

Arboricultural Impact Assessment

Land at North End Road
Yapton
West Sussex

2nd November 2020

PJC ref: 5593/20-01 Rev 01

This report has been prepared by

PJC Consultancy Ltd

on behalf of

Dandara Ltd

**Prepared
by**

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Peter has a Foundation Degree in Arboriculture from the University of Brighton and is a professional member of the Arboricultural Association. He has over ten years experience in the arboricultural industry, originally working as a groundsman and feller, and progressing into consultancy. He is a Lantra accredited professional tree inspector.

**Checked
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Luke White FdSc Arboriculture M.Arbor.A

Luke is an arboriculturist with over six years experience working within the arboricultural and forestry industry with the latter four years working within consultancy. He gained a foundation degree in arboriculture with distinction from the University of Brighton in 2012 and is a professional member of the Arboricultural Association.

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1 EXECUTIVE SUMMARY

1.1 This report should be read in conjunction with arboricultural survey ref. PJC/5401/19-01 and arboricultural method statement ref PJC/5593/20-02.

1.2 **Site location:** The site is situated on the west side of North End Road, broadly opposite the junction with Church Lane. It has a central national grid reference of SU 97665 03669. The surrounding land use is comprised of farmland to the north, west and south, and residential properties on North End Road and The Croft to the east. The site surrounds Yapton CE Primary School, which also fronts onto North End Road. The location of the site within its environs is shown in figure 1.



Figure 1: Location of Site and Environs (Map data: © 2020 Google)

1.3 **Proposal:** Two extant outline planning permissions (Y/44/17/OUT and Y/88/18/OUT) for residential development exist on this site. Reserved matters planning applications for both areas are now to be submitted to the local planning authority for consideration. As both areas are connecting, this arboricultural impact assesses the overall impact of both developments.

1.4 **Tree removals:** Trees G1, T2, T3, T4, H5 (part only), T9, T15, T16, T20, T26, T27, T28, T31, T32 and T33 will require removal to facilitate the proposed developments.

1.5 **Access facilitation pruning:** Trees G8, T12, T13, T14, T18, T21, T24 and T25 are anticipated to require access facilitation pruning to enable the proposed developments.

1.6 Works within root protection areas: New hard standing for vehicular access will be constructed within the root protection area of T6, whilst a new hard standing footpaths will be constructed within the root protection areas of T10, T11, T12, T13, T14, T18, T21, T23, T24 and T25. Sympathetic construction methodology will need to be implemented to protect these trees. Additionally, a building footing will be constructed within the root protection area of T29 and below ground storm cells will also partially encroach the root protection area of T21.

2 INTRODUCTION

2.1 Instruction: PJC Consultancy has been instructed by Dandara Ltd to provide an arboricultural impact assessment in accordance with BS5837: 2012 '*Trees in relation to design, demolition and construction – Recommendations*' for the proposed residential developments at land adjacent to North End Road in Yapton.

2.2 Objectives of report: This report has been undertaken with the following objectives:

- To identify the tree removals and pruning works that will be required as a result of the proposed development and to assess the impact of the tree works.
- To assess the potential impact the proposed construction works will have on retained trees and provide recommendations for mitigation measures to reduce the impact on the trees.
- To assess the post development relationship between trees and the proposed development.

2.3 Scope of this report: This report is concerned with all significant trees and arboricultural features located within the site boundary. Additionally, trees located around the curtilage of the site have also been assessed when they are considered likely to have the potential to impact on the development in relation to root and crown protection or foundation design.

2.4 Contents of report: This report includes the following:

- A schedule of trees to be retained/removed.
- A schedule of access facilitation pruning required for the development.
- An assessment of the impact construction works will have on retained trees and mitigation measures to be implemented.
- An assessment of post development pressures on trees.
- Tree Constraints Plan.
- Tree Retention Plan.
- Tree Survey Schedule including management recommendations related directly to the proposed development.

2.5 Documents and information provided: The following documents were used to aid the preparation of this report:

- Drawing ref. 26714 – Topographical Survey (MK Surveys)
- Drawing ref. 102-38_PL-01 Rev B – Planning Layout (38 Unit Scheme)
- Drawing ref. 102-70_PL-01 Rev B – Planning Layout (70 Unit Scheme)
- Drawing ref. YAP-130-81 – Drainage Layout (Odyssey, September 2020)

2.6 Limitations of report: The following arboricultural impact assessment has been prepared for the proposal stated in paragraph 1.3 and using the plans and information listed in paragraph 2.5. The report should not be relied upon if the stated proposal or proposed design changes unless the author confirms the changes do not have a bearing on the arboricultural impacts or recommended mitigation measures.

3 ARBORICULTURAL IMPACT ASSESSMENT

3.1 Tree removals: Trees to be removed for the proposed developments are shown with dashed outlines on the Tree Retention Plan in Appendix 2 and are shaded to indicate their BS5837 tree category. These comprise G1, T2, T3, T4, H5 (part only), T9, T15, T16, T20, T26, T27, T28, T31, T32 and T33. A summary of the tree removals is shown below.

Table 1: Tree removals summary

Tree number	Species	Category	Justification for tree removal
G1	Elm	C1	G1 conflicts with the dwelling in plot 1 (38 unit scheme) and the new visibility splay. These are small trees with limited predicted longevity.
T2	Hawthorn	C1+2	A new wall shall be constructed across the root protection area of T2, close to the stem.
T3	Sycamore	U	A new wall shall be constructed across a large portion of the root protection area of T3 at a tangent. This is a poor quality specimen recommended for removal regardless of the proposed development.
T4	Hawthorn	C1	A new wall shall be constructed across the root protection area of T4, close to the stem.
H5	Leyland cypress	C2	Part of this hedgerow will be removed to enable construction of a garden wall.
T9	Hawthorn	U	T9 is located very close to the proposed dwelling in plot 25 (38 unit scheme) and is already exhibiting extensive crown dieback.
T15	Hawthorn	U	T15 is located very close to the new footpath on the north-west site boundary and has significant basal decay.
T16	Hawthorn	C1	There would be no suitable way to prune T16 in a manner that would enable construction of the footpath on the north-west site boundary.
T20	Lime	B1	The new storm cells significantly encroach the root protection area of T20 and would potentially render the tree unstable adjacent to the proposed footpath. Rather than completely removing this tree, T20 may be coppiced.
T26	Ash	C2	T26 requires removal to create garden space for plot 22 (70 unit scheme).
T27	Ash	B2	T27 requires removal to create garden space for plot 22 (70 unit scheme).
T28	Hawthorn	C1+2	There would be no suitable way to prune T28 in a manner that would enable construction of the footpath on the north-west site boundary.
T31	Horse chestnut	B1	T31 directly conflicts with the main residential road and cannot be accommodated in the centre of the development.
T32	Horse chestnut	C1	T32 conflicts with a new pavement. This is a small specimen of no significance to the wider landscape,

Tree number	Species	Category	Justification for tree removal
T33	Lime	B1	T33 directly conflicts with the dwelling in plot 63 and cannot be accommodated within the development.

3.2 Mitigation planting: The site offers ample opportunity for both replacement and additional tree planting during the soft landscaping phase of development. The detailed soft landscape proposals for the proposed development are to be confirmed on the date of this report however the proposed layout indicates buffer planting on the site boundaries, which should have adequate space to accommodate new trees.

3.3 Access facilitation pruning: Trees expected to require access facilitation pruning to enable the proposed development (based on the information currently available) comprise G8, T12, T13, T14, T18, T21, T24 and T25. A summary of access facilitation pruning is shown below.

Table 2: Summary of access facilitation pruning

Tree number	Species	Works required	Reason for works
G8	Leyland cypress	Crown lift to 2m on site boundary	To enable construction of a new boundary garden fence.
T12	Blackthorn	Reduce crown to edge of new footpath.	To enable free access along the footpath.
T13	Hawthorn	Crown lift to 2m over new footpath.	To enable free access along the footpath.
T14	Hawthorn	Crown lift to 2m over new footpath.	To enable free access along the footpath.
T18	Field maple	Crown lift to 2m over new footpath.	To enable free access along the footpath.
T21	Hornbeam	Crown lift to 2.5m over new footpath.	To create space to instal storm cells and enable free access along footpath.
T24	Ash	Crown lift to 2m over new footpath.	To enable free access along the footpath.
T25	Ash	Crown lift to 2m over new footpath.	To enable free access along the footpath.

3.4 Based on the information currently available, it is anticipated that the crowns of all remaining retained trees will be located a sufficient distance from proposed construction activities and expected construction access routes so as not to require access facilitation pruning.

3.5 The above specifications for access facilitation pruning along with any additional requirements for pruning that cannot be predicted at this stage in the design process (e.g. for contractor compound or movement of large or specialist plant machinery) shall be discussed at the pre-commencement meeting with the project arboriculturist and agreed with the local authority arboricultural officer.

3.6 Additional tree works: In addition to the above access facilitation pruning, tree works not directly required to enable the proposed construction works, but recommended on grounds of sound arboricultural management are recommended for trees T10, T11, T24, T29 and T36. These works are listed in the management recommendation column of the Tree Survey Schedule.

3.7 The tree works contractors should carry out all tree works to BS3998: 2010 '*Tree works – recommendations*', as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance. It is also recommended that all tree works are carried out by an Arboricultural Association approved contractor. Approved contractors are expected to work to industry best standards, and the Arboricultural Association website (www.trees.org.uk) contains contact details and information on engaging a suitable contractor.

3.8 Hard standing in proximity to trees: A new road and driveway will encroach the root protection area of T6 in the area hatched purple on the Tree Retention Plan. Additionally, new hard standing footpaths will encroach the root protection areas of T10, T11, T12, T13, T14, T18, T21, T23, T24 and T25, in the areas also hatched purple.

3.9 Where hard standing is constructed within the root protection areas of retained trees, an engineered solution is required to mitigate harm to the roots and the viability of the rooting medium. The design of the hard standing should therefore result in the following three outcomes:

1. The hard standing should be constructed without the need to sever or prune shallow roots (most tree roots are usually found near to the surface).
2. Compaction of the underlying soil should be avoided both during the construction period and post development.
3. The hard standing should not significantly inhibit moisture ingress and gaseous diffusion into or out of the soil.

3.10 The detailed specification (including levels) for the new hard standing to be constructed within root protection areas shall be provided by an engineer but must be signed off by the project arboriculturist before implementation to ensure the roots and rooting medium are adequately protected. To achieve the three outcomes described above, design for hard standing within root protection areas must adhere to the following basic specification (see also Appendix 4):

- Within the root protection areas, the hard standing shall be constructed directly onto the existing ground level without soil stripping. The surface vegetation (e.g. grass sward) shall be carefully removed using hand tools but the underlying soil must be fully retained and protected. If necessary, a layer of sharp sand (or other inert granular fill) may be used to fill divots to create a level surface onto which the hard standing can be constructed.
- The hard standing must be constructed onto a three-dimensional cellular confinement system (such as CellWeb TRP or equivalent product signed off by the project arboriculturist) filled with no-fines angular stone. This will provide a permeable base for the surfaces that will spread loads to reduce compaction of the soil beneath (compacting the rooting medium will have a significant detrimental impact on root function and the health of surrounding trees).

- CellWeb TRP is available from 75mm–200mm depth, depending on the soil conditions and the load it is designed to support. Further guidance should be sought from the geocell manufacturer when specifying the detailed surface design. In some cases it may be necessary to lay additional sub-base beneath the cellular confinement system, however this must also be permeable and laid onto the existing ground level.
- The cellular confinement system shall be installed directly onto a geotextile membrane (such as a TreeTex® 300). A second membrane shall be installed above the cellular confinement system as well. These membranes will prevent soil, construction debris and other materials migrating through the cellular confinement system, which would otherwise impact on the porosity of the completed surfaces. The membranes should also help filter pollutants from vehicles leeching into the rooting medium.
- The wearing course for the new surfaces must be permeable (loose gravel, resin bound gravel, porous asphalt or permeable block paving) to allow continued moisture ingress and gaseous diffusion with the rooting medium.
- Although a three-dimensional cellular confinement system should not in itself require edge supports, edge restraints may be needed for the wearing course. Standard kerb stones set in concrete haunches that are usually dug into the ground will not be suitable for use within root protection areas due to the likely damage to shallow tree roots. As an alternative, one of the following edging types may be used:
 1. Treated timber, peg and board edging.
 2. Proprietary metal or plastic edging strips.
 3. Railway sleepers affixed to the ground.
 4. Standard concrete kerbs on concrete-filled geocells (this method is only suitable if the concrete-filled geocells are installed above the existing ground level).
 5. Small concrete kerbs set in concrete (above existing ground level) and potentially also pegged into place.

3.11 Building footings in proximity to trees: The dwelling in plot 30 (70 unit scheme) encroaches the root protection area of T29 in the area hatched pink on the Tree Retention Plan. This equates to approximately 3.6% of the total root protection area based on the approximated tree position. T29 is of poor condition and has been awarded category U due to its limited predicted longevity. The relatively minor encroachment of the building footing is not expected to have a notable detrimental impact on the tree in addition to existing defects. As a third-party tree it will still be necessary to retain T29 and excavate the footings as described in the arboricultural method statement.

3.12 All other proposed dwellings in both schemes will be located outside the root protection areas of retained trees, therefore use of specialist foundations for root protection is not deemed necessary.

3.13 NHBC guidelines on foundation depth in proximity to trees should be followed. This will be determined by a structural engineer and should be guided by information in this report as well as appropriate sampling to determine soil profiles at the site.

3.14 Services: The proposed drainage layout for both schemes are shown on the Tree Retention Plan. The current drainage layout includes the installation of a large area of structural storm cells below the public open space in the centre of the site, some of which will encroach the root protection area of T21 in the area hatched pink on the Tree Retention Plan. It can be assumed that the majority of roots (usually found in the top 600mm of soil) will be lost within this area, which equates to approximately 11.9% of the total root protection area. Although this will likely have a detrimental impact on the tree, it is recommended that the tree is retained and monitored rather than felled. The excavation must occur as described in the arboricultural method statement.

3.15 Details of the routing of non-drainage services (e.g. gas, electric, telecoms, clean water) for the proposed development are not currently available. These should be located outside the root protection areas of retained trees. Sympathetic methodology to enable the installation of services within root protection areas (in certain instances) is available, however there will always be a potential arboricultural impact and arboricultural advice must be sought regarding the suitability of these methods before they are relied upon. If it is achievable, root protection areas should always be completely avoided.

3.16 Once details of the routing of new services become available, prior to commencement, these shall be reviewed by the project arboriculturist. The arboriculturist shall then confirm either that no works will be carried out within root protection areas or provide details of the methodology required to ensure the works are carried out in accordance with NJUG4 '*Guidelines for the planning, installation and maintenance of utilities in proximity to trees*' and BS5837: 2012.

3.17 Vulnerability of trees during construction period: Construction activities can cause compaction or contamination of the rooting medium, which can have a significant detrimental impact on root function and the health of trees. Additionally, construction activities can result in damage to the above ground parts of trees that are not sufficiently segregated from the works area. It is therefore important to implement a tree protection strategy during the construction period. This strategy is described in the arboricultural method statement and on the accompanying tree protection plan. The purpose of the tree protection strategy is as follows:

- To protect the above ground parts of the trees from physical damage such as contact with plant machinery by segregating them from the works area.
- To prevent compaction of the soil within root protection areas resulting from activities such as the movement of plant machinery or the storage of construction materials.
- To prevent contamination of the rooting medium resulting from the storage and handling of harmful chemicals such as cement/cement washings, builders sand or fuel within root protection areas.
- To specify sympathetic construction methodology for specific activities that will occur within root protection areas.

3.18 Landscaping in proximity to trees: The detailed specification for soft landscaping is to be confirmed on the date of this report, however it is anticipated that tree/shrub planting and turfing will occur within the root protection areas of retained trees. In order to protect both tree roots and the condition of the rooting medium, these works must occur sensitively as described in the arboricultural method statement.

3.19 Post development tree pressures and management: The proposed development has been assessed to determine the likely impact of tree shade, and also the likely future pressure to prune or remove additional trees.

3.20 None of the proposed dwellings are expected to be shaded to the extent that it inhibits future residents reasonable use or enjoyment of the properties, thereby leading to pressure to fell or severely prune the trees in a manner the local planning authority could not reasonably resist.

4 CONCLUSIONS

4.1 Four trees categorised as B, six trees, one group and part of one hedgerow categorised as C and three trees categorised as U will be removed to facilitate the proposed development. It is not expected that these tree removals will have a significant detrimental impact on the surrounding landscape and there is ample scope to replace the trees in the buffer planting strips on the site boundaries.

4.2 The proposed site layout involves construction of hard standing within the root protection areas of several retained trees. An engineered solution has been provided to minimise the impact of the surfacing works, therefore allowing their retention and continued contribution to the site. Further works within root protection areas include excavation of a building footing within the root protection areas of T29 and installation of storm cells within the root protection area of T21. These excavations must occur sensitively as described in the arboricultural method statement.

4.3 Based on the above assessment, trees recommended for retention in this report can be protected during the construction period and successfully integrated into the site post development.

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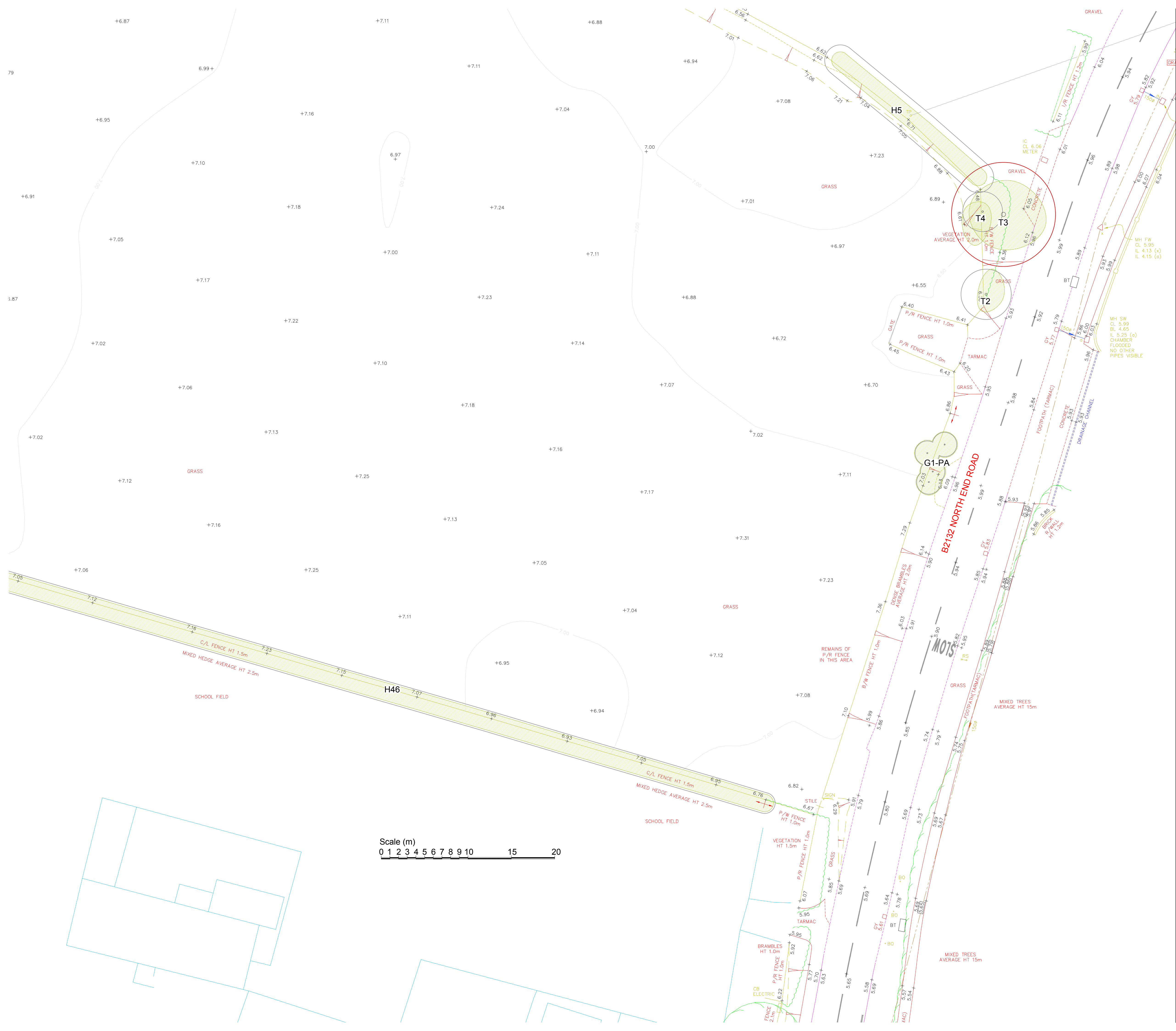
Author: Peter Davies

Date: 2nd November 2020

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APPENDIX 1

Tree Constraints Plan



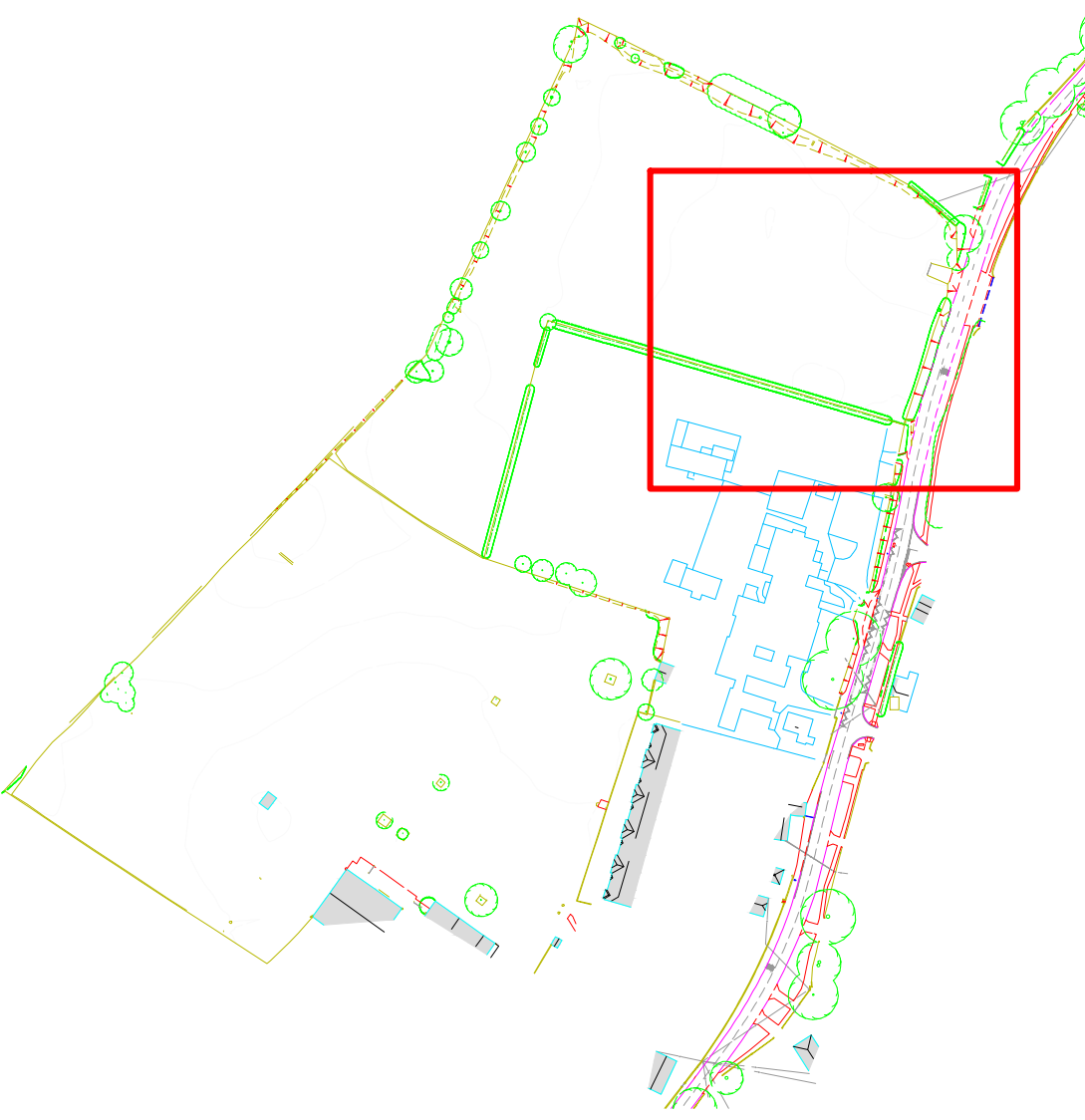
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 - Root protection area for category C* tree
 - Root protection area for category U* tree
 - Tree canopy

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref. PJC/5401/19-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.



Drawing no: PJC/5593/20/A Rev: - Sheet number: 1 of 6

Client and site:
Dandara

Land at North End Road
Yapton
West Sussex

Drawing title: Tree Constraints Plan

Date drawn: 27/11/2019

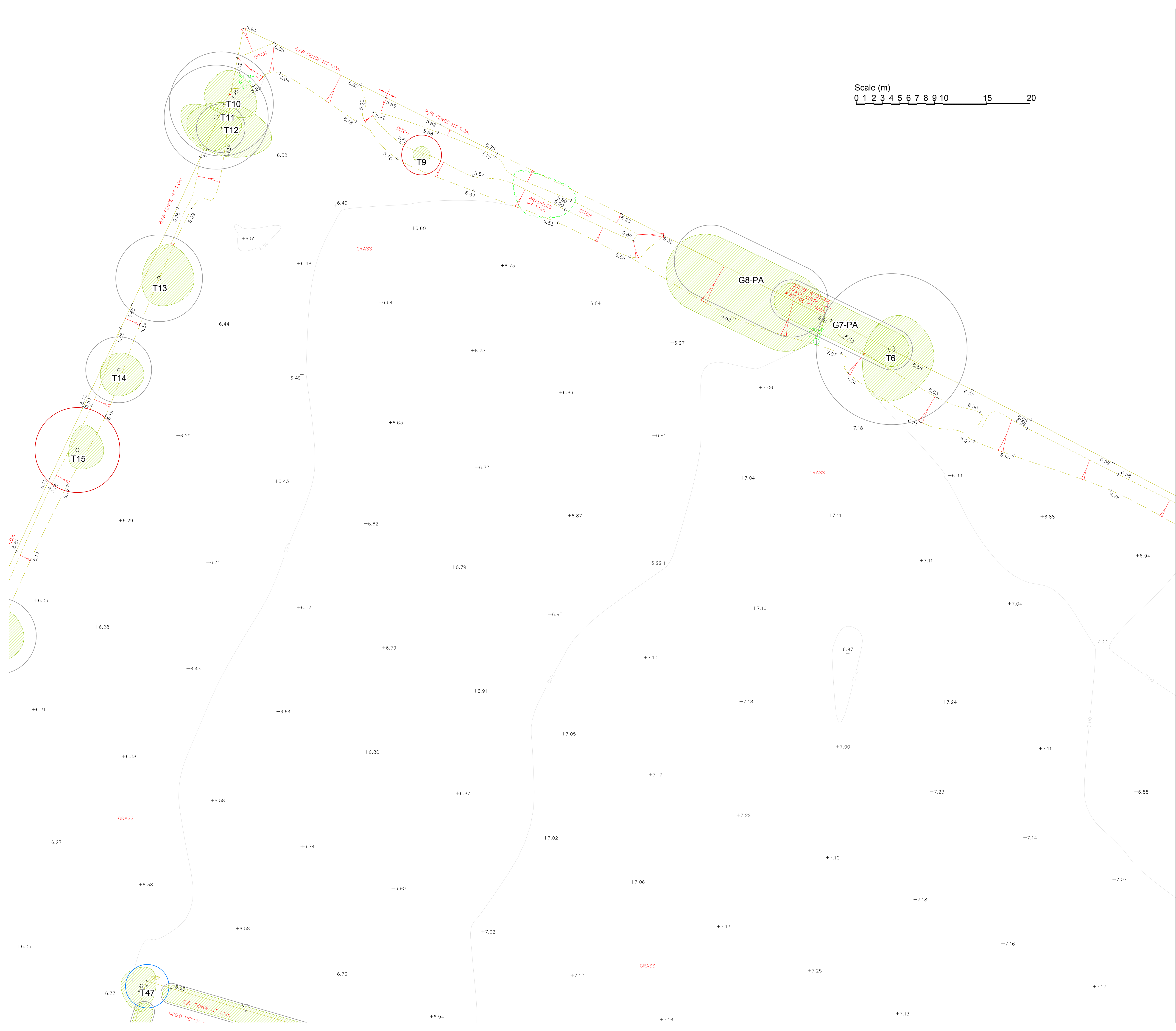
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Checked by: NB



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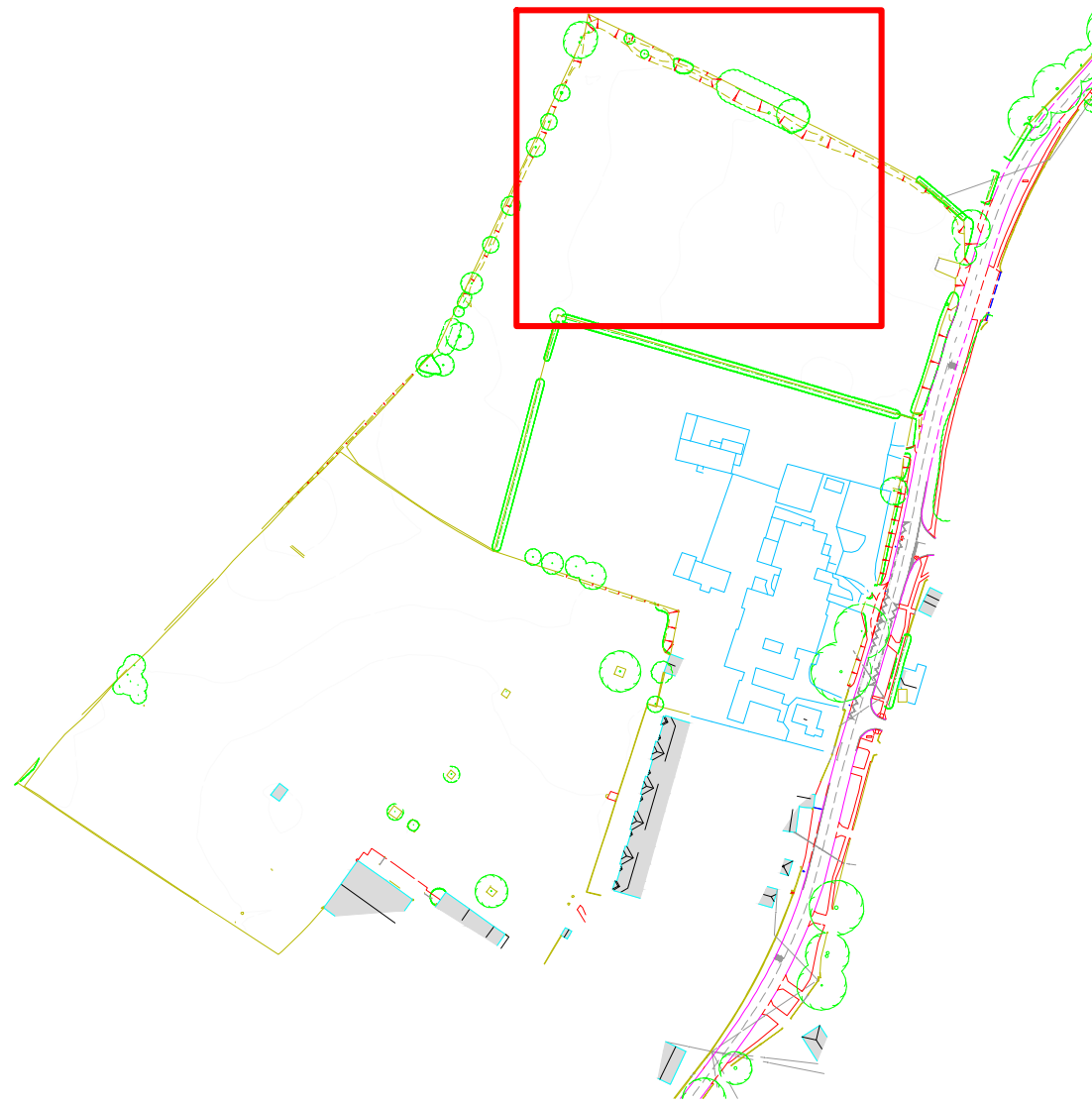
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Client and site:
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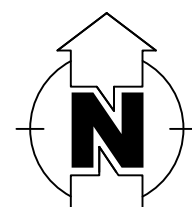
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Date drawn: 27/11/2019

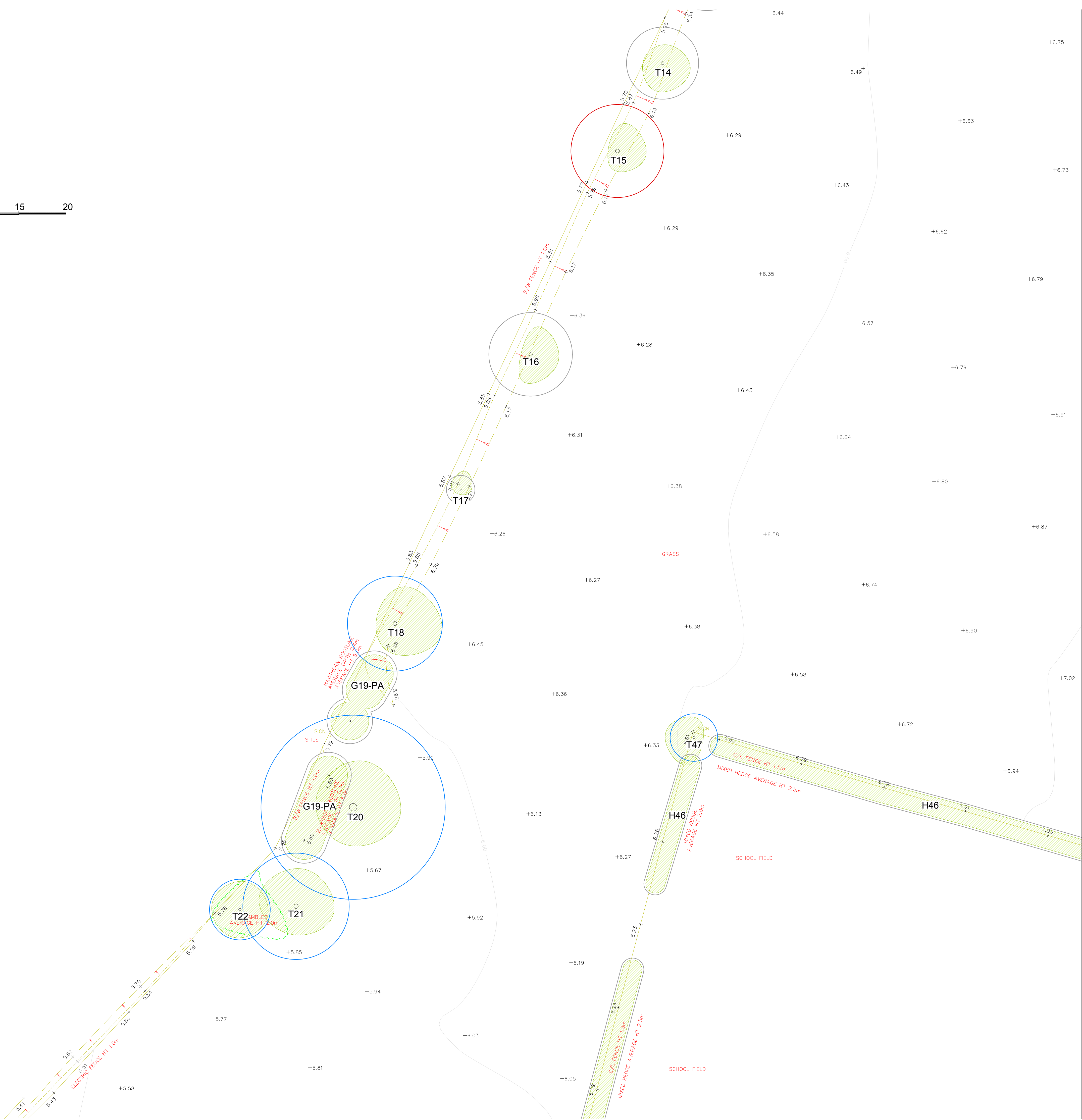
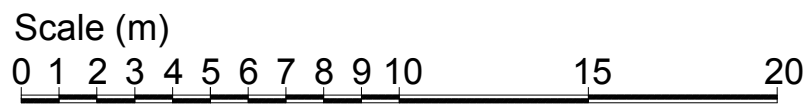
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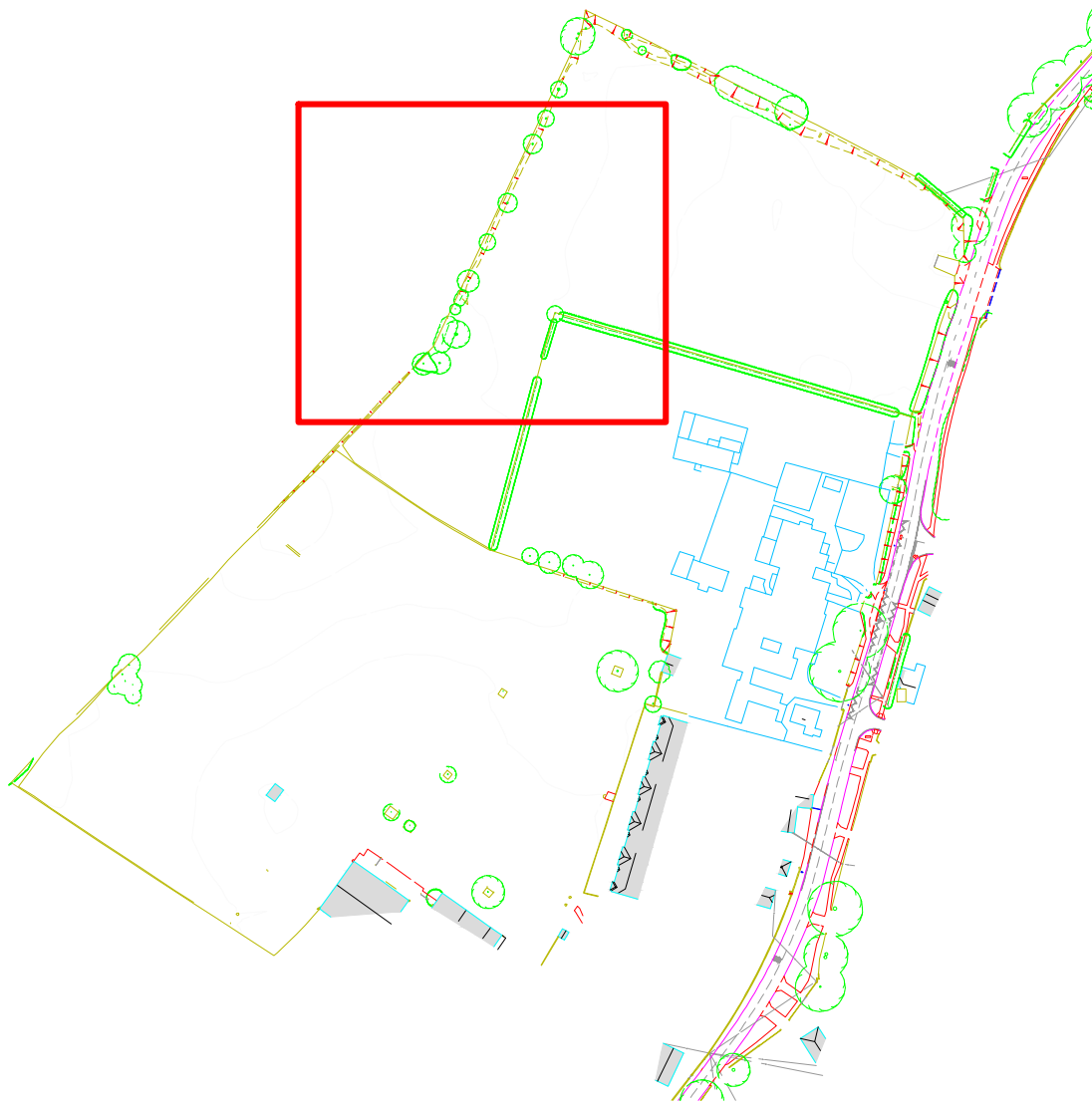
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Client and site:
Dandara

Land at North End Road
Yapton
West Sussex

Drawing title: Tree Constraints Plan

Date drawn: 27/11/2019

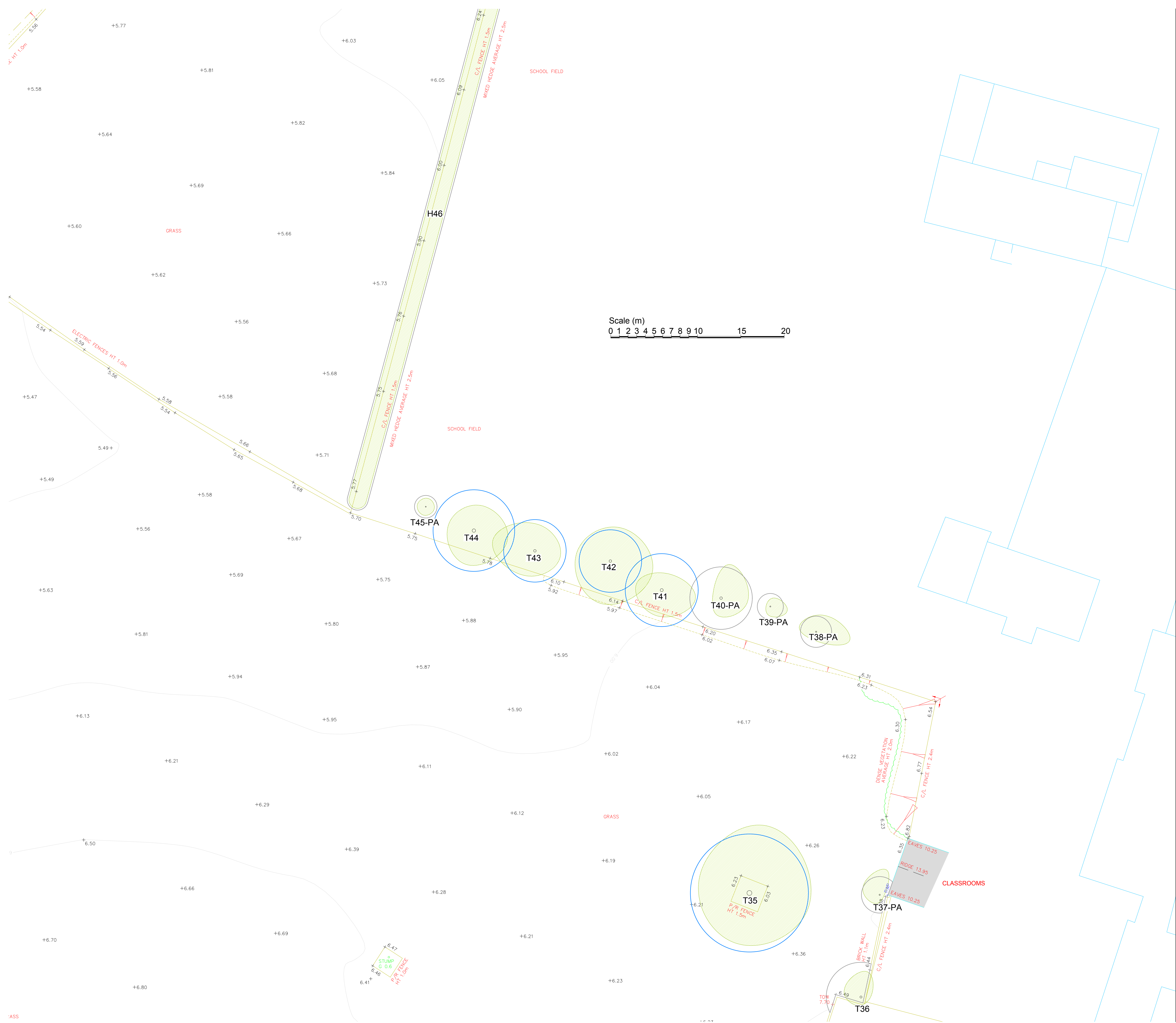
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Drawn by: PD

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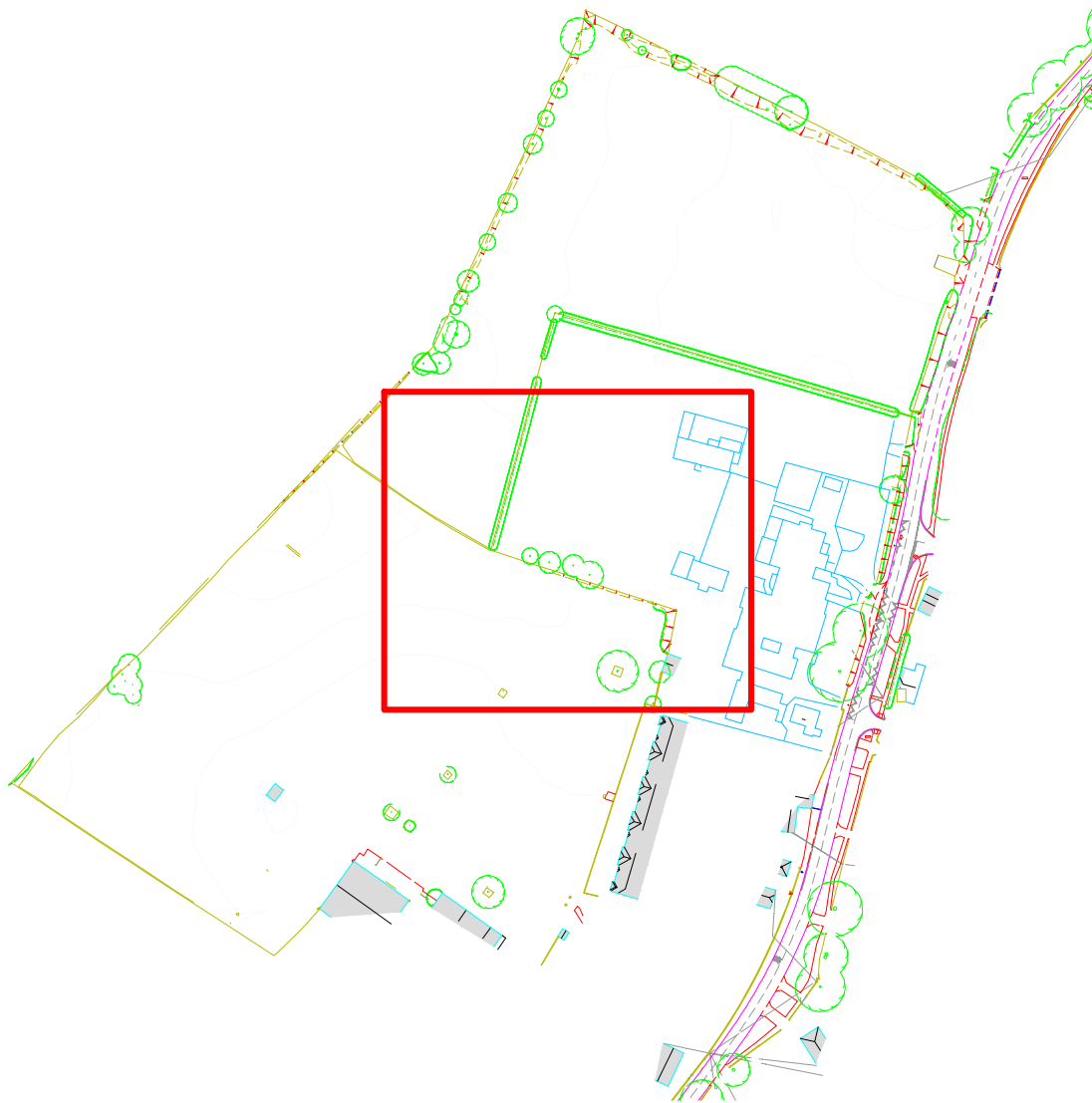
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Drawing no: PJC/5593/20/A Rev: - Sheet number: 4 of 6

Client and site:
Dandara

Land at North End Road
Yapton
West Sussex

Drawing title: Tree Constraints Plan

Date drawn: 27/11/2019

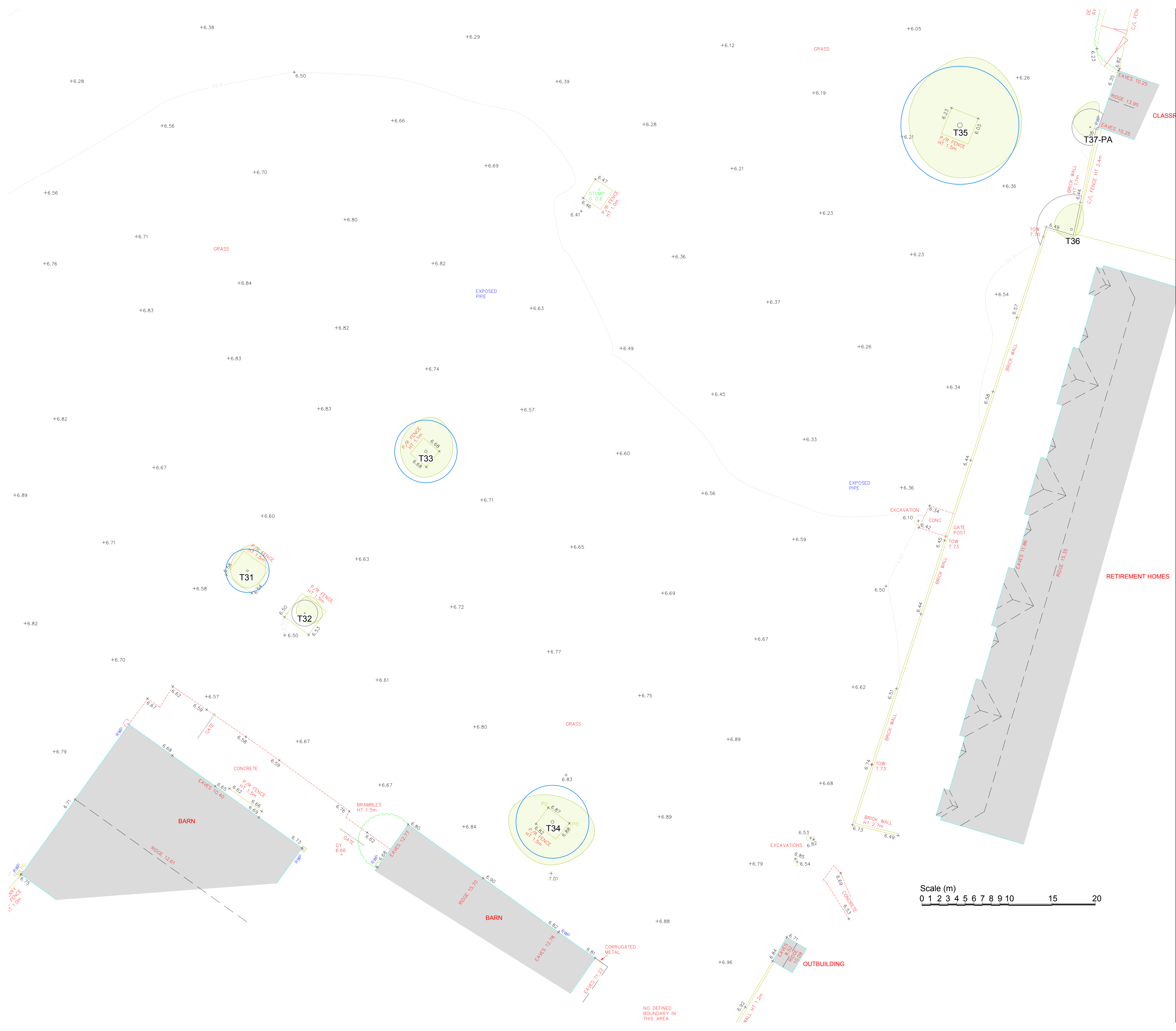
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Drawn by: PD

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Key:

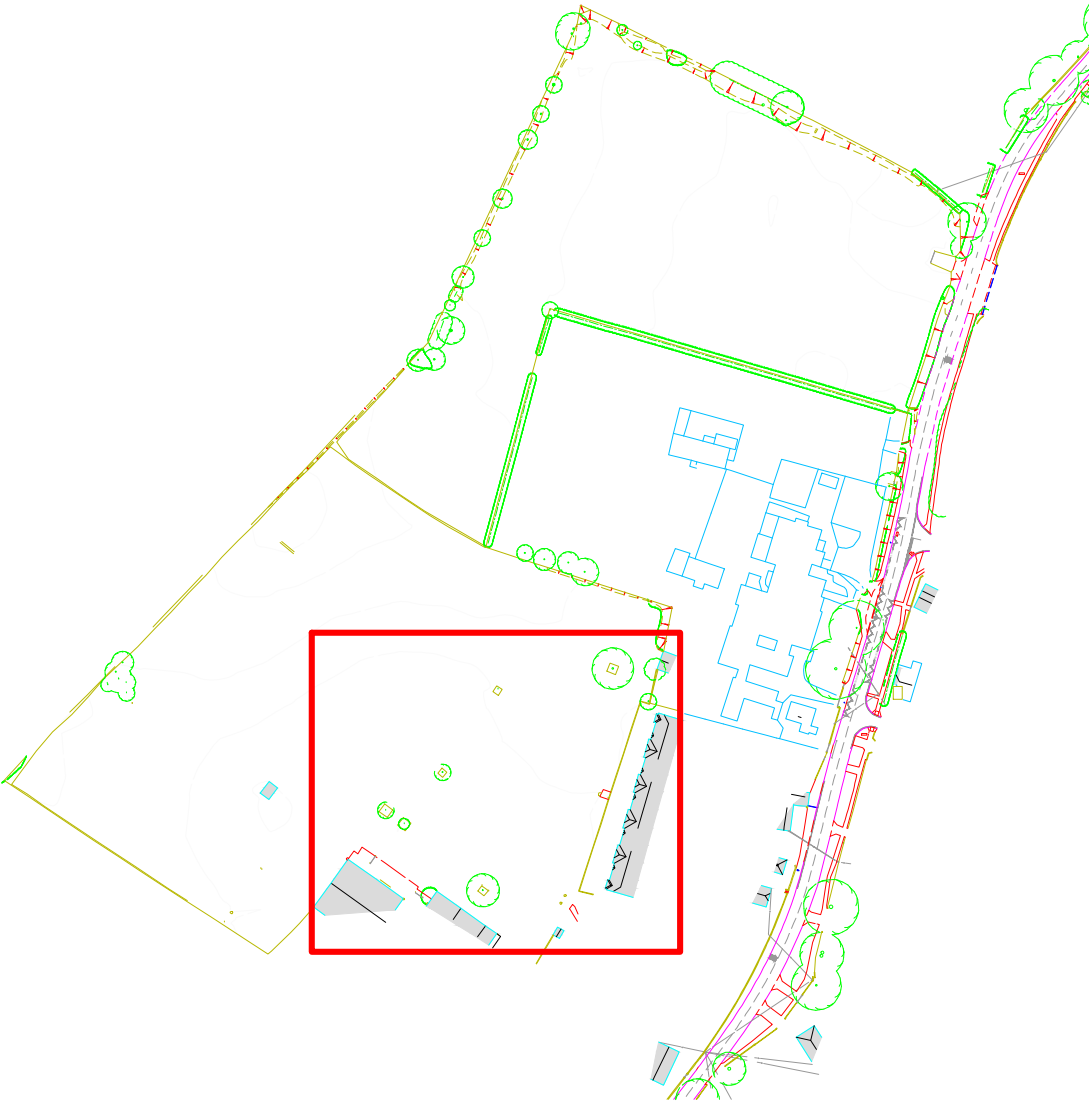
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Drawing no: PJC/5593/20/A Rev: - Sheet number: 5 of 6

Client and site:
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Land at North End Road
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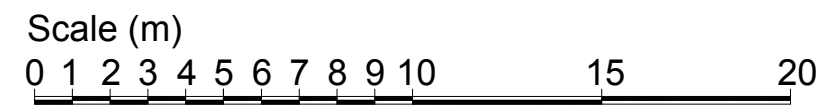
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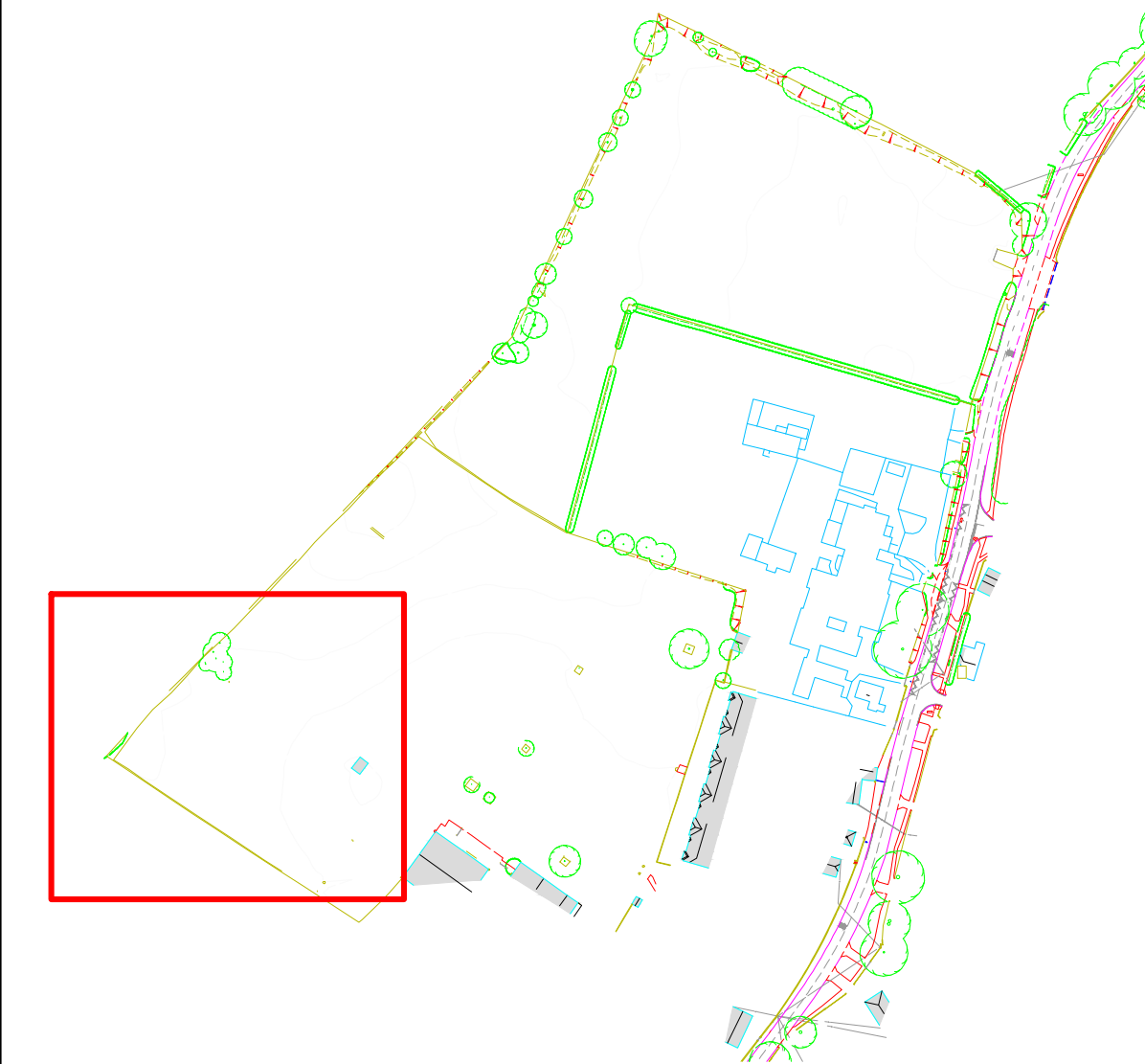
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-  Root protection area for category B* tree
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-  Tree canopy

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APPENDIX 2

Tree Retention Plan



Footpath no.329
based on existing
route

public footpath no.326
diverted through site

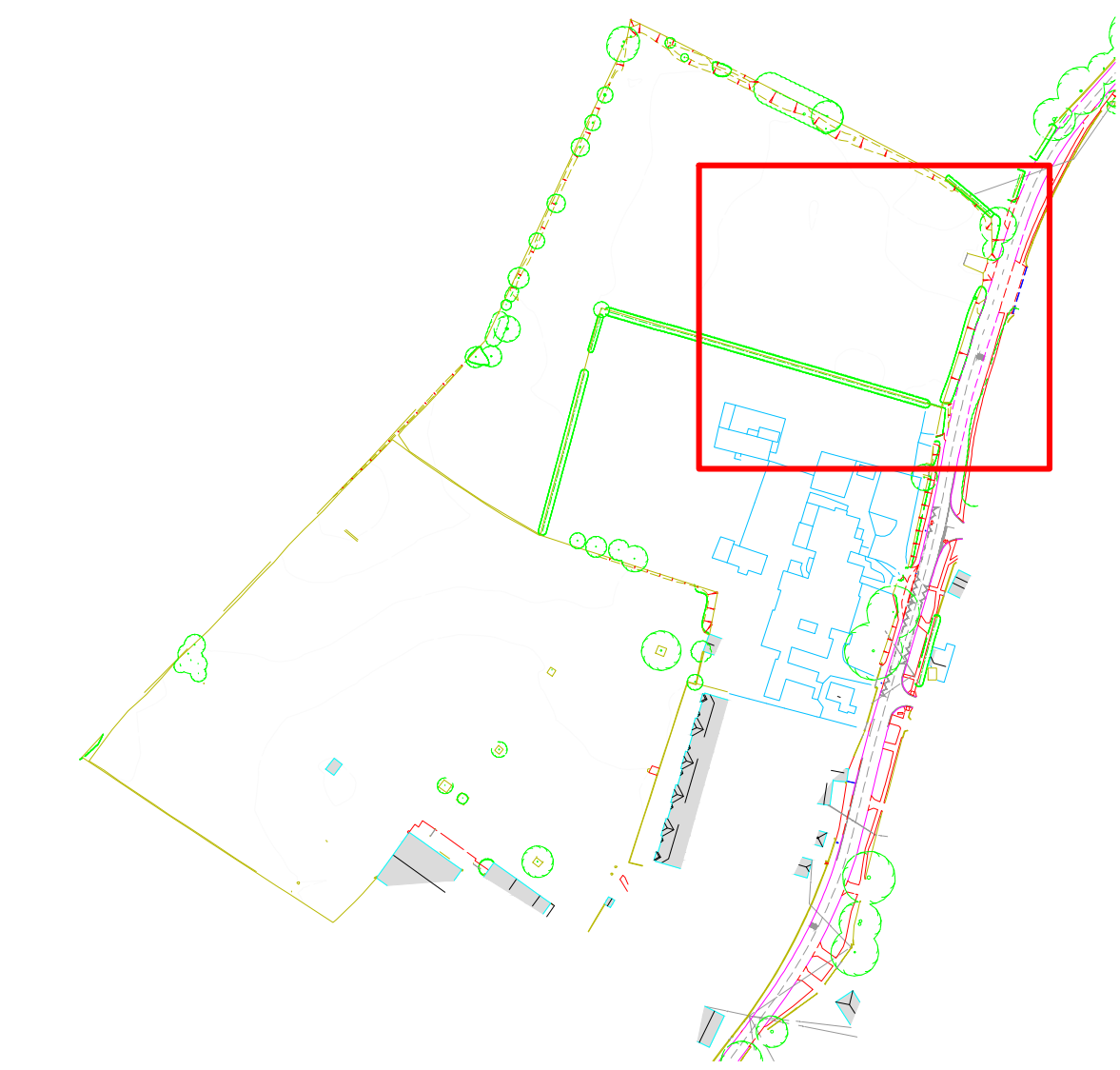
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 - Root protection area for category C* tree to be retained
 - Root protection area for category U* tree to be retained
 - Canopy of tree to be retained
 - Canopy of category B* tree to be removed
 - Canopy of category C* tree to be removed
 - Canopy of category U* tree to be removed.
 - New hard standing within root protection area
 - Excavation required within root protection area

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

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West Sussex

Drawing title: Tree Retention Plan

Date drawn: 02/11/2020

Scale: 1:200 at A1

Drawn by: PD **Checked by:** LW



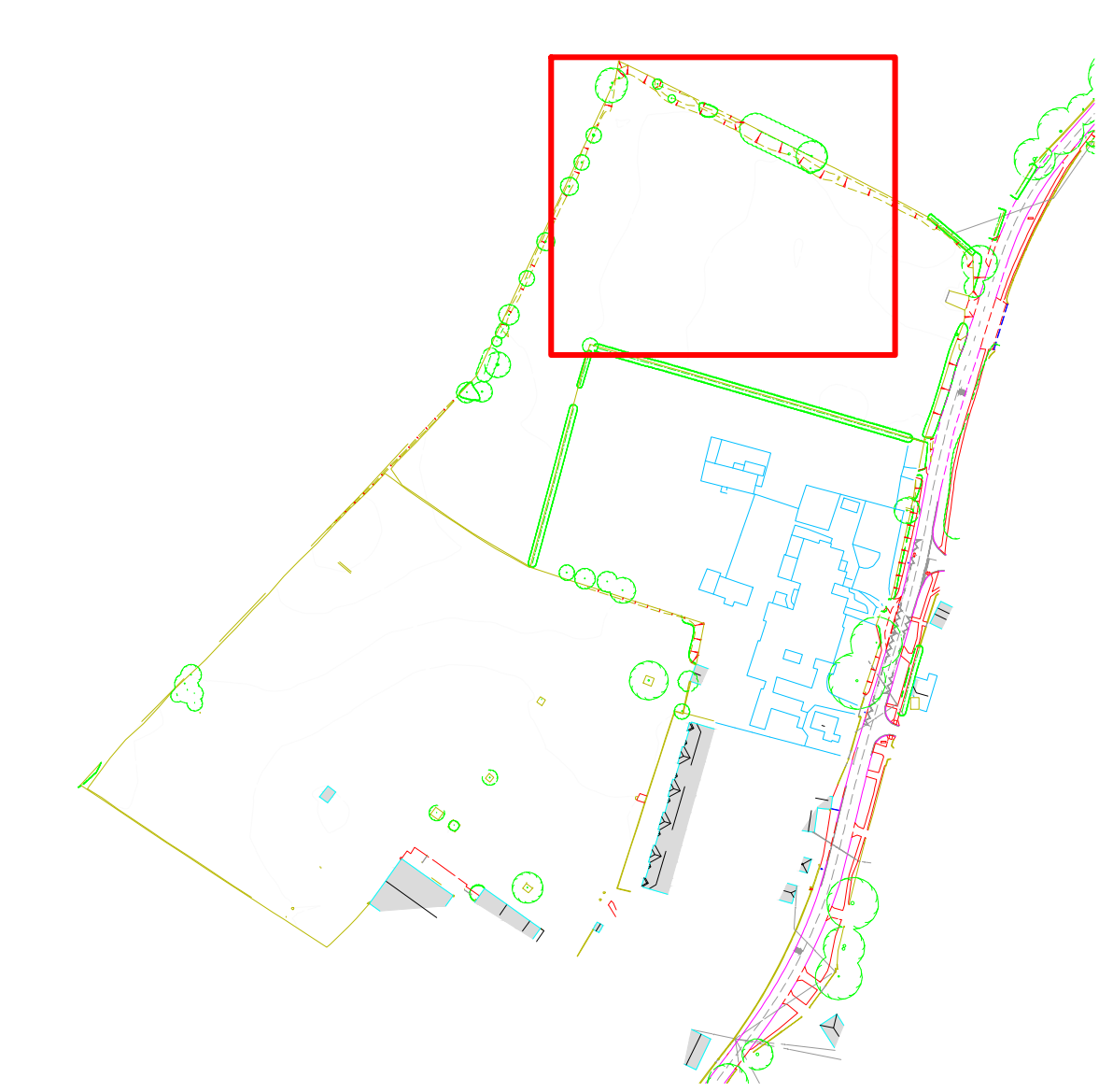
- Key:**
- Root protection area for category B* tree to be retained
 - Root protection area for category C* tree to be retained
 - Root protection area for category U* tree to be retained
 - Canopy of tree to be retained
 - Canopy of category B* tree to be removed
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 - Canopy of category U* tree to be removed.
 - New hard standing within root protection area
 - Excavation required within root protection area

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

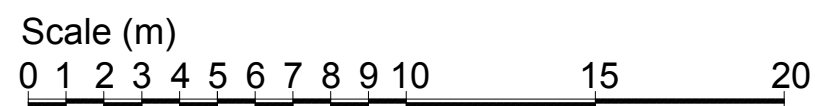
Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref. PJC/5593/20-01 contains further information for each tree.

This drawing should be viewed in colour.

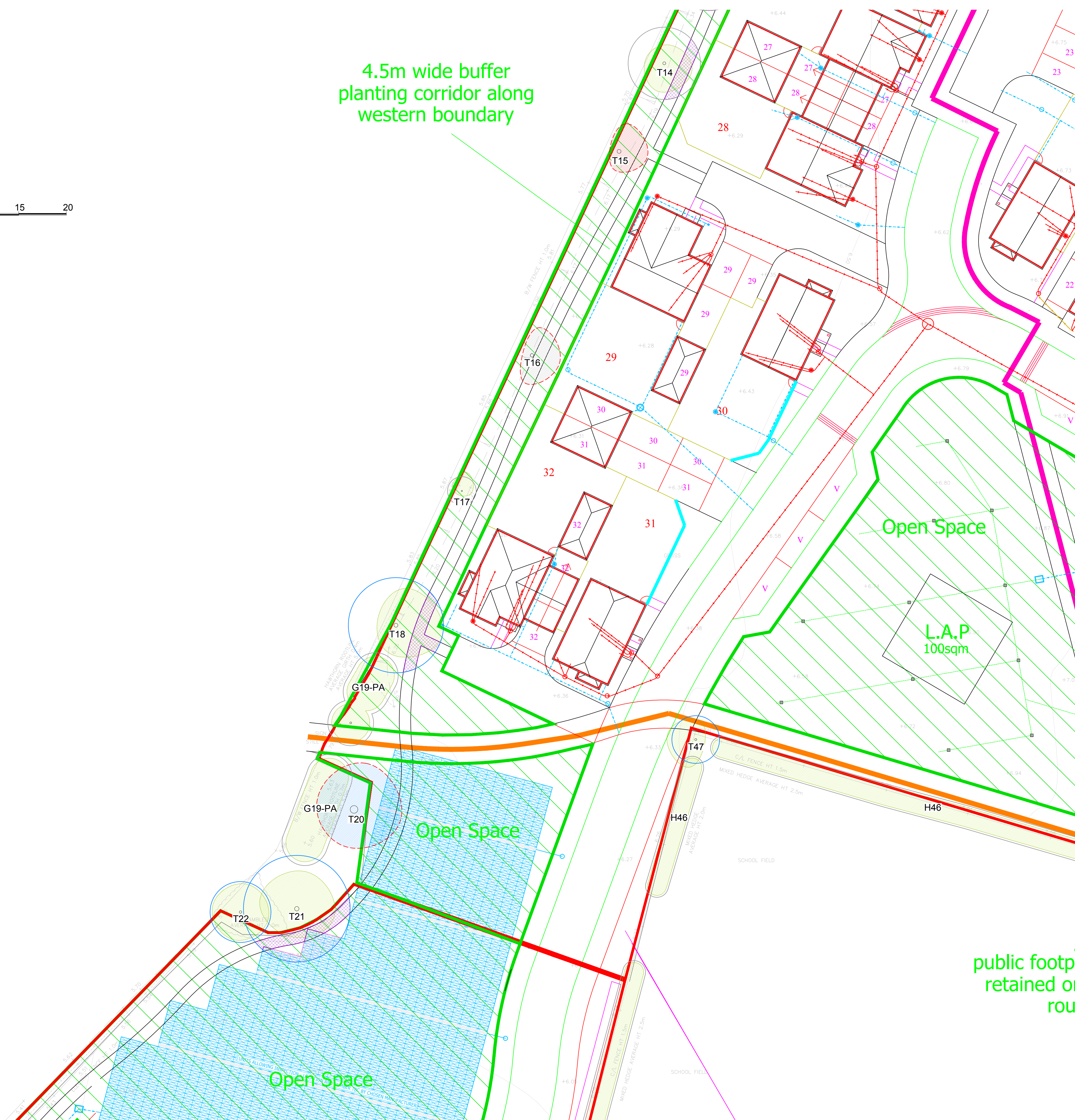
Tree numbers suffixed with PA indicate the tree position is approximate.



Drawing no: PJC/5593/20/B	Rev: 01	Sheet number: 2 of 6
Client and site: Dandara		
Land at North End Road Yapton West Sussex		
Drawing title: Tree Retention Plan		
Date drawn: 02/11/2020		
Scale: 1:200 at A1		
Drawn by: PD		
Checked by: LW		



4.5m wide buffer
planting corridor along
western boundary



Key:

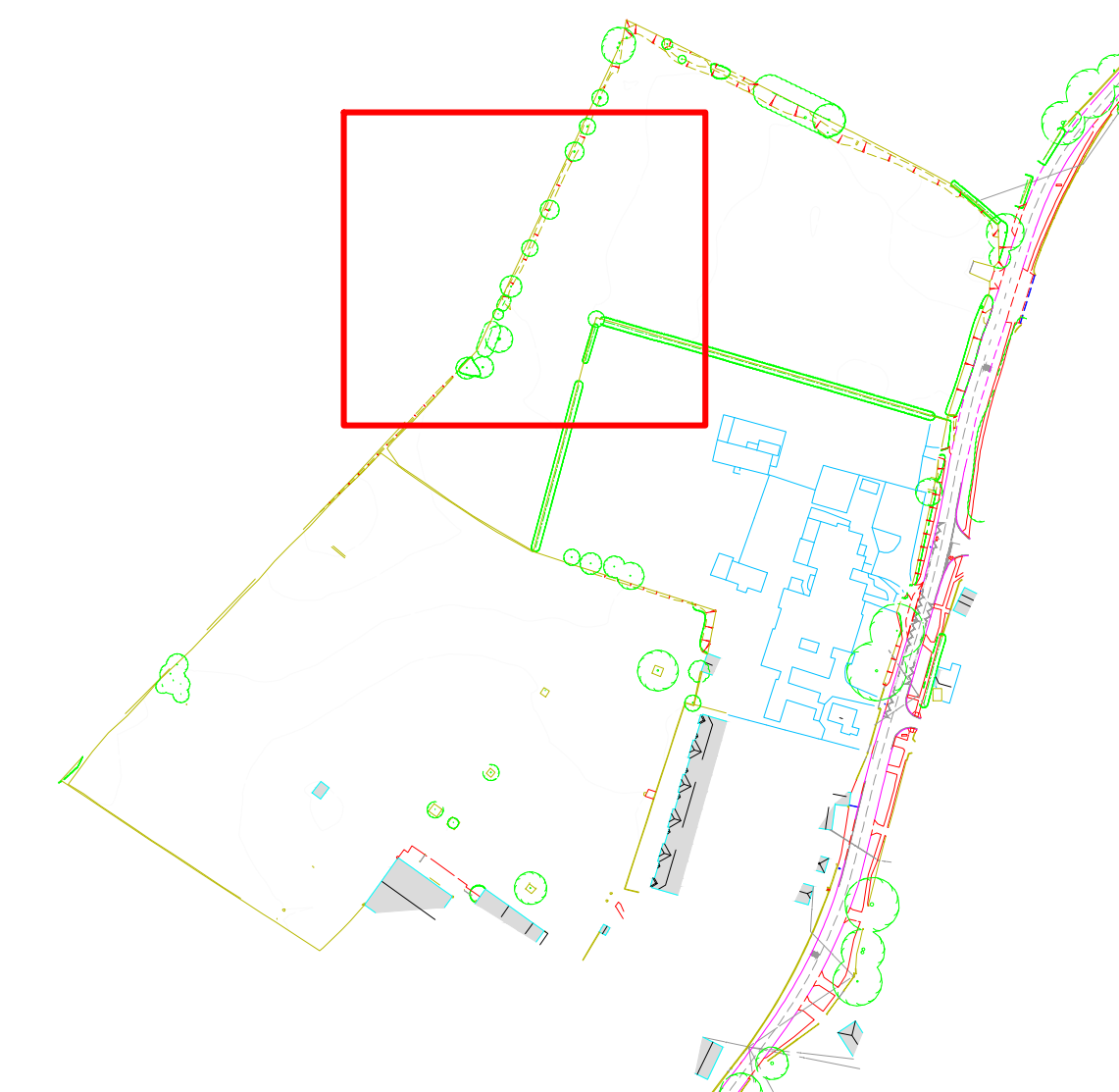
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Drawing no: PJC/5593/20/B Rev: 01 Sheet number: 3 of 6

Client and site:
Dandara

Land at North End Road
Yapton
West Sussex

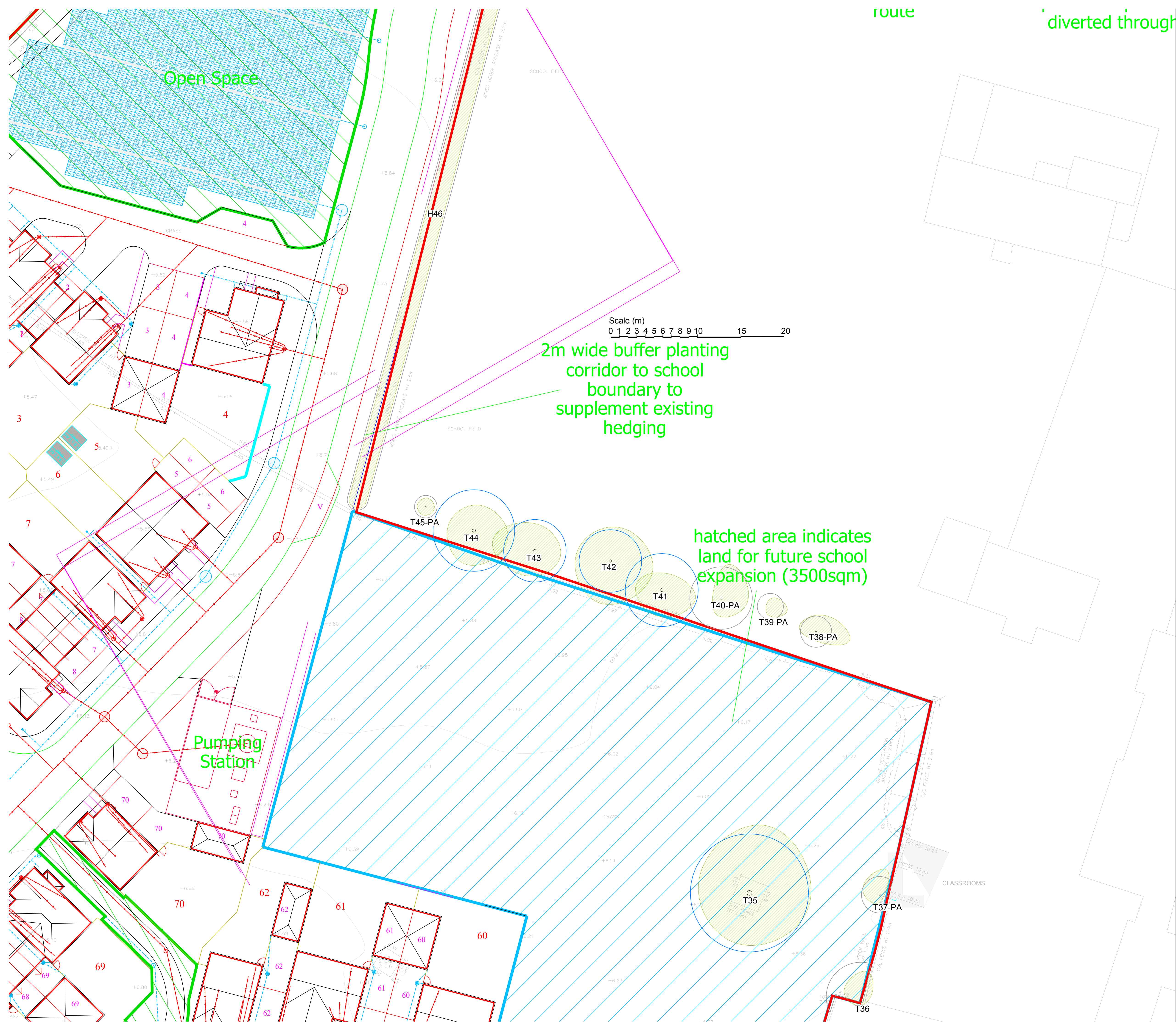
Drawing title: Tree Retention Plan

Date drawn: 02/11/2020

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Drawn by: PD

Checked by: LW



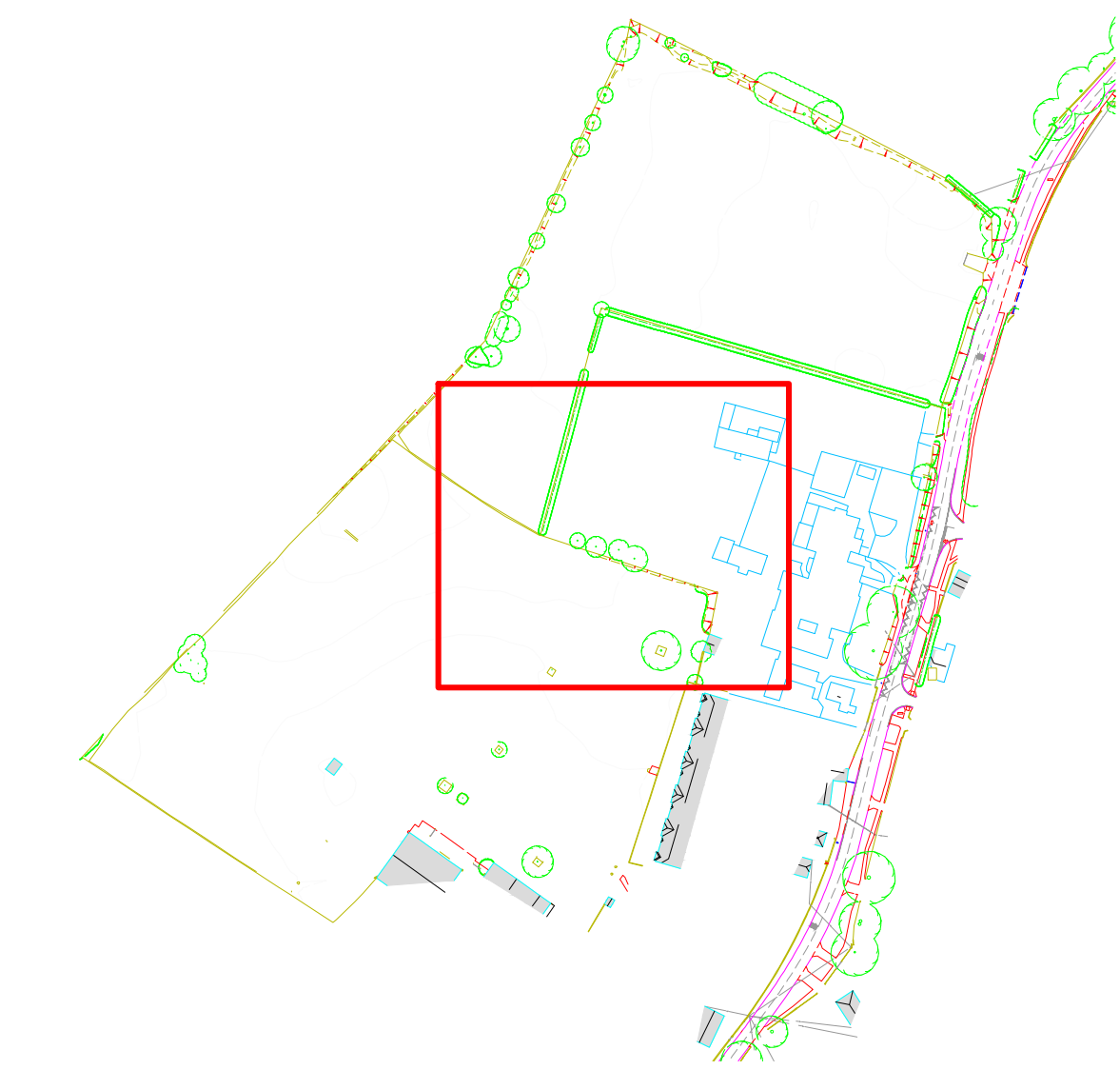
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Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref. PJC/5593/20-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.



Drawing no: PJC/5593/20/B Rev: 01 Sheet number: 4 of 6

Client and site:
Dandara

Land at North End Road
Yapton
West Sussex

Drawing title: Tree Retention Plan

Date drawn: 02/11/2020

Scale: 1:200 at A1

Drawn by: PD **Checked by:** LW



APPENDIX 3

Tree Survey Schedule

Site: North End Road, Yapton

Tree Survey Schedule



Survey date: 25/11/2019

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
G1	Elm (Ulmus procera)	4-5 average	Up to 120 average	1-2 average	1-2 average	Young	Good	Fair	Group of four small elm suckers by road frontage.	Fell and remove stumps.	C1	6.5 average	14 average
T2	Hawthorn (Crataegus monogyna)	4	150, 120, 100, 80, 80 est	N: 3 E: 2 S: 2 W: 1	Crown: 1 average Branch: 1 average	Mature	Good	Fair	Multi-stemmed from 1m. Ivy clad. Flailed from field.	Fell and remove stump.	C1+2	27.0	2.9
T3	Sycamore (Acer pseudoplatanus)	9	500 est	N: 4 E: 5 S: 4 W: 4	Crown: 2 average Branch: 2 average	Mature	Poor	Poor	Extensive crown dieback (tree almost dead). Centre of gravity slightly towards road and tree in falling distance of road.	Fell and remove stump.	U	113.1	6.0
T4	Hawthorn (Crataegus monogyna)	3	150, 120 est	N: 1 E: 1 S: 4 W: 2	Crown: 2 average Branch: 1 west	Semi mature	Fair	Poor	Suppressed growth habit. Ivy encroaches crown. Crown pruned from field.	Fell and remove stump.	C1	16.7	2.3
H5	Leyland cypress (Cupressus x leylandii)	2	Up to 150 average	1 average	1 average	Semi mature	Good	Good	Third party, managed cypress hedgerow. Part ivy clad.	Remove part of hedgerow as shown on Tree Retention Plan.	C2	10.2 average	1.8 average
T6	Leyland cypress (Cupressus x leylandii)	11	450, 400, 400 est	N: 4 E: 5 S: 6 W: 3	Crown: 2 average Branch: 1 south	Mature	Good	Fair	Third party tree viewed from site. Multi-stemmed from 1m with fused stem unions. Post and rail fence conflicts with stem.	No action required.	C1	236.4	8.7

Site: North End Road, Yapton

Tree Survey Schedule



Survey date: 25/11/2019

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
G7	Leyland cypress (Cupressus x leylandii)	6-8 average	Up to 200 average	2 average	1-3 average	Early mature	Good	Fair	Sporadic, third party cypress screen viewed from site. Limited screening benefit due to large gaps in foliage.	No action required.	C1	18.1 average	2.4 average
G8	Leyland cypress (Cupressus x leylandii)	8-10 average	Up to 350 average	N: 3 E: 3 S: 6 W: 4	2 average	Early mature	Good	Fair	Third party cypress screen viewed from site. Crown raised/grazed over site.	Crown lift to 2m on site boundary to install boundary fence.	C1+2	55.4 average	4.2 average
T9	Hawthorn (Crataegus monogyna)	4	150, 120	N: 1 E: 1 S: 1 W: 1	Crown: 0 average Branch: 0 average	Mature	Poor	Poor	Significant crown dieback. Short predicted life span.	Fell and remove stump.	U	16.7	2.3
T10	Leyland cypress (Cupressus x leylandii)	18	500 est	N: 4 E: 4 S: 1 W: 2	Crown: 2 average Branch: 2 average	Mature	Fair	Fair	Potentially third party tree. Bark necrosis on stem. Isolated patches of dieback in crown (possible Seiridium canker)	Monitor vitality of tree. Reduce crown to 12m.	C1	113.1	6.0
T11	Leyland cypress (Cupressus x leylandii)	12	500 eW	N: 1 E: 3 S: 4 W: 4	Crown: 0 west Branch: 0 average	Mature	Fair	Poor	Potentially third party tree. Minor crown dieback. Large snapped limbs in upper crown.	Remove snapped limbs from crown.	C1	113.1	6.0
T12	Blackthorn (Prunus spinosa)	5	230	N: 3 E: 6 S: 3 W: 4	Crown: 1 average Branch: 1 west	Mature	Fair	Poor	Low spreading habit due to suppression from T10/T11. Significant wounding on stem.	Reduce crown to edge of new path.	C1	23.9	2.8

Site: North End Road, Yapton

Tree Survey Schedule



Survey date: 25/11/2019

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T13	Hawthorn (Crataegus monogyna)	6	120 average x12 stems	N: 4 E: 4 S: 3 W: 2	Crown: 0 south Branch: 1 west	Mature	Good	Fair	Multi-stemmed. Small deadwood and low snapped limbs.	Crown lift to 2m over footpath.	C1	78.2	5.0
T14	Hawthorn (Crataegus monogyna)	5	130 average x6 stems	N: 2 E: 3 S: 3 W: 2	Crown: 1 average Branch: 1 average	Mature	Good	Fair	Multi-stemmed. Small deadwood and low snapped limbs.	Crown lift to 2m over footpath.	C1	45.9	3.8
T15	Hawthorn (Crataegus monogyna)	5	130 average x10 stems	N: 3 E: 3 S: 2 W: 1	Crown: 1 average Branch: 1 east	Over mature	Good	Poor	Multi-stemmed from 1m. Significant basal decay.	Fell to ground level.	U	76.5	4.9
T16	Hawthorn (Crataegus monogyna)	5	150 average x6 stems	N: 3 E: 3 S: 3 W: 1	Crown: 1 average Branch: 1 average	Mature	Good	Fair	Multi-stemmed. Minor basal cavity.	Fell and remove stump.	C1	61.1	4.4
T17	Field maple (Acer campestre)	4	60, 60, 60, 70	N: 2 E: 1 S: 0 W: 1	Crown: 0 north Branch: 0 north	Young	Good	Fair	Multi-stemmed from 0.5m. Lower crown significantly damaged by horse grazing.	No action required.	C1	7.1	1.5
T18	Field maple (Acer campestre)	8	420	N: 4 E: 5 S: 3 W: 2	Crown: 1 north Branch: 1 north	Early mature	Good	Fair	Dual stemmed. Fused stems to 2m. Lower crown grazed by horses and flailed from adjacent field.	Crown lift to 2m over footpath.	B1	79.8	5.0

Site: North End Road, Yapton

Tree Survey Schedule



Survey date: 25/11/2019

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
G19	Hawthorn (Crataegus monogyna)	5-7 average	Up to 200 average	1-3 average	0-1 average	Semi-early mature	Good	Fair	Sporadic hawthorn group along site boundary.	No action required.	C2	18.1 average	2.4 average
T20	Lime (Tilia x europaea)	12	350, 400, 330, 300, 410	N: 5 E: 5 S: 4 W: 4	Crown: 2 average Branch: 3 average	Mature	Good	Fair	5x stems from 0.5-1m, all with included bark in the stem unions. Well formed crown. Exposed buttress roots.	Coppice.	B1	293.8	9.7
T21	Hornbeam (Carpinus betulus)	10	410, 220 at 1m	N: 4 E: 4 S: 3 W: 4	Crown: 2 average Branch: 0 north	Early mature	Good	Fair	Multi-stemmed. Reasonable condition. Previously crown lifted on west side.	Crown lift to 2.5m on south side over path.	B1	97.9	5.6
T22	Ash (Fraxinus excelsior)	8	180, 200 est	N: 3 E: 3 S: 3 W: 3	Crown: 2 east Branch: 2 east	Early mature	Good	Good	Bramble under-storey prevents direct access to survey stems. Well formed crown.	No action required.	B1	32.8	3.2
T23	Pedunculate oak (Quercus robur)	12	350	N: 4 E: 2 S: 2 W: 4	Crown: 2 west Branch: 3 west	Early mature	Good	Fair	Secondary stem historically removed from base. Asymmetric crown due to stem removal and suppression. No major visible defects.	No action required.	B1+2	55.4	4.2
T24	Ash (Fraxinus excelsior)	12	230	N: 2 E: 1 S: 3 W: 3	Crown: 1 west Branch: 2 west	Early mature	Good	Fair	Abundant deadwood in lower crown, likely due to suppression.	Remove deadwood over 75mm diameter and/or 1m length over footpath. Crown lift to 2m over footpath.	B2	23.9	2.8

Site: North End Road, Yapton

Tree Survey Schedule

Survey date: 25/11/2019

Surveyor: Peter Davies



Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T25	Ash (Fraxinus excelsior)	12	210, 200	N: 4 E: 3 S: 2 W: 3	Crown: 1 north Branch: 2 average	Early mature	Good	Fair	Dual stemmed. Drawn up growth habit due to group pressures. Minor deadwood on south side of crown.	Crown lift to 2m over footpath.	B2	38.0	3.5
T26	Ash (Fraxinus excelsior)	9	180	N: 3 E: 3 S: 0 W: 0	Crown: 1 average Branch: 2 east	Semi mature	Good	Fair	Suppressed growth habit. Minor deadwood on south side of crown.	Fell and remove stump.	C2	14.7	2.2
T27	Ash (Fraxinus excelsior)	9	170	N: 3 E: 2 S: 2 W: 2	Crown: 1 average Branch: 2 north	Semi mature	Good	Fair	Drawn up growth habit. No major visible defects.	Fell and remove stump.	B2	13.1	2.0
T28	Hawthorn (Crataegus monogyna)	6	120 average x6 stems	N: 2 E: 2 S: 2 W: 2	Crown: 0 average Branch: 0 average	Early mature	Good	Good	Multi-stemmed. Typical example of species.	Crown lift to 2m over footpath.	C1+2	39.1	3.5
T29	Monterey cypress (Cupressus macrocarpa)	15	1500 est	N: 7 E: 8 S: 6 W: 5	Crown: 3 average Branch: 3 average	Over mature	Poor	Poor	Third party tree viewed from site. Significant dieback on south side of crown. Shear crack in primary limb on east side.	Suggest undertaking detailed condition survey (third party tree).	U	707.0	15.0
H30	Mixed (hawthorn dominant, elder, blackthorn)	4-5 average	Up to 150 average	1-2 average	0 average	Semi-early mature	Fair	Fair	Third party hedgerow viewed from site. Clad with bramble and ivy. Largely managed.	No action required.	C2	10.2 average	1.8 average

Site: North End Road, Yapton

Tree Survey Schedule



Survey date: 25/11/2019

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T31	Horse chestnut (Aesculus hippocastanum)	5	210	N: 3 E: 2 S: 2 W: 2	Crown: 1 average Branch: 0 south	Semi mature	Good	Good	Small, well formed tree protected from horse grazing by post and rail fence.	Fell and remove stump.	B1	20.0	2.5
T32	Horse chestnut (Aesculus hippocastanum)	3	80, 80, 40, 40 est	N: 2 E: 2 S: 1 W: 1	Crown: 1 average Branch: 1 average	Young	Good	Good	Small, well formed tree protected from horse grazing by post and rail fence.	Fell and remove stump.	C1	7.2	1.5
T33	Lime (Tilia x europaea)	7	300 est	N: 4 E: 3 S: 3 W: 3	Crown: 1 average Branch: 0 average	Early mature	Good	Fair	Small, well formed tree protected from horse grazing by post and rail fence. Profuse basal epicormic growth.	Fell and remove stump.	B1	40.7	3.6
T34	Beech (Fagus sylvatica)	9	350 est	N: 3 E: 5 S: 5 W: 5	Crown: 2 average Branch: 2 south	Early mature	Good	Good	Single stemmed. Lightly ivy clad. Well formed crown. Bay shrub growing from base.	No action required.	B1+2	55.4	4.2
T35	Ash (Fraxinus excelsior)	11	570 at 1m	N: 8 E: 7 S: 6 W: 6	Crown: 1 north Branch: 1 north	Mature	Good	Good	Multi-stemmed from 1.5m. Open grown habit. No major visible defects.	No action required.	B1+2	147.0	6.8
T36	Elder (Sambucus nigra)	6	200 est	N: 3 E: 1 S: 1 W: 2	Crown: 1 north Branch: 1 north	Mature	Good	Fair	Ivy encroaches crown. Root morphology likely impacted by boundary wall.	Sever ivy around base.	C1	18.1	2.4 (amended on Tree Constraints Plan)

Site: North End Road, Yapton

Tree Survey Schedule



Survey date: 25/11/2019

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T37	Buddleia (Buddleja davidii)	3	150 est	N: 3 E: 0 S: 1 W: 2	Crown: 0 north Branch: 0 north	Semi mature	Good	Fair	Shrub by boundary wall.	No action required.	C1	10.2	1.8 (amended on Tree Constraints Plan)
T38	Silver birch (Betula pendula)	7	150 est	N: 2 E: 4 S: 1 W: 2	Crown: 2 east Branch: 2 east	Semi mature	Good	Good	Third party tree viewed from site.	No action required.	C1	10.2	1.8
T39	Rowan (Sorbus aucuparia)	4	100, 70 est	N: 1 E: 2 S: 1 W: 0	Crown: 1 east Branch: 1 east	Young	Good	Fair	Third party tree viewed from site. Dual stemmed.	No action required.	C1	6.7	1.5
T40	Sorbus spp.	7	90 average x11 est	N: 4 E: 3 S: 2 W: 1	Crown: 2 average Branch: 0 average	Early mature	Good	Fair	Third party tree viewed from site. Multi-stemmed from base. Slightly suppressed form.	No action required.	C1	40.3	3.6
T41	Italian alder (Alnus cordata)	11	350 est	N: 4 E: 3 S: 2 W: 2	Crown: 2 average Branch: 2 average	Mature	Good	Good	Third party tree viewed from site. Typical example of species.	No action required.	B1	55.4	4.2
T42	Weeping willow (Salix babylonica)	7	300 est	N: 4 E: 5 S: 5 W: 4	Crown: 1 average Branch: 2 average	Early mature	Good	Good	Third party tree viewed from site. Typical example of species.	No action required.	B1	40.7	3.6

Site: North End Road, Yapton

Tree Survey Schedule



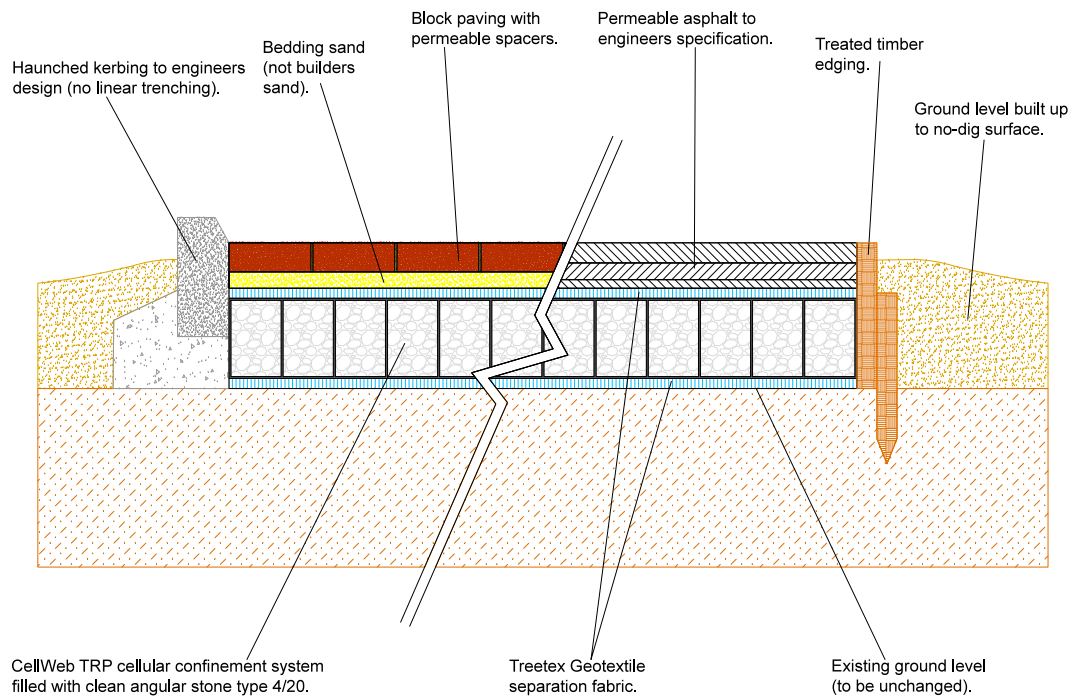
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T43	Pedunculate oak (Quercus robur)	6	300 est	N: 3 E: 3 S: 3 W: 5	Crown: 2 average Branch: 2 south	Semi mature	Good	Good	Third party tree viewed from site. Previously crown lifted.	No action required.	B1	40.7	3.6
T44	Cherry (Prunus avium)	8	300, 250 est	N: 3 E: 4 S: 4 W: 3	Crown: 2 average Branch: 1 average	Early mature	Good	Good	Third party tree viewed from site. Multi-stemmed from 1m.	No action required.	B1	69.0	4.7
T45	Silver birch (Betula pendula)	4	80, 70 est	N: 1 E: 1 S: 1 W: 1	Crown: 1 east Branch: 1 north	Young	Good	Good	Third party sapling viewed from site.	No action required.	C1	5.1	1.3
H46	Mixed (elder, field maple, hazel, privet)	2.5 average	Up to 100 average	1 average	0 average	Semi mature	Good	Good	Flailed, third party hedgerow within school boundary.	No action required.	C2	4.5 average	1.2 average
T47	Pedunculate oak (Quercus robur)	6	210 over ivy	N: 2 E: 1 S: 3 W: 3	Crown: 3 average Branch: 2 average	Semi mature	Good	Fair	Third party tree growing within H46. Crown lifted over PROW within site.	No action required.	B1	20.0	2.5

APPENDIX 4

Example No-dig Surface Specification



Additional sub-base may be required provided depending on CBR% rating and maximum size of vehicle expected on surface. This must be permeable and installed above ground level.