

Connick Tree Consultants

TREE DEVELOPMENT REPORT

(BS5837:2012 ARBORICULTURAL IMPACT ASSESSMENT**)**

OUR REFERENCE	199729 Rev.2
CLIENT	Parker Dann
PLANNING AUTHORITY	Adur District Council
SITE	St Nicholas & St Marys' Primary School, Shoreham BN43 6PE
SURVEY & REPORT BY	Mr M Haddock BSc (Hons) MArborA
DATE	20th June 2023

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TABLE OF CONTENTS

1 INTRODUCTION 2
- 1.1 INSTRUCTION 2
- 1.2 SCOPE OF REPORT 2
- 1.3 DOCUMENTATION 2
- 1.4 QUALIFICATIONS AND EXPERIENCE 3
- 1.5 LIMITATIONS AND USE OF COPYRIGHT 3

2 SITE VISIT AND OBSERVATIONS 4
- 2.1 SITE VISITS 4
- 2.2 GENERAL OBSERVATIONS AND BACKGROUND 4
- 2.3 SOIL TYPE 4

3 TREE SURVEY 5
- 3.1 TREES SUBJECT TO STATUTORY CONTROLS 5

4 TREE CONSTRAINTS 6
- 4.1 ROOT PROTECTION AREA 6
- 4.2 CONSTRUCTION EXCLUSION ZONE 6
- 4.3 ABOVE GROUND CONSTRAINTS 6

5 ARBORICULTURAL IMPACT ASSESSMENT 7
- 5.1 SIGNFICANT TREES 7
- 5.2 TREE LOSS 7
- 5.3 IDENITFIED IMPACTS 7
- 5.4 TREE PROTECTION MEASURES 8
- 5.5 TEMPORARY GROUND PROTECTION 8

6 SUMMARY 9

7 GENERAL PRECAUTIONS 10
- 7.1 SITE FACILITIES 10
- 7.2 STORAGE SPACE 10
- 7.3 PERIMETER FENCING 10
- 7.4 HAZARDOUS MATERIALS 10
- 7.5 TREE SURGERY WORKS 10

8 SITE PHOTOGRAPHS 11

APPENDICES

APPENDIX I	**TREE SURVEY SCHEDULE**
APPENDIX II	**TREE CONSTRAINTS PLAN**
APPENDIX III	**TREE PROTECTION PLAN**
APPENDIX IV	**QUALIFICATIONS AND EXPERIENCE**

1 INTRODUCTION

1.1 INSTRUCTION

Connick Tree Consultants were instructed by Parker Dann Planning Consultants to produce an Arboricultural Impact Assessment of the proposed development works at St Nicholas & St Mary's Primary School to construct a temporary play area and carry out refurbishments to one of the existing school buildings. This will be undertaken in accordance with BS5837: 2012 Trees in relation to design, demolition and construction - Recommendations.

1.2 SCOPE OF REPORT

This Arboricultural Impact Assessment has been based on the tree survey data obtained during our site visit on the 24th May 2023. Details of all trees within and adjacent to the site can be found in the tree Survey Schedule attached as Appendix I. Their locations are shown within the Tree Constraints Plan attached as Appendix II.

The tree information recorded relates to the tree condition, age, safe useful life expectancy, location, canopy spread, canopy height and tree height and direction of first significant branch as well as any work that is required. Where trees are located within neighbouring third-party properties, the assessment in relation to their condition has been made upon the visible parts of the tree and all measurements estimated.

No information in regard to soil assessment was provided and no investigation was taken on site.

A measured drawing of the site was provided and no liability is accepted for the accuracy of these drawings, and they should not be scaled from. The drawings should be read in conjunction with the tree survey schedule data.

The report and recommendations relate to the condition of the trees and their surroundings at the time of inspection only. Trees are living organisms whose health and condition can change rapidly and all trees, even healthy ones, are at risk from unpredictable climatic and man-made events. This report and recommendations relate to the condition of the trees and their surroundings at the time of inspection only.

1.3 DOCUMENTATION

I have been provided with the following information in regard to the development:

- Site block plan
- Topographical survey
- Proposed site bock plans
- Site access information
- Site set up infrastructure positions.

1.4 QUALIFICATIONS AND EXPERIENCE

I have based this report on my site observations, and I have come to conclusions in the light of my qualifications gained and experience obtained whilst working in the field of arboriculture. I have qualifications and practical experience in arboriculture and list the details of this in Appendix IV.

1.5 LIMITATIONS AND USE OF COPYRIGHT

All rights in this report are reserved. No part of it may be reproduced or transmitted, in any form or by any means without our written permission. Its contents and format are for the exclusive use of the person, firm or company to whom it is addressed (and that of any other person, firm or company whose interest was disclosed to us prior to its preparation). It may not be sold, lent out or divulged to any third party not directly involved in this situation without the written consent of Connick Tree Care.

DISCLAIMER: I have no connection with any of the parties involved in this situation that could influence the opinions expressed in this report.

2 SITE VISIT AND OBSERVATIONS

2.1 SITE VISITS

The initial site visit was undertaken on the 24th May 2023 by the author of this report; Mr M Haddock who is a qualified arboriculturist. The weather at the time of inspections was fine with good visibility.

2.2 GENERAL OBSERVATIONS AND BACKGROUND

The site of the proposed development is situated at the existing school grounds at Eastern Avenue, Shoreham, West Sussex.

The site consists of existing school buildings with car parking and hard surfaced playgrounds, with extensive playing fields to the south..

The site is bordered by Buckingham Close to the northwest and Eastern Avenue to the East.

The proposed development is for the construction of a temporary playground (porous surface), and the refurbishment of one of the existing classroom buildings.

2.3 SOIL TYPE

No on-site soil analysis was undertaken. Reference has been made to the British Geological Survey maps for an indicative guide to underlying soil characteristics. The online BGS 1:50,000 scale map for the area indicated the property is located on Head – Clay, Sand & Gravel.

Although clay formation is a subsoil which is susceptible to undergoing volumetric change in relation to changes in soil moisture caused by trees, the described works are unlikely to require special measures to allow for this in the design phase. However, it is always recommended that a structural engineer is consulted to ensure the construction methods are suitable to avoid the risk of indirect damage though subsidence or heave.

3 TREE SURVEY

In total 30 trees, 1 group of trees and 2 hedges were recorded during the survey process, within or adjacent to the site. Attached as Appendix I is a schedule summarising the information obtained within the survey process.

The trees surveyed have been assessed and categorised in accordance with the cascade chart in section 4 of the BS5837:2012. This has identified that there are the following within or adjacent to the site:

No individual 'A' grade trees of a high quality or value, which are worthy of retention and a high level of protection.

15 individual category 'B' grade trees deemed to be of moderate quality and value, worthy of retention and protection. Trees of 'B' grade should be retained where possible within the proposed development and where necessary designs altered to accommodate them.

12 individual trees, 2 hedges and 1 group of trees which have been identified as category 'C' grade trees of low quality and value, which should only be retained and protected when they do not pose a constraint on the development. Where retained they will require tree protection.

No individual 'U' grade trees identified as requiring removal for reason of sound Arboricultural management.

The location of the trees is shown on the Tree Constraints Plan attached as Appendix II. All trees surveyed have been given a unique identification number and are identified on the schedules and plans by a 'T' prefix for individual trees, 'H' for hedges and by a 'G' for groups of trees.

3.1 TREES SUBJECT TO STATUTORY CONTROLS

A desktop assessment via Adur District Councils Website did not identify that the site is situated within a Conservation area.

No information in regard to Tree Preservation Orders were discoverable online.

4 TREE CONSTRAINTS

4.1 ROOT PROTECTION AREA

In order to avoid damage to the tree roots or rooting environment, a minimum area in m² should be left undisturbed around each retained tree (category A, B and C trees).

The root protection area's (RPA's) of the trees recorded within the survey are shown in the Tree Constraints Plan (Appendix II).

The root protection area has been calculated using the formula specified within section 4.6 of the BS5837:2012 standard and should initially be plotted as a circle centred on the base of the stem.

The RPA can be modified where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically. Any deviation in the RPA from the original circular plot should reflect soundly based Arboricultural assessment of potential root disturbance and consider the following factors, whilst still providing adequate protection for the root system.

- The morphology and disposition of the roots, when influenced by past or existing site conditions (e.g. the presence of roads, structures and underground services).
- Topography and drainage.
- The soil type and structure.
- The likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.

The calculated RPA should be capped at 707m², which is equivalent to a circle with a radius of 15m or a square with approximately 26m sides (BS 5837:2012 Trees in relation to design, demolition and construction).

No Tree RPA's have been amended or redrawn to take into consideration existing rooting constraints caused by the public highway or footways. The true root morphology is unknown as root formation in urban environments is hard to predict.

4.2 CONSTRUCTION EXCLUSION ZONE

The Construction Exclusion Zone (CEZ) required by the current edition (2012) of BS 5837 Trees in Relation to Design, Demolition and Construction relates to the stem diameter of each tree when measured at a height of 1.5m from ground level. The CEZs are to be afforded protection at all times and will be protected by a combination of fencing and ground protection measures.

4.3 ABOVE GROUND CONSTRAINTS

The current height and canopy spread of the trees is an important factor which needs to be considered when deciding the layout of a proposed development. The shading of trees, and/or their size can cause anxiety to residents, leading to pressure for pruning or removal. The recent crown reductions of T17 – T20 have dealt with any potential overhead constraints.

The crown of T3 Common Ash is sufficiently far back from the school building to facilitate scaffolding for the construction process.

Site cabins and containers positions do not interfere with any tree canopies.

5 ARBORICULTURAL IMPACT ASSESSMENT

The following Arboricultural Impact Assessment has been made in relation to the proposed development details provided by our client. The location of the footprint of the proposed temporary playground has been included within the attached Tree Protection Plan (Appendix III), the location of the temporary classrooms has been included. The building proposed for refurbishment has also been indicated as has the positioning of site facilities and storage containers.

5.1 SIGNFICANT TREES

The survey identified that there are no individual A grade trees of high quality and value within and adjacent to the site.

5.2 TREE LOSS

Consideration has been given to retaining all the trees. However, ultimately their removal is dependent on their condition and proximity to the development. This has identified that T21 requires removal to facilitate the development.

This tree is a low grade category 'C' tree, a Hornbeam 'fastigiate'. The tree has been indicated for removal to exclude it from tree protection measures as the intrusion into their RPA's of the temporary play surface is above 20%. Although the tree has been indicated for removal for this purpose, it is proposed to retain the tree if at all possible.

5.3 IDENITFIED IMPACTS

The survey process and the Tree Protection Plan (Appendix III) has indicated the extent of the theoretical Root Protection Areas (RPA) and crown spreads of the surveyed trees in relation to the development and identifies the potential impacts resulting from the proposed development. The details of the impacts caused by each construction stage is identified within Table 2 below:

Table 1: Identifying impacts.

Tree No.	Total RPA m^2	Development Section	Impact of proposed development.
T18	173	Excavation for temporary playground	Will encroach upon 6.5m^2 of the total RPA, equating to approximately 4%. Acceptable under BS5837.
T19	142	Excavation for temporary playground	Will encroach upon 6.5 m^2 of the total RPA, equating to approximately 5%. Acceptable under BS5837.
T22	9	Excavation for temporary playground	Will encroach upon 1 m^2 of the total RPA, equating to approximately 11%. Acceptable under BS5837.
T27	228	Access road onto site	Will encroach upon 43 m^2 of the total RPA, equating to approximately 18%. Requiring protection.

5.4 TREE PROTECTION MEASURES

All trees to be retained should be protected prior to the undertaking of any construction works via the erection of protective barriers to form a construction exclusion zone (CEZ). The protective fencing should be sited along the edge of the RPA of the retained trees and be fit for the purpose of excluding construction activity, unless it can be shown that the trees can be adequately protected by intervention methods.

The necessary protection measures are identified within the Tree Protection Plan attached as Appendix III.

The barrier fencing is to be installed as per figure 3 of the BS 5837:2012 using standard 2-metre-tall by 3.5 metres wide welded mesh panels on rubber or concrete feet secured with ground pins.

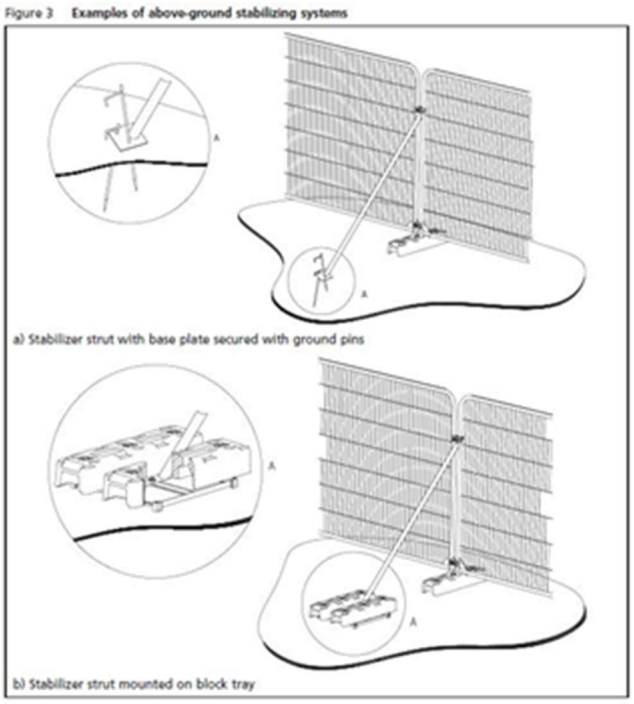


Figure 1 - Identifying tree protection fencing design.

All fencing will need to be erected prior to any construction works commencing and will remain intact until all works are completed on site. The protected area must be regarded as sacrosanct and should not be removed or altered without prior recommendation by the project arboriculturist. The site hoarding may ‘double-up’ as tree protection fencing following the guidelines in section 7.3 of this AIA.

5.5 TEMPORARY GROUND PROTECTION

The temporary ground protection/road surface within tree RPA’s is to be constructed using proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth woodchip), laid on a geotextile membrane. Should the specification of the temporary road track not be able to accommodate the anticipated weight of site construction traffic, an alternative method specified in a separate Arboricultural method statement will be used.

The proposed temporary road surface is to be formed using DTH Alu panel which is sufficient for axle weights of up to 12t. This should be deemed sufficient for all expected construction traffic.

6 SUMMARY

On completion of the site survey and report it is concluded that the proposed development has the potential to impact upon 6 trees within and adjacent to the site. These trees are as follows:

- T18 a category B Norway Maple, which the design has been altered to reduce the level of impact to significantly below the 20% guidance for new surfacing with root protection areas.
- T19 a category B Norway Maple, which the design has been altered to reduce the level of impact to significantly below the 20% guidance for new surfacing with root protection areas.
- T21 a category C Hornbeam 'fastigiate', which will require removal to facilitate the development.
- T22 a category C Mountain Ash, which will have an impact of 11% intrusion into the RPA of a new hard surface (porous) - this is within the tolerable level of up to 20% specified in BS5837.
- T27 a category B Lombardy Poplar, which will require tree temporary ground protection.
- T28 a category B Lombardy Poplar, which will require tree temporary ground protection.

  It should be noted that the entire compound area of the site area is likely to have the heavier duty DTH road panel laid over though this has not been detailed on the tree protection plan.

  All trees near to construction areas will be protected with tree protection fencing.

The loss of T21 will be mitigated through replacement planting in the first dormant growing period after construction is completed.

The extent of the proposed development and positioning of site containers and facilities has been designed to minimise the impact upon all trees.

The default position within the BS5837: 2012 document recommends that any development is situated outside of the RPA of any retained tree. However, where there is a requirement to construct within it, it is required to demonstrate the tree can remain viable and that the area lost can be compensated for elsewhere. All impacts identified are with the tolerance levels specified in the British Standard.

The advice given above is a summary of the required precautions to ensure that the proposed development can be constructed with a minimal impact to all retained trees. The exact methods of construction required in and adjacent to the RPA of retained trees and a final Tree Protection Plan should be addressed within a separate Arboricultural Method Statement if requested by the local authority tree officer.

7 GENERAL PRECAUTIONS

7.1 SITE FACILITIES

The position of the site office, compound, toilets and storage space will be sited outside of the RPA of any retained trees or within existing hard standing. Any re-siting of these during the course of the proposed development will need to be approved in writing by the Local Authority Tree Officer.

7.2 STORAGE SPACE

There will be no spoil or construction material stored within the protected sections of the RPA of the retained trees or shrubs on the site. Where possible all storage should be contained within pre-existing hard surfaces.

7.3 PERIMETER FENCING

Works to erect perimeter fencing can have a negative impact upon retained trees. To ensure all retained trees are not impacted it is essential that all fence post holes are formed by hand and away from the base of trees. If roots are identified the hole should be relocated.

7.4 HAZARDOUS MATERIALS

No mixing or storage of materials will take place up a slope where they may leak into a CEZ.

No hazardous materials such as fuels, oils or cement will be stored within the storage area in the rear garden.

Materials which may contaminate the soil will not be discharged within 10m of any tree stem. When undertaking the mixing of materials, it is essential that any slope of the ground does not allow contaminates to run towards a tree root protection area.

7.5 TREE SURGERY WORKS

All tree works considered necessary for health and safety reasons or to facilitate the development will be undertaken in accordance with British Standard 3998 (2010) Recommendations for Tree Works.

All works required are outlined within the Tree Survey Schedule.

Minor additional works are required as indicated on the Tree Protection Plan Rev.2 to meet the requirements of West Sussex Fire and Rescue in providing adequate access to the site. This work will be limited to the trimming back of branches and scrub in group G1 a low quality category C group of self-set Hawthorn and Elder and will not be detrimental to the trees in this group.

8 SITE PHOTOGRAPHS

Location of proposed temporary playground and subject building.



Location of proposed temporary classrooms on existing hard surfacing

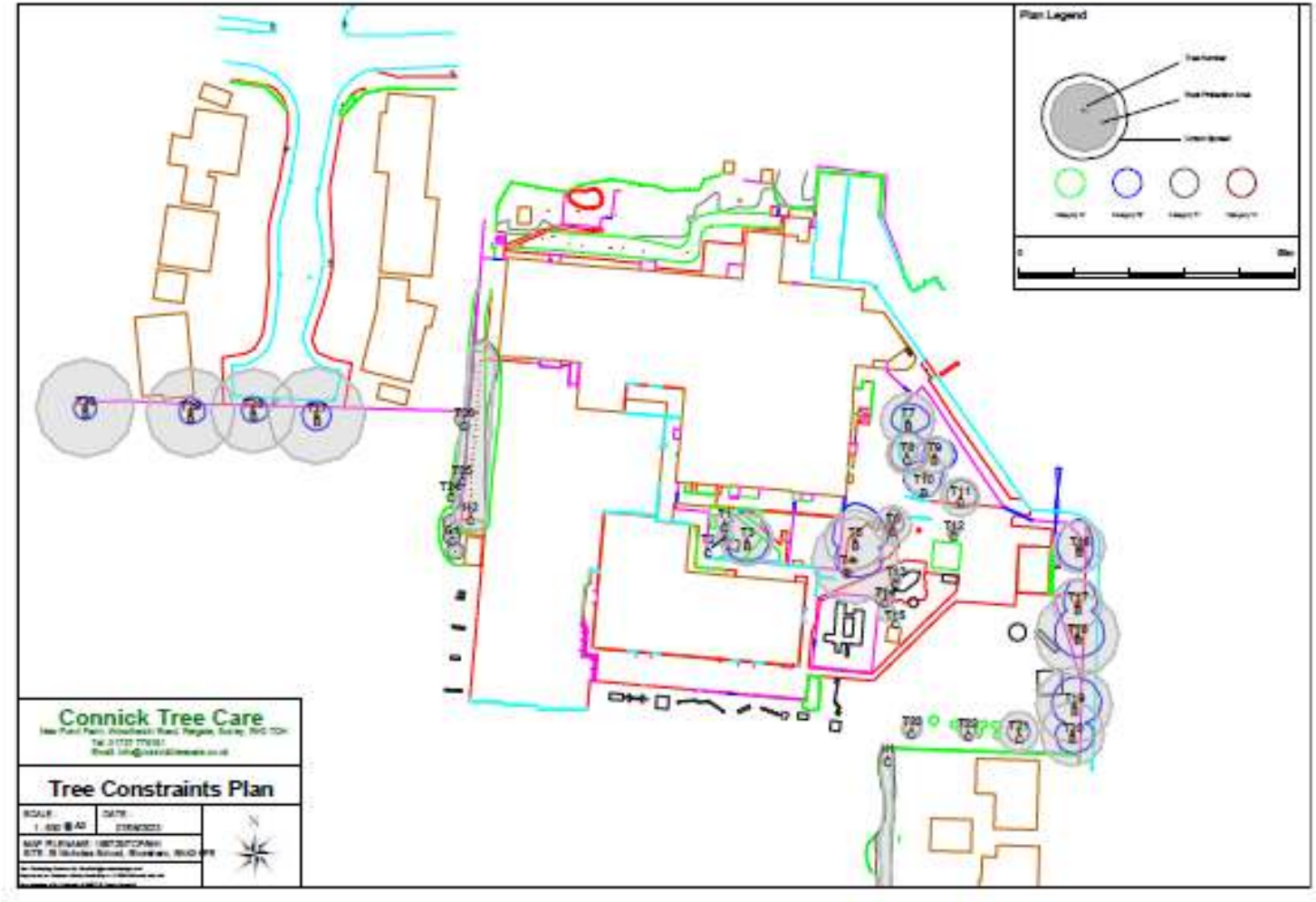


APPENDIX I TREE SURVEY SCHEDULE

See document: 199729 Appendix I St Nicholas St Marys Tree Survey Schedule.pdf

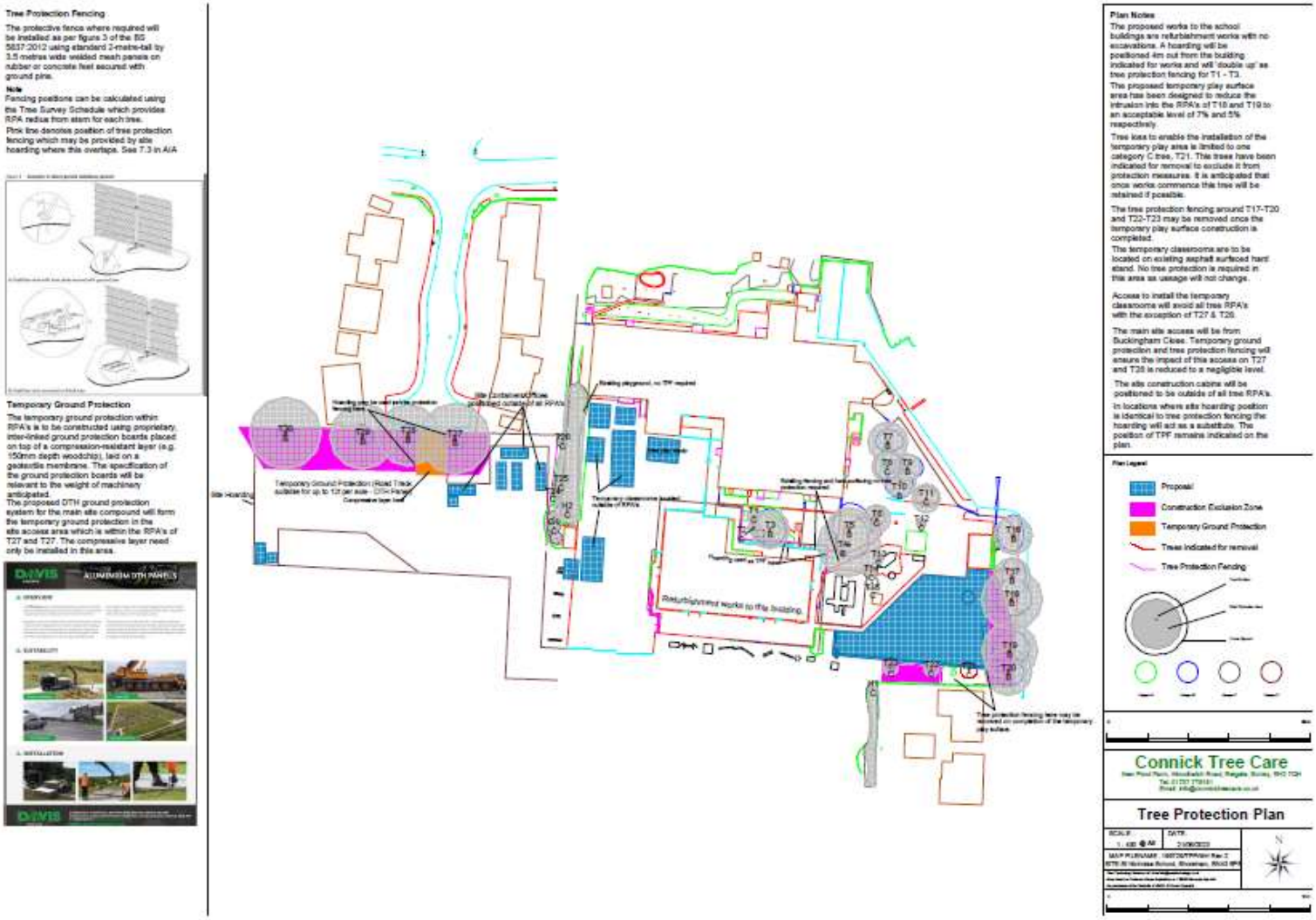
APPENDIX II **TREE CONSTRAINTS PLAN**

Also see document: 199729 Appendix II St Nicholas St Marys Tree Constraints Plan.pdf



APPENDIX III TREE PROTECTION PLAN

Also see document: 199729 Appendix III Rev.3 St Nicholas St Marys Tree Protection Plan.pdf



APPENDIX IV QUALIFICATIONS AND EXPERIENCE

Mark Haddock

1. QUALIFICATIONS

Subjects	Level	Dates
Professional Tree Inspection (LANTRA)	Pass	August 2017
Environmental Science BSc (Hons)	2:2	1991
NPTC cs30, cs31, cs38, cs39	Pass	From 1988 ongoing

2. CAREER SUMMARY

Beginning in 1988 between college and University I gained my first competency qualification as a working arborist. I went on to study an Environmental Science honours degree at UEA and had my dissertation published by the Forestry Commission under their own research banner. I worked for 8 years as an estates and project manager for University of London and a housing association before returning to the industry and establishing my own contracting Arboricultural company. A ‘hands on’ role directing the business and climbing on a daily basis I traded successfully for 19 years. An academic interest in trees steered a change of direction, qualifying as a professional tree inspector. This progression gave me the opportunity to work as an Arboricultural consultant at Connick tree care.

3. AREAS OF EXPERTISE

Tree hazard risk assessments for tree owners
Decay assessment and mapping
Tree management reports to prioritise maintenance programs
Diagnosis of tree disorders
General Arboricultural advice
Trees in relation to subsidence
Arboricultural surveys to BS5837