem dia	ameter is provided for tree groups,							
CROWN SPREAD	Spread of crown	based upon the m	aximum	lateral dimension	(m)									
LCH:	Lowest crown he	Lowest crown height (m) * Where an arboricultural feature abuts the edge of the study area then only the portion of the crown within/overhanging the study area will be surveyed and recorded												
FSB:	Height of lowest	significant branch	(m)	Crown within/ove	ernang	ing the study area will be surv	eyed and recorded							
AGE CLASS:	Young - < 1/3rd expectancy			ature – 1/3rd to 2/ ed life expectancy	3rd	Mature - > 2/3rd estimated life expectancy	Veteran – a tree which exists significantly beyond its normal life expectancy							
PHYSIOLOGICAL CONDITION:	Good		Fair			Poor	Dead							
STRUCTURAL CONDITION:	Good		Fair			Poor								
ESTIMATED REMAINING CONTRIBUTION:	>10 years 10+ years 20+ years 40+ years													
CATEGORY:	BS 5837 Catego	ry - A, B, C, U	BS 583	7 Sub-category - 1	, 2, 3									
RPA RADIUS	The radius of the circular Root Protection Area associated with the tree as measured from the centre of the stem (m). For arboricultural features where more than one stem diameter is recorded the RPA radius is calculated using the largest dimension.													



TREE NO	ТҮРЕ	SPECIES	HEIGHT (m)	STEM DIAMETER (mm)	MAXIMUM CROWN SPREAD	ГСН	LBH	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	SUB-CATEGORY	NOTES	RPA RADIUS (m)	STATUTORY STATUS	ENVIRONMENTAL STATUS
1	Т	Norway Maple	10.0	630	4.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	7.6	-	-
2	т	Oak	20.0	1300	10.0	1.0	0.0	Mature	Good	Fair	40+	A	3	-	19.5	TPO/BN/1/20 - T29	Veteran
3	т	Oak	15.0	740	8.0	4.0	3.0	Mature	Good	Good	40+	A	2	-	8.9	TPO/BN/1/20 - T15	-
5	т	Evergreen Oak	14.0	400	4.5	1.0	1.0	Mature	Good	Good	20+	В	2	No access; all data estimated	4.8	-	-
6	Т	Norway Maple	8.0	340	3.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	4.1	-	-
7	т	Poplar	18.0	750	6.5	5.0	1.0	Mature	Fair	Fair	20+	В	2	-	9.0	-	-
10	Т	Oak	18.0	850	8.0	3.0	3.0	Mature	Good	Good	40+	A	2	No safe access; all data estimated; deadwood present	10.2	-	-



TREE NO	ТҮРЕ	SPECIES	HEIGHT (m)	STEM DIAMETER (mm)	MAXIMUM CROWN SPREAD	ГСН	LBH	AGE CLASS		STRUCTURAL CONDITION	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	SUB-CATEGORY	NOTES	RPA RADIUS (m)	STATUTORY STATUS	ENVIRONMENTAL STATUS
11	Т	Oak	10.0	600	5.0	1.0	2.0	Mature	Good	Good	20+	В	2	Prolific ivy	7.2	TPO/BN/1/20 - T31	-
12	Т	Norway Maple	10.0	470	4.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	5.6	-	-
14	т	Cypress	12.0	500	5.0	1.0	1.0	Mature	Fair	Good	10+	С	2	-	6.0	-	-
15	т	Norway Maple	10.0	470	4.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	5.6	-	-
16	т	Norway Maple	8.0	280	3.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	3.4	-	-
17	т	Lawson Cypress	12.0	800	3.0	0.0	3.0	Mature	Fair	Poor	10+	С	2	-	9.6	-	-
18	Т	Oak	8.0	310	3.5	3.0	1.0	Semi- Mature	Good	Good	10+	С	2	-	3.7	-	-
19	Т	Norway Maple	8.0	320	3.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	3.8	-	-
20	Т	Oak	20.0	1300	10.0	1.0	0.0	Mature	Good	Fair	40+	A	3	-	19.5	TPO/BN/1/20 - T27	Veteran



TREE NO	ТҮРЕ	SPECIES	HEIGHT (m)	STEM DIAMETER (mm)	MAXIMUM CROWN SPREAD	ГСН	LBH	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	SUB-CATEGORY	NOTES	RPA RADIUS (m)	STATUTORY STATUS	ENVIRONMENTAL STATUS
21	т	Apple	6.0	410	4.0	1.0	1.0	Mature	Poor	Poor	10+	С	1	-	4.9	-	-
23	Т	Oak	19.0	1200	12.0	0.0	4.0	Mature	Good	Fair	40+	A	3	-	18.0	TPO/BN/1/20 - T18	Veteran
24	Т	Norway Maple	8.0	450	3.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	5.4	-	-
25	т	Oak	20.0	1300	12.0	0.0	4.0	Mature	Good	Fair	40+	A	1	-	15.0	TPO/BN/1/20 - T16	-
26	Т	Norway Maple	10.0	470	4.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	5.6	-	-
27	Т	Apple	5.0	750	4.0	1.0	1.0	Mature	Dying/Dead	Poor	10+	С	2	-	9.0	-	-
31	Т	Lawson Cypress	12.0	800	3.0	0.0	3.0	Mature	Fair	Poor	10+	С	2	-	9.6	-	-
32	Т	Hawthorn	6.0	270	2.5	1.5	0.0	Mature	Good	Poor	10+	С	2	-	3.2	-	-
33	Т	Norway Maple	8.0	260	3.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	3.1	-	-



TREE NO	ТҮРЕ	SPECIES	HEIGHT (m)	STEM DIAMETER (mm)	MAXIMUM CROWN SPREAD	ГСН	LBH	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	SUB-CATEGORY	NOTES	RPA RADIUS (m)	STATUTORY STATUS	ENVIRONMENTAL STATUS
34	Т	Norway Maple	8.0	320	3.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	3.8	-	-
38	т	Ash	8.0	110	1.5	3.0	3.0	Young	Good	Good	10+	С	2	-	1.3	-	-
39	Т	Oak	16.0	860	8.0	0.0	1.5	Mature	Good	Good	20+	В	2	-	10.3	TPO/BN/1/20 - T8	-
40	т	Oak	10.0	650	5.0	1.0	2.5	Mature	Good	Good	20+	В	2	-	7.8	-	-
41	т	Oak	9.0	320	3.5	2.0	2.5	Mature	Good	Good	10+	С	2	-	3.8	-	-
42	т	Oak	18.0	1900	10.0	1.0	1.0	Mature	Good	Fair	40+	A	3	-	28.5	TPO/BN/1/20 - T17	Veteran
44	т	Oak	7.0	360	4.0	0.0	1.5	Semi- Mature	Good	Good	10+	С	2	-	4.3	-	-
45	Т	Evergreen Oak	18.0	1000	9.0	12.0	1.0	Mature	Good	Good	40+	A	2	No access; all data estimated;	12.0	-	-
46	Т	Hawthorn	5.0	350	2.0	0.0	0.0	Mature	Good	Poor	10+	с	2	-	4.2	-	-
48	т	Apple	6.0	410	4.0	1.0	1.0	Mature	Poor	Poor	10+	С	1	-	4.9	-	-



TREE NO	ТҮРЕ	SPECIES	HEIGHT (m)	STEM DIAMETER (mm)	MAXIMUM CROWN SPREAD	ГСН	LBH	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	SUB-CATEGORY	NOTES	RPA RADIUS (m)	STATUTORY STATUS	ENVIRONMENTAL STATUS
50	Т	Evergreen Oak	18.0	800	7.0	5.0	3.0	Mature	Fair	Fair	20+	В	2	Stem damage 10 m above ground.	9.6	-	-
51	т	Apple	6.0	410	4.0	1.0	1.0	Mature	Poor	Poor	10+	С	1	-	4.9	-	-
52	т	Apple	7.0	510	4.0	2.0	1.0	Mature	Poor	Poor	10+	С	3	-	6.1	-	-
54	Т	Norway Maple	10.0	600	4.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	7.2	-	-
55	т	Oak	17.0	800	5.0	1.0	3.0	Mature	Good	Fair	20+	В	2	-	9.6	-	-
57	т	Norway Maple	8.0	260	3.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	3.1	-	-
58	т	Norway Maple	8.0	340	3.0	2.0	2.0	Mature	Good	Good	10+	С	2	-	4.1	-	-
59	т	Oak	7.0	200	2.0	3.0	2.5	Semi- Mature	Good	Good	10+	С	2	-	2.4	-	-
60	Т	Scots Pine	8.0	290	2.0	5.0	4.0	Mature	Fair	Poor	10+	С	2	-	3.5	-	-



TREE NO	ТҮРЕ	SPECIES	HEIGHT (m)	STEM DIAMETER (mm)	MAXIMUM CROWN SPREAD	ГСН	LBH	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	SUB-CATEGORY	NOTES	RPA RADIUS (m)	STATUTORY STATUS	ENVIRONMENTAL STATUS
63	Т	Lime	9.0	300	3.5	0.0	0.0	Semi- Mature	Good	Fair	10+	С	2	No safe access; all data estimated;	3.6	-	-
64	Т	Hawthorn	6.0	260	3.5	0.0	0.0	Mature	Good	Good	10+	С	1	-	3.1	-	-
65	G	Field Maple	6.0	150	1.0	0.0	0.0	Young	Good	Good	10+	С	2	-	1.8	-	-
66	н	Leyland Cypress	6.0	120	1.0	0.0	0.0	Semi- Mature	Good	Good	10+	С	2	-	1.4	-	-
67	G	Lombardy Poplar; Leyland Cypress	15.0	350	4.5	0.0	0.0	Mature	Good	Fair	10+	С	2	-	4.2	-	-
68	G	Liquidambar	9.0	250	2.5	0.0	0.0	Mature	Good	Fair	10+	С	2	-	3.0	-	-
69	Н	Poplar	6.0	120	1.0	0.0	0.0	Young	Good	Good	10+	С	2	Topped	1.4	-	-
71	G	Lombardy Poplar	17.0	850	4.0	4.0	2.0	Mature	Good	Fair	20+	В	2	-	10.2	-	-



TREE NO	ТҮРЕ	SPECIES	HEIGHT (m)	STEM DIAMETER (mm)	MAXIMUM CROWN SPREAD	ГСН	LBH	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	SUB-CATEGORY	NOTES	RPA RADIUS (m)	STATUTORY STATUS	ENVIRONMENTAL STATUS
73	G	Field Maple; Hawthorn; Oak	7.0	250	1.5	0.0	0.0	Semi- Mature	Good	Good	10+	С	2	-	3.0	-	-
74	G	Apple; Ash	7.0	250	1.5	0.0	0.0	Semi- Mature	Good	Good	10+	С	2	-	3.0	-	-
75	Н	Leyland Cypress	6.0	120	1.0	0.0	0.0	Semi- Mature	Good	Good	10+	С	2	-	1.4	-	-
76	G	Apple; Poplar	10.0	300	3.5	0.0	0.0	Mature	Good	Good	10+	С	2	-	3.6	-	-
77	G	Apple	4.0	150	1.5	1.0	0.0	Mature	Poor	Poor	10+	С	2	-	1.8	-	-
78	н	Sycamore	2.0	75	0.5	0.0	0.0	Semi- Mature	Good	Good	10+	С	2	-	0.9	-	-
81	G	Gleditsia	11.0	400	4.0	0.0	0.0	Mature	Good	Good	10+	С	2	No access; all data estimated	4.8	-	-
82	G	Field Maple; Beech; Hawthorn	8.0	200	3.0	0.0	0.0	Semi- Mature	Good	Good	10+	С	2	-	2.4	-	-



TREE NO	ТҮРЕ	SPECIES	HEIGHT (m)	STEM DIAMETER (mm)	MAXIMUM CROWN SPREAD	ГСН	LBH	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	SUB-CATEGORY	NOTES	RPA RADIUS (m)	STATUTORY STATUS	ENVIRONMENTAL STATUS
83	Н	Blackthorn; Hawthorn; Elder	3.0	150	1.5	0.0	0.0	Mature	Good	Good	10+	С	2	-	0.2	-	-
84	Н	Blackthorn; Hawthorn; Elder	3.0	150	1.5	0.0	0.0	Mature	Good	Good	10+	С	2	-	1.8	-	-
85	G	Hornbeam	12.0	350	6.0	1.0	0.0	Mature	Good	Good	20+	В	2	-	4.2	TPO/BN/1/20 - G37	-
86	G	Leyland Cypress	14.0	300	2.0	0.0	0.0	Mature	Good	Good	10+	С	2	-	3.6	-	-
88	G	Leyland Cypress	16.0	400	5.0	0.0	0.0	Mature	Good	Fair	10+	С	2	No access; all data estimated	4.8	-	-
91	G	Birch; Norway Maple	4.0	200	3.0	0.0	0.0	Semi- Mature	Good	Good	10+	С	2	-	2.4	-	-



TREE NO	ТҮРЕ	SPECIES	HEIGHT (m)	STEM DIAMETER (mm)	MAXIMUM CROWN SPREAD	ГСН	LBH	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	SUB-CATEGORY	NOTES	RPA RADIUS (m)	STATUTORY STATUS	ENVIRONMENTAL STATUS
92	G	Elder; Cherry; Apple; Oak; Hawthorn	8.0	350	3.0	0.0	0.0	Mature	Fair	Fair	10+	С	2	-	4.2	-	-
93	G	Field Maple; Holly; Hawthorn	8.0	230	2.5	0.0	0.0	Semi- Mature	Good	Good	10+	С	2	-	2.8	-	-
95	G	Native Mix	7.0	200	1.5	0.0	0.0	Young	Good	Good	10+	С	2	-	2.4	-	-
96	G	Field Maple, Goat Willow, Willow, Ash, Birch, Hazel	10.0	250	4.0	0.0	0.0	Semi- Mature	Good	Fair	10+	С	2	-	3.0	-	-
97	G	Elder; Cherry; Apple; Oak; Hawthorn	8.0	350	3.0	0.0	0.0	Mature	Fair	Fair	10+	С	2	-	4.2	-	-
97	G	Elder; Cherry; Apple; Oak; Hawthorn	8.0	350	3.0	0.0	0.0	Mature	Fair	Fair	10+	С	2	-	4.2	-	-



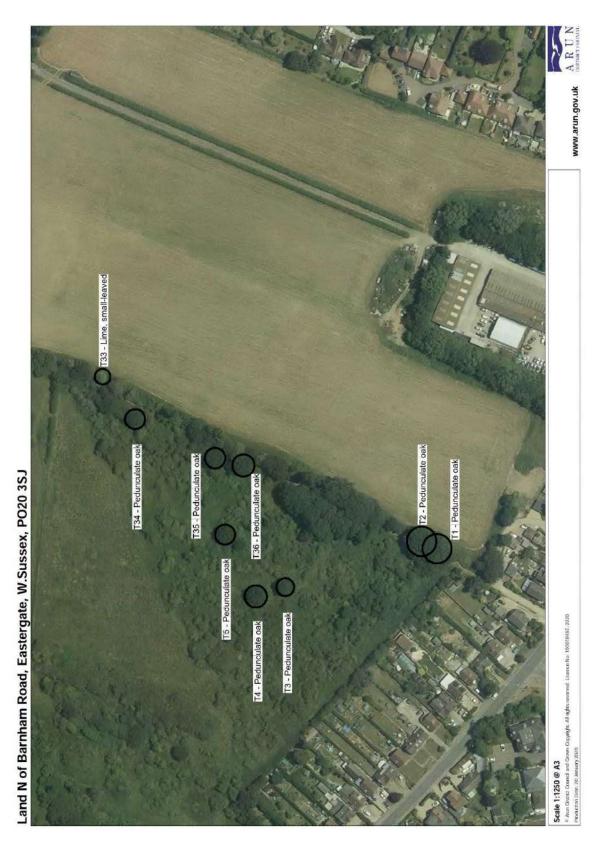
TREE NO	ТҮРЕ	SPECIES	HEIGHT (m)	STEM DIAMETER (mm)	MAXIMUM CROWN SPREAD	ГСН	LBH	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	SUB-CATEGORY	NOTES	RPA RADIUS (m)	STATUTORY STATUS	ENVIRONMENTAL STATUS
98	G	Apple	8.0	350	3.5	0.0	0.0	Mature	Fair	Fair	10+	С	3	-	4.2	-	-
99	G	Apple; Hawthorn; Sycamore; Elder	7.0	300	5.0	0.0	0.0	Mature	Good	Fair	10+	С	3	-	3.6	-	-
100	G	Ash, Field Maple, Oak	5.0	250	3.0	0.0	0.0	Young	Good	Good	10+	С	2	No access; all data estimated	3.0	-	-
104	G	Leyland Cypress	12.0	300	3.0	1.0	0.0	Semi- Mature	Fair	Poor	10+	С	2	-	3.6	-	-
107	G	Apple; Hawthorn; Sycamore; Elder; Ash	8.0	450	5.0	0.0	0.0	Mature	Good	Fair	10+	С	3	-	5.4	-	-

Appendix F

SUPPORTING DOCUMENTATION

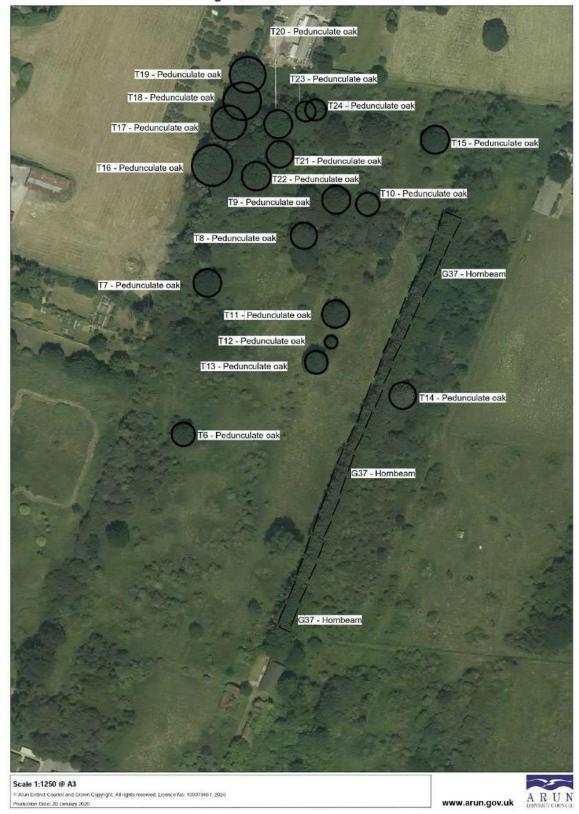
11,

Figure F-1 - TPO/BN/1/20 - Map 1



vsp

Figure F-2 - TPO/BN/1/20 - Map 2



Land N of Barnham Road, Eastergate, W.Sussex, PO20 3SJ

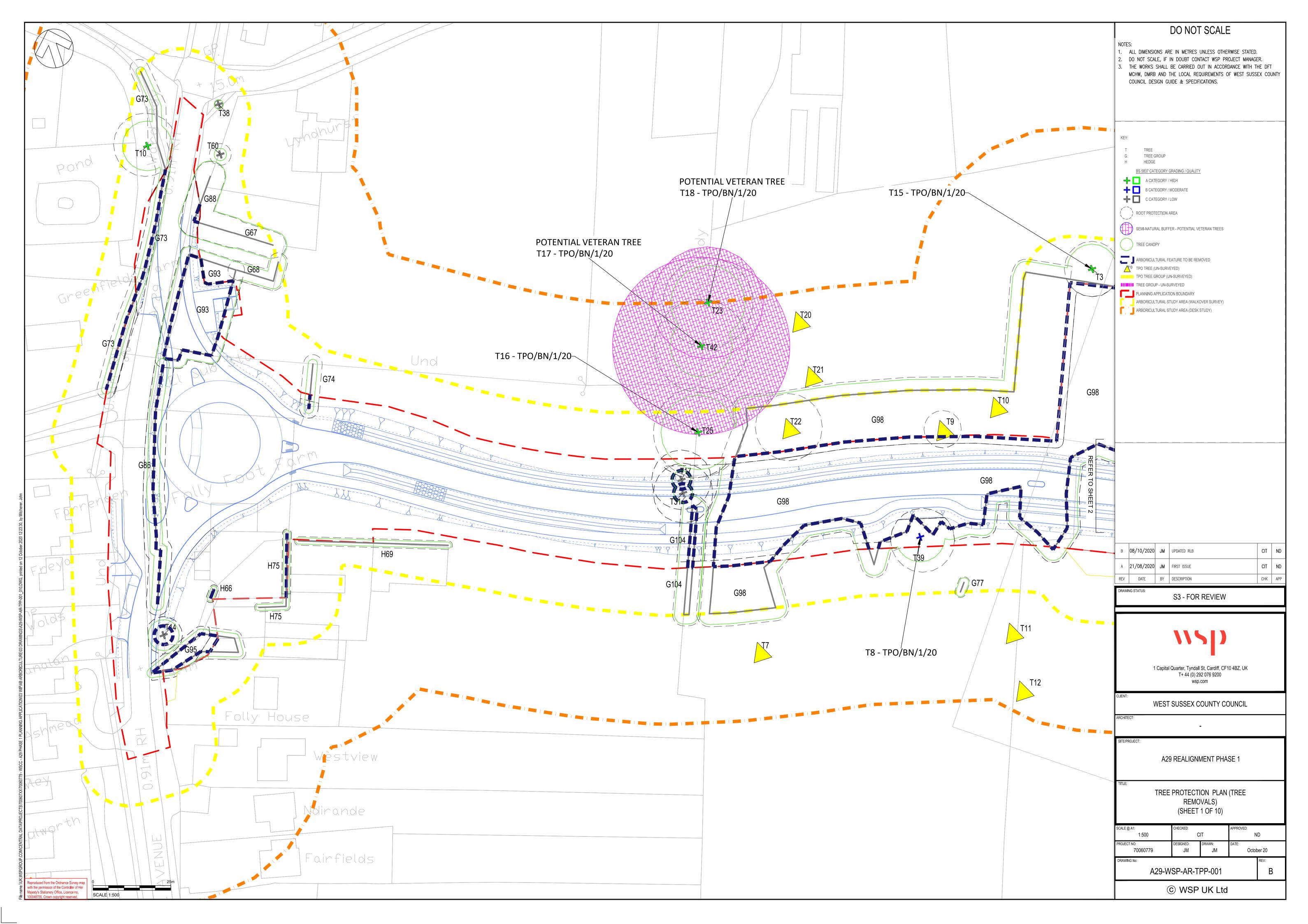
Figure F-3 - TPO/BN/1/20 - Map 3

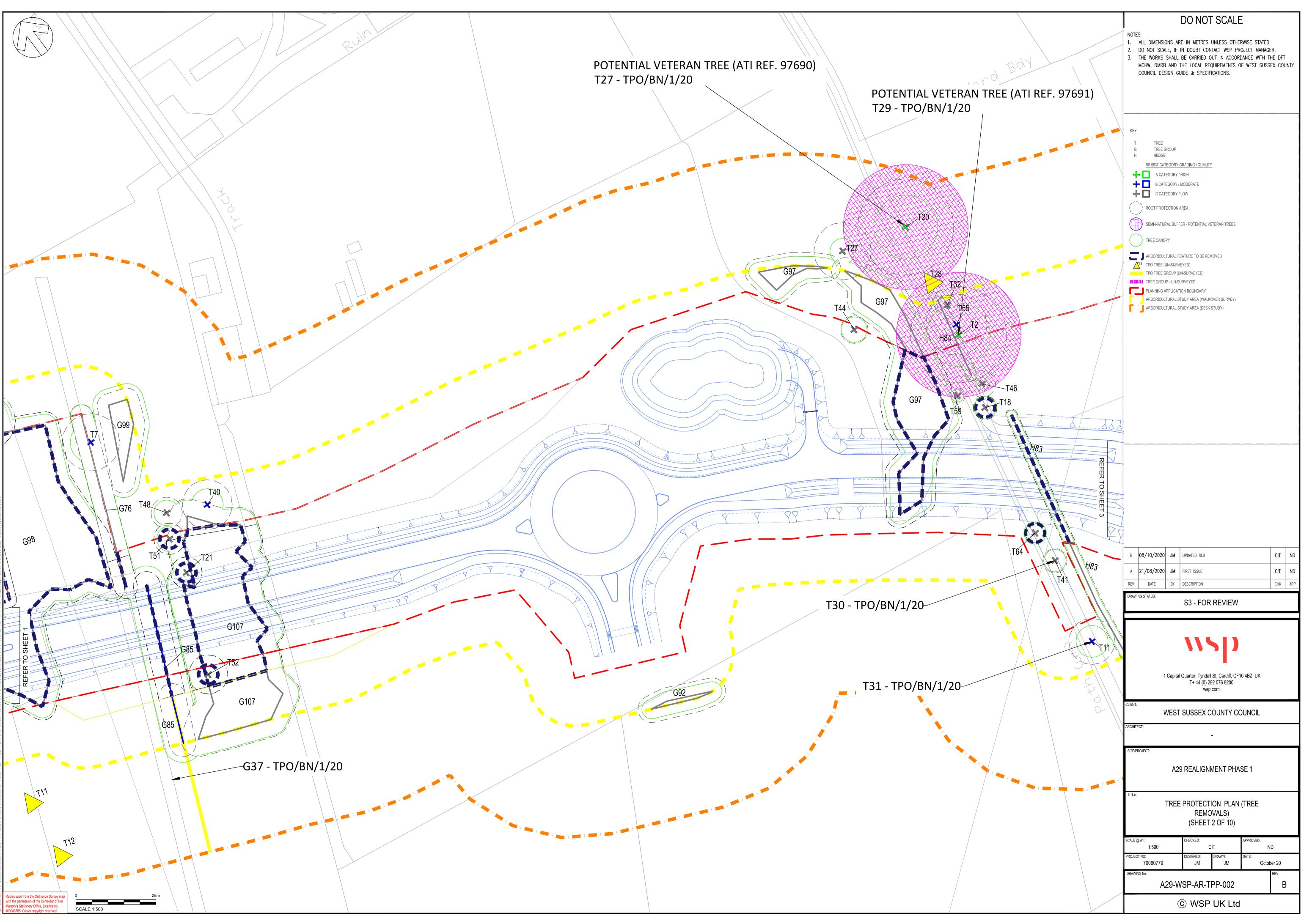
Land N of Barnham Road, Eastergate, W.Sussex, PO20 3SJ



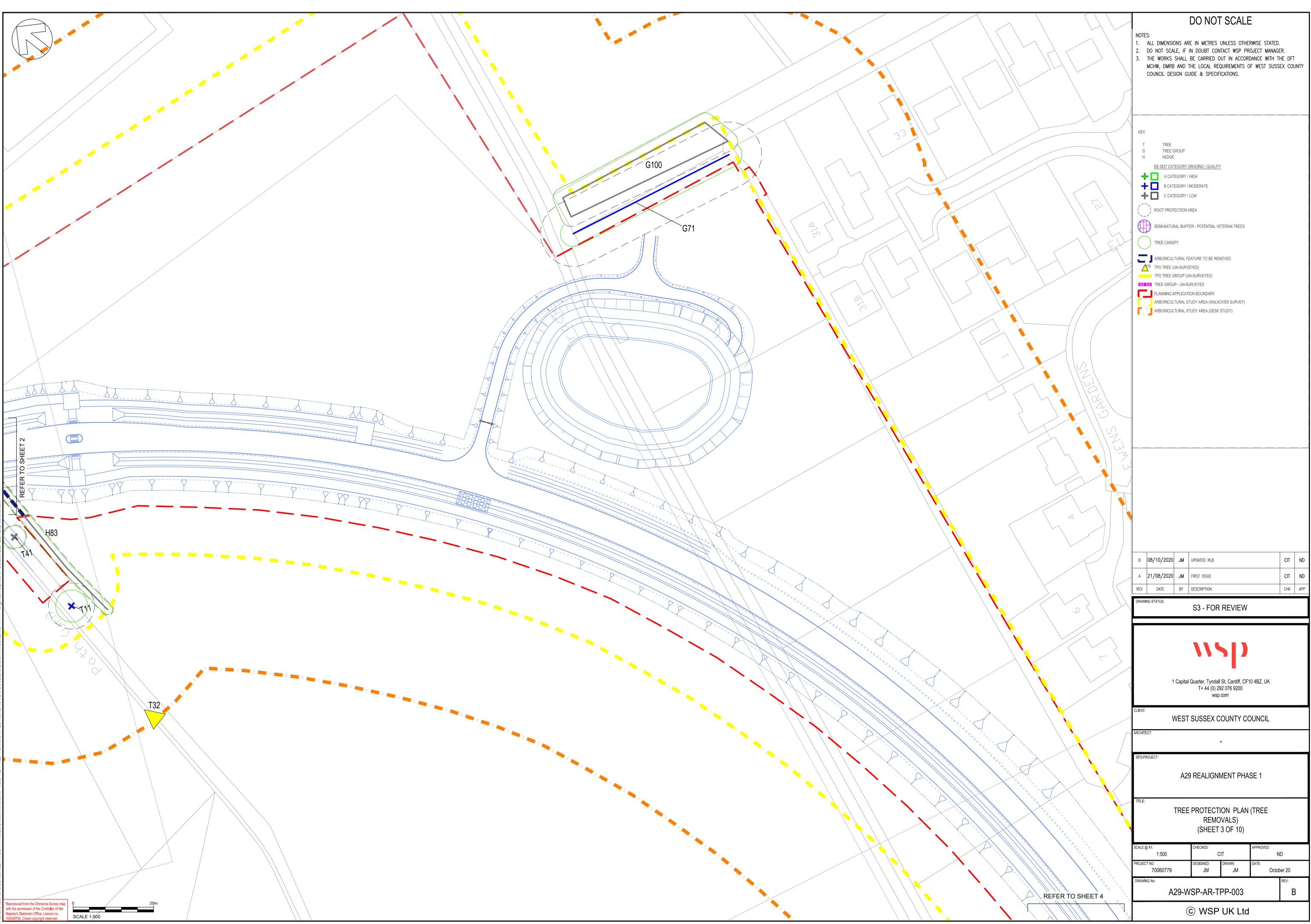
Appendix G

TREE PROTECTION PLANS

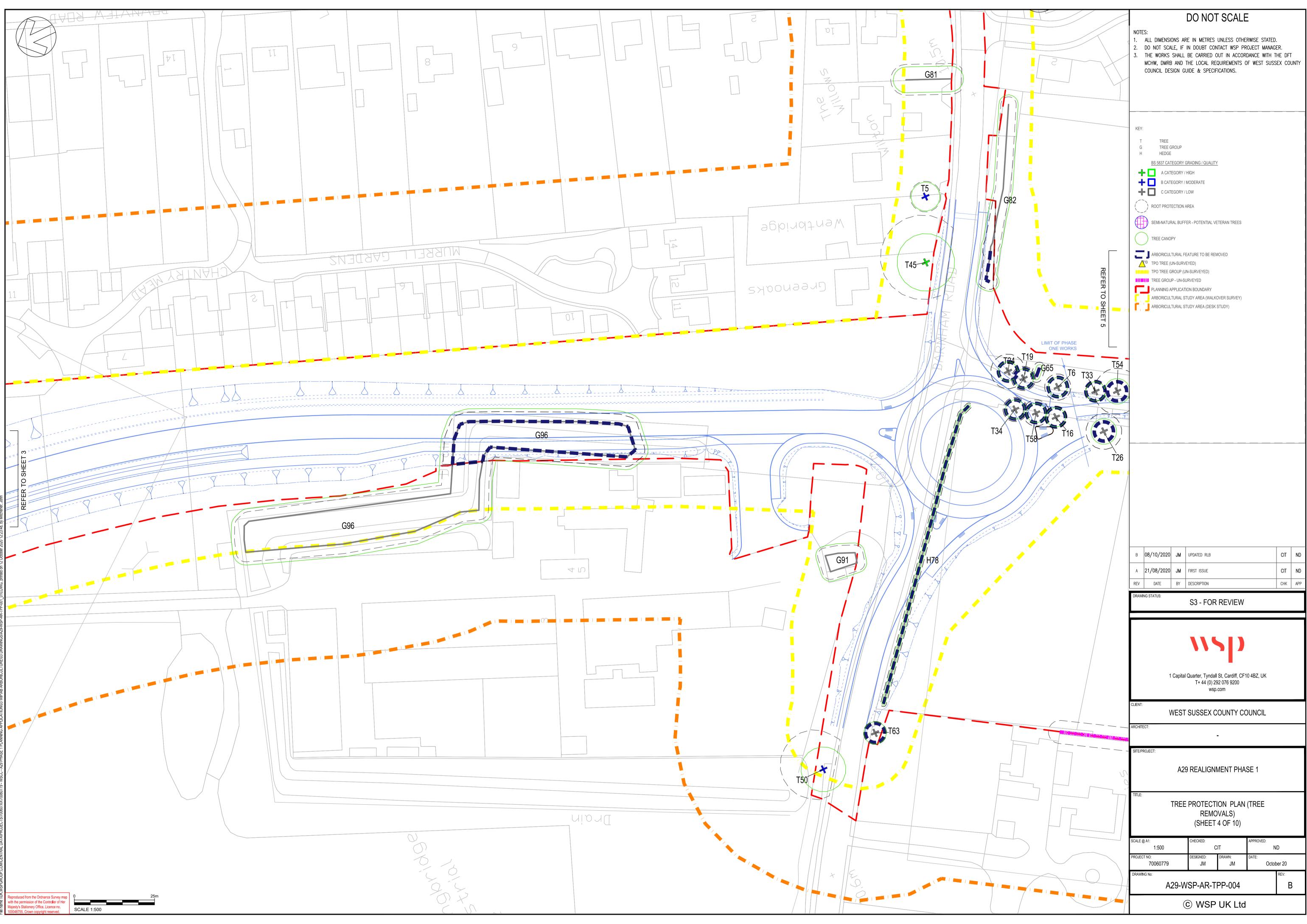


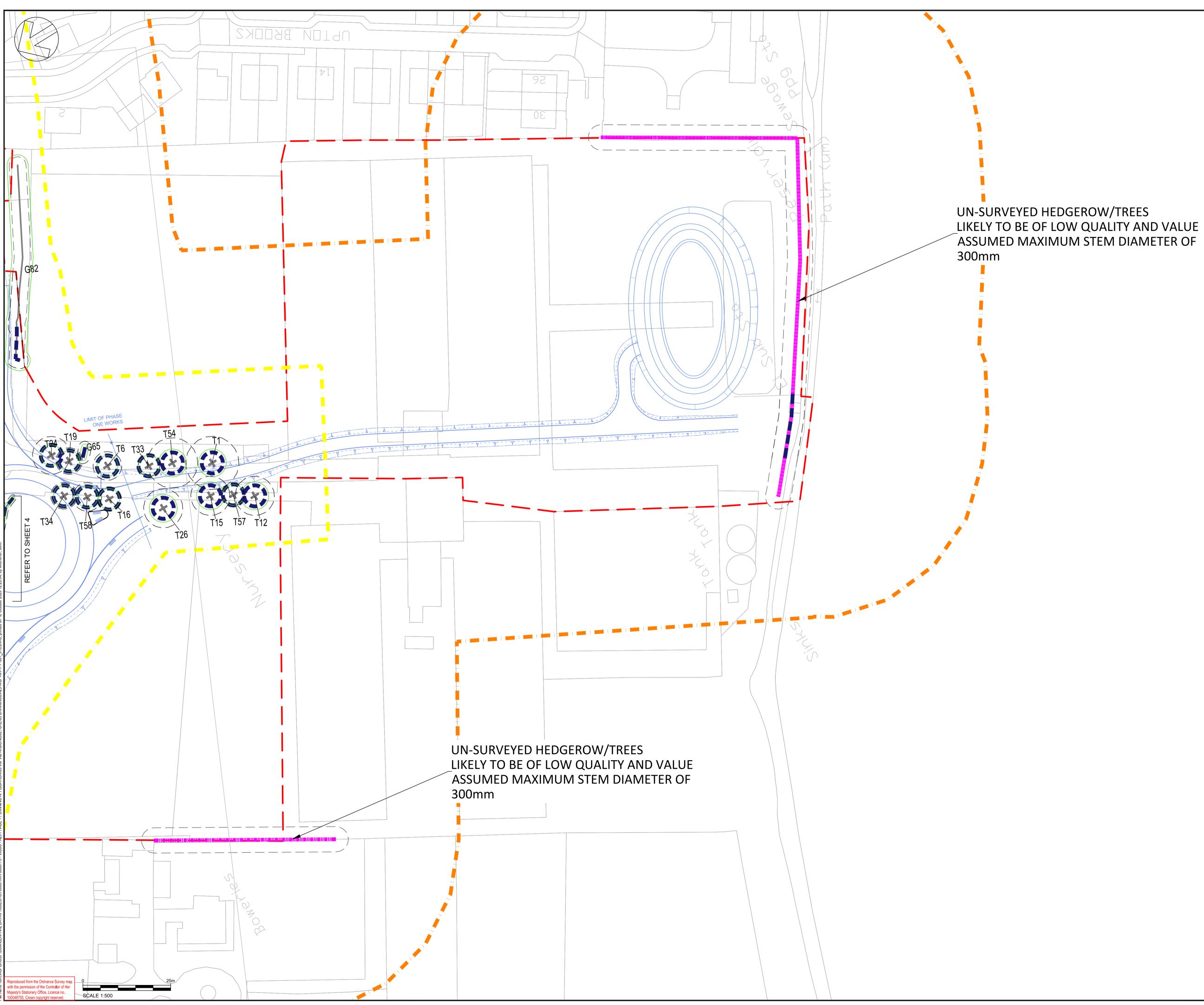


File name (UK.WSPGROUP.COM/CENTRAL DATA/PROJECTS/700607X3/70060779 - WSCC - A29 PHASE 1 PLANNING APPLICATION/03 WIPAB ARBORICULTURE/03 DRAWINGS/A29-WSP-AR-TPP-001_010.DWG, printed on 12 October 2020 12:23:37, by Mitche

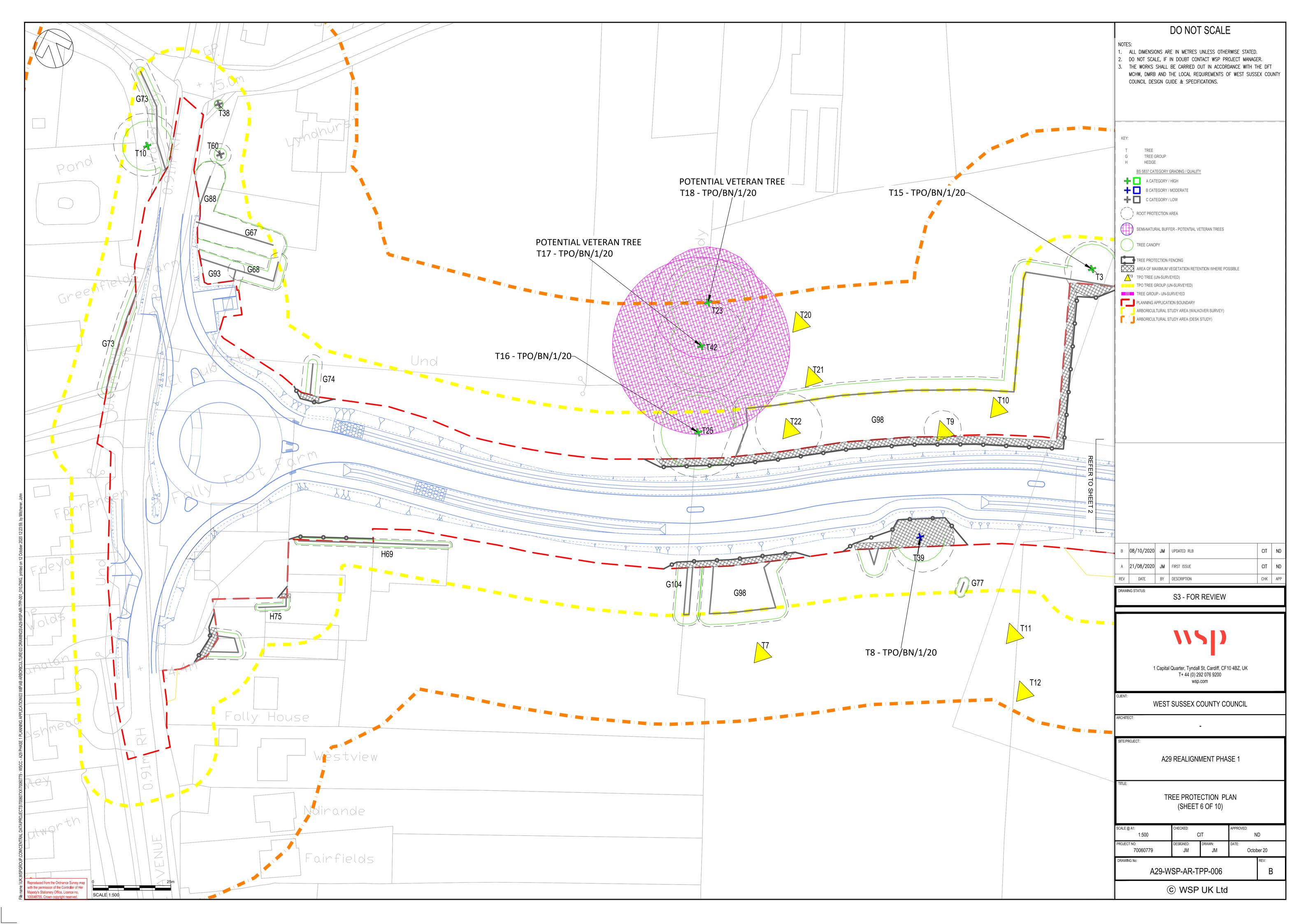


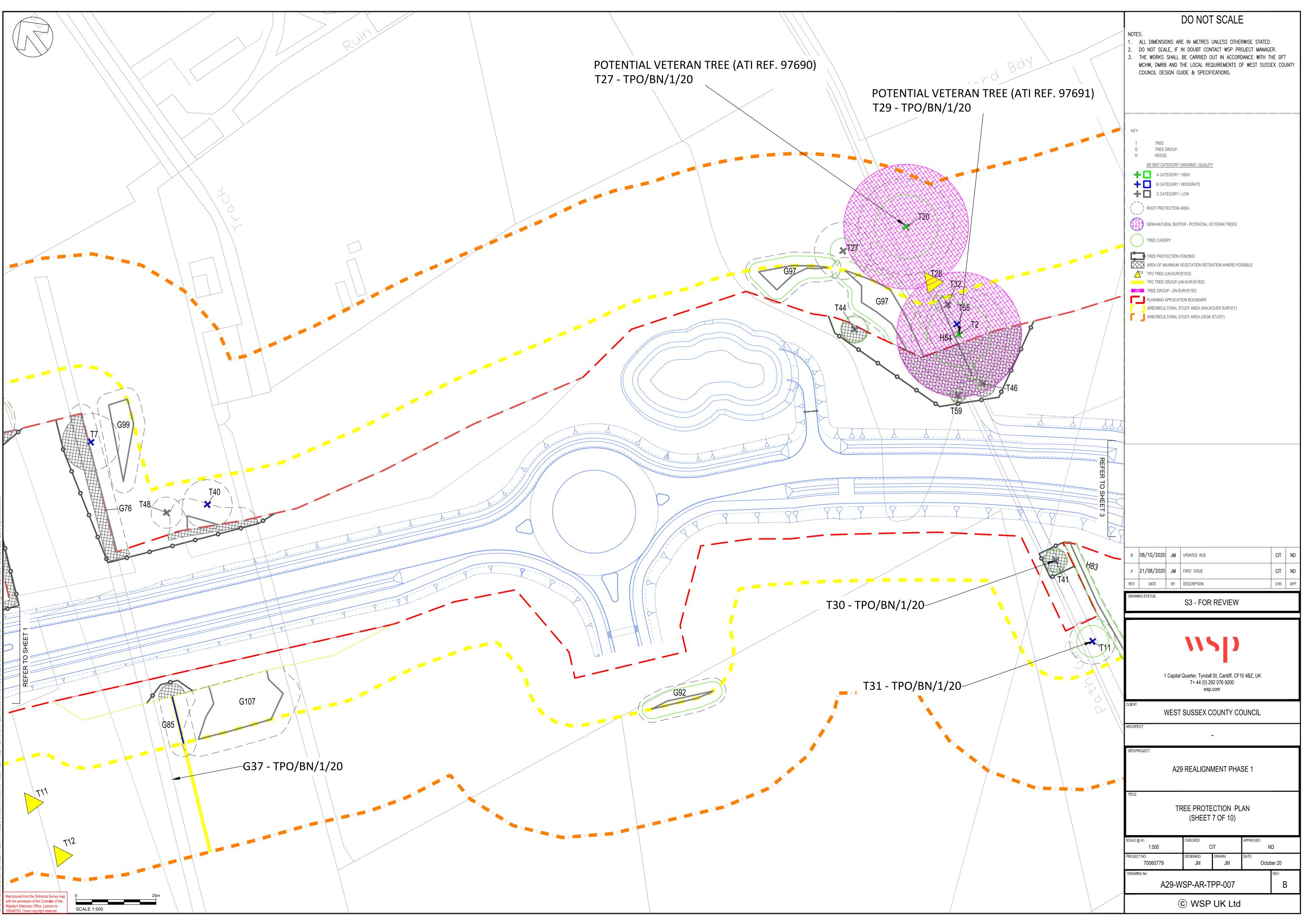
File name (UK.WSPGROUP.COMICENTRAL DATAIPROJECTS/70060779 - WSCC - A29 PHASE 1 PLANNING APPLICATIONI03 WIP/AB ARBORICULTUREI03 DRAWINGS/A29-WSP-AR-TPP-001_010.DWG, printed on 12 October 2020 12:23:42, by Mitchener, John



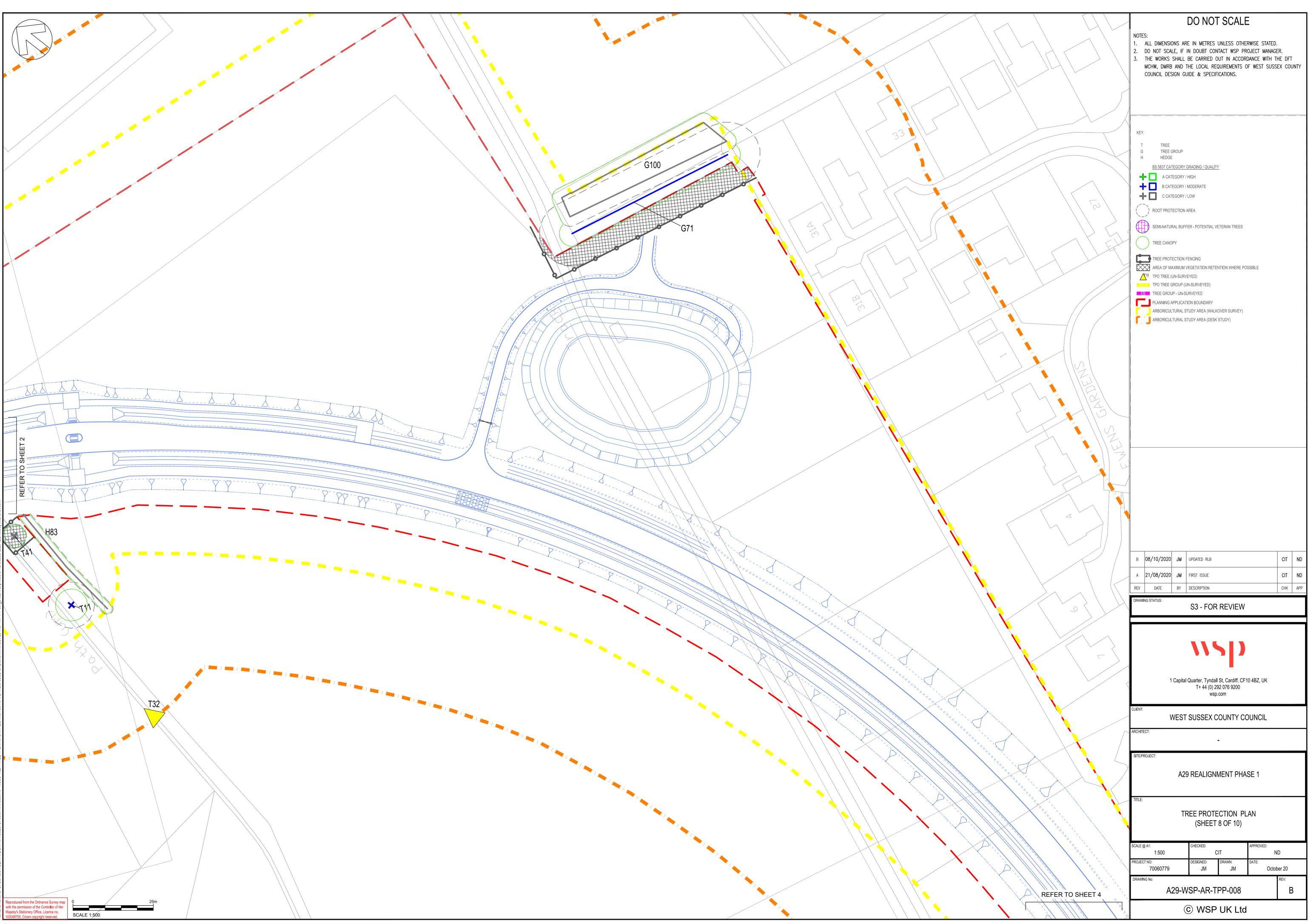


DO NOT SCALE					
 NOTES: ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED. DO NOT SCALE, IF IN DOUBT CONTACT WSP PROJECT MANAGER. THE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE DFT MCHW, DMRB AND THE LOCAL REQUIREMENTS OF WEST SUSSEX COUNTY COUNCIL DESIGN GUIDE & SPECIFICATIONS. 					
KEY: T TREE GOUP H HEOGE BS337 CATEGORY (RADING / OUALITY A CATEGORY / HGH C CATEGORY / MODERATE C CATEGORY / LOW C CATEGORY C CAT					
B 08/10/2020 JM UPDATED RLB CIT ND					
A 21/08/2020 JM FIRST ISSUE CIT ND REV DATE BY DESCRIPTION CHK APP					
DRAWING STATUS: S3 - FOR REVIEW					
1 Capital Quarter, Tyndall St, Cardiff, CF10 4BZ, UK T+ 44 (0) 292 076 9200 wsp.com					
ARCHITECT: - SITE/PROJECT:					
A29 REALIGNMENT PHASE 1					
TITLE: TREE PROTECTION PLAN (TREE REMOVALS) (SHEET 5 OF 10)					
SCALE @ A1: CHECKED: APPROVED: 1:500 CIT ND					
PROJECT NO: DESIGNED: DRAWN: DATE: 70060779 JM JM October 20					
DRAWING NO: REV: A29-WSP-AR-TPP-005 B					
© WSP UK Ltd					

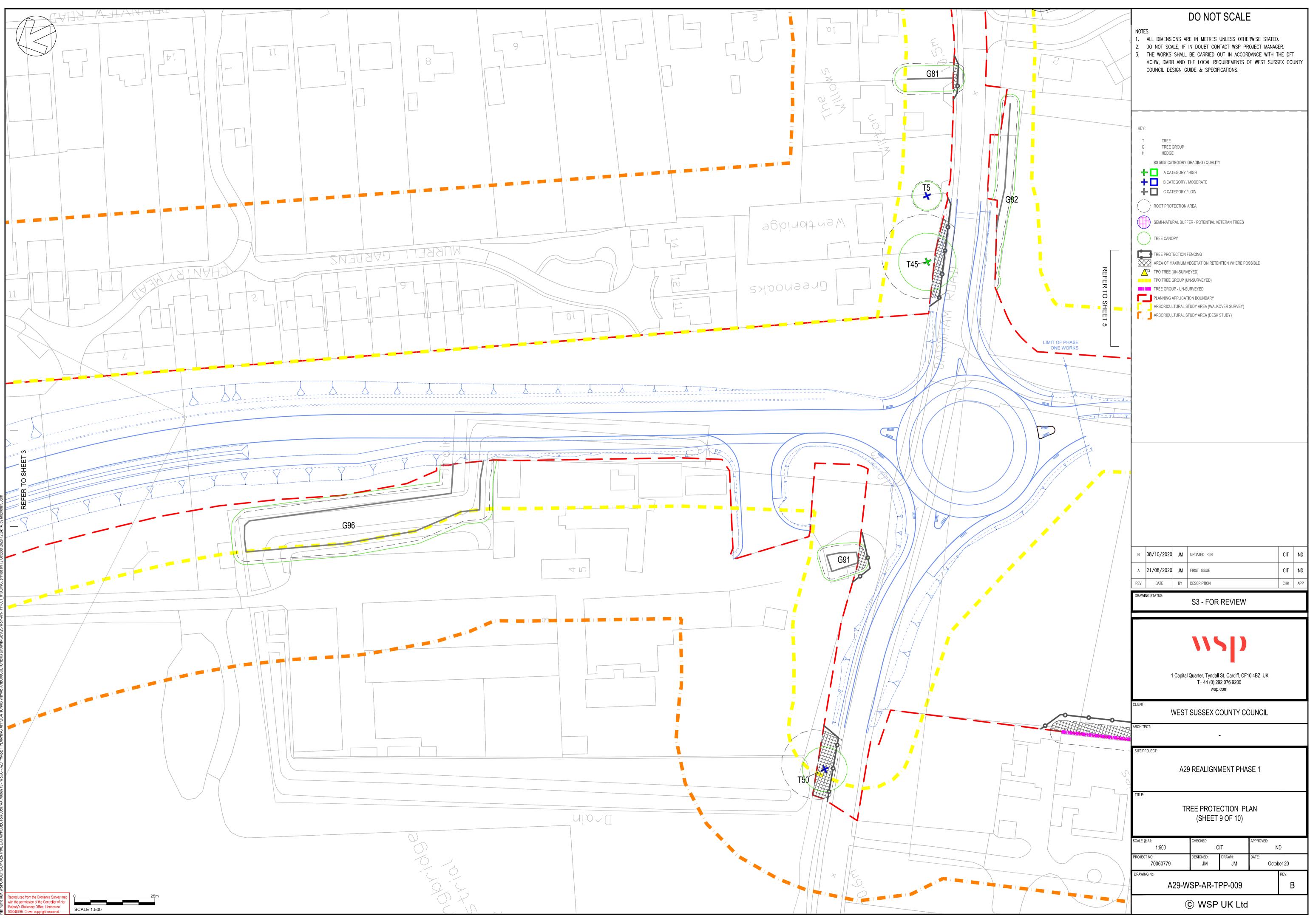


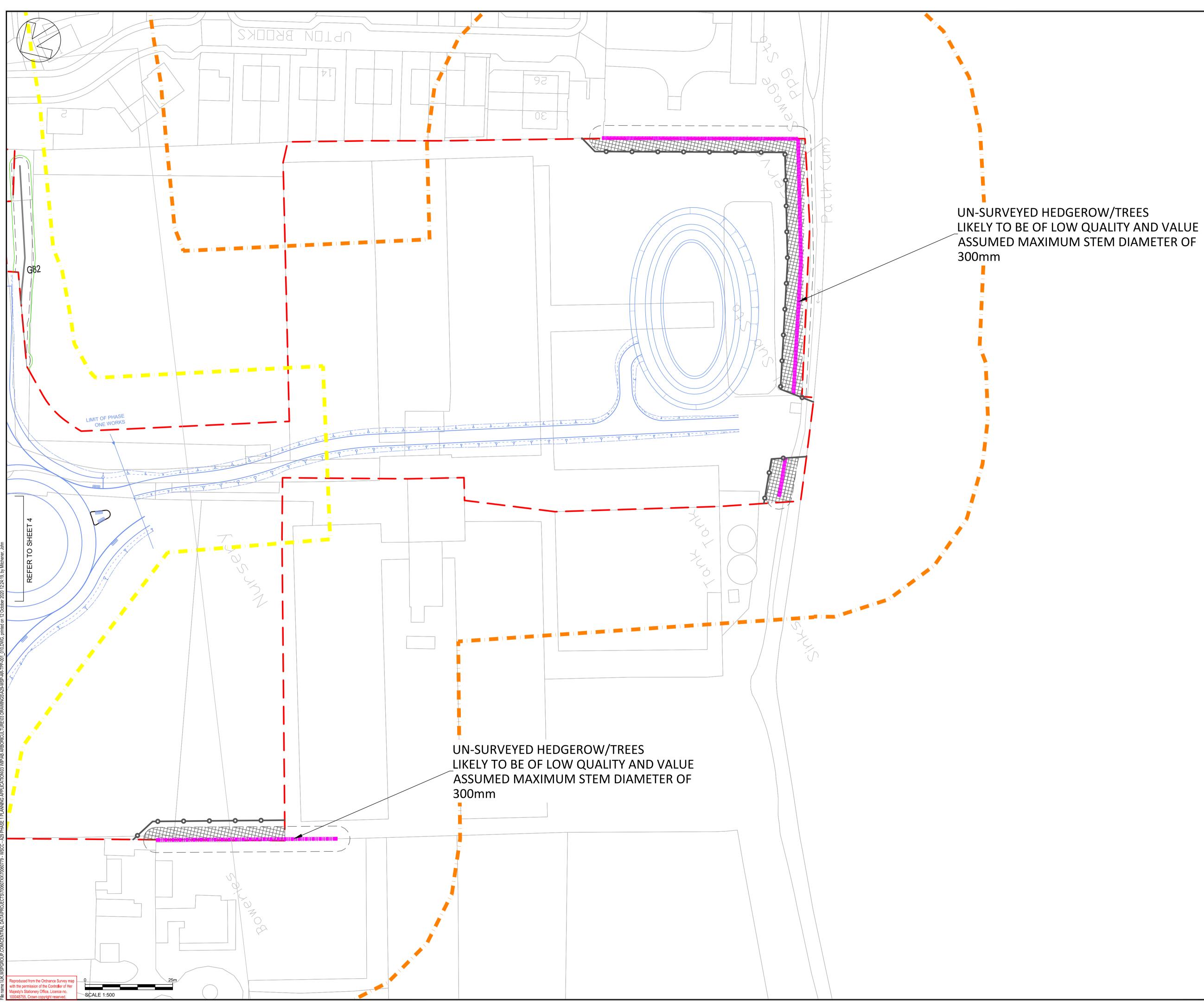


File name (UK WSPGROUP.COM/CENTRAL DATA/PROJECTS)700607XX70060779 - WSCC - A29 PHASE 1 PLANNING APPLICATION/03 WIP/AB ARBORICULTURE/03 DRAWINGS/A29-WSP-AR-TPP-001_010.DWG, printed on 12 October 2020 12:24:04, by Mitchener,



File name (UK.WSPGROUP.COMICENTRAL DATA/PROJECTS/700607X8/70060779 - WSCC - A29 PHASE 1 PLANNING APPLICATION/03 WIP/AB ARBORICULTURE/03 DRAWINGS/A29-WSP-AR-TPP-001_010.DWG, printed on 12 October 2020 12:24:09, by Mitchener, John





DO NOT SCALE					
 NOTES: ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED. DO NOT SCALE, IF IN DOUBT CONTACT WSP PROJECT MANAGER. THE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE DFT MCHW, DMRB AND THE LOCAL REQUIREMENTS OF WEST SUSSEX COUNTY COUNCIL DESIGN GUIDE & SPECIFICATIONS. 					
KEY: T REE GROUP B CATEGORY (MGH C CATEGORY (MGH C CATEGORY (MGH C CATEGORY (MGH C CATEGORY (MGH C CATEGORY (MODERATE C CATEGORY (LOW C CATEGORY C CATEGORY					
в 08/10/2020 JM	UPDATED RLB		CIT	ND	
, ,	FIRST ISSUE		CIT	ND	
REV DATE BY DRAWING STATUS:	DESCRIPTION		СНК	APP	
S3 - FOR REVIEW					
1 Capital Quarter, Tyndall St, Cardiff, CF10 4BZ, UK T+ 44 (0) 292 076 9200					
wsp.com CLIENT: WEST SUSSEX COUNTY COUNCIL					
ARCHITECT:					
SITE/PROJECT: A29 REALIGNMENT PHASE 1					
TITLE: TREE PROTECTION PLAN (SHEET 10 OF 10)					
scale @ A1: 1:500	CHECKED: CIT	APPROVED:	D		
PROJECT NO: 70060779	designed: drawn: JM JM	DATE: Octob	ber 20		
DRAWING NO:	SP-AR-TPP-010	_	^{REV:}		
© WSP UK Ltd					

wsp

1 Capital Quarter Tyndall Street Cardiff CF10 4BZ

wsp.com



Appendix E

Landscape Management & Maintenance Plan

vsp

10.4 LANDSCAPE MANAGEMENT AND MAINTENANCE PLAN



West Sussex County Council

A29 REALIGNMENT

Landscape Management & Maintenance Plan



vsp

West Sussex County Council

A29 REALIGNMENT

Landscape Management & Maintenance Plan

TYPE OF DOCUMENT (VERSION) RESTRICTED

PROJECT NO. 70060779

DATE: AUGUST 2020

WSP

Kings Orchard 1 Queen Street Bristol BS2 0HQ Phone: +44 117 930 6200

WSP.com