

Arboricultural Impact Assessment Arboricultural Method Statement Tree Protection Plan

229 NORTH ROAD, YATE, BRISTOL, BS37 7LG



On behalf of

Lucy and Kirk Scott

Prepared by

Alister Rankine BSc (Forestry); Tech Cert (Arbor A), ProfArborA *Arboricultural Consultant*

January 2024

Version No	Checked by	Date
1.0	SR	11/01/2024



- <u>Proposed Development</u>: The construction of 4 detached dwellings with associated access and parking
- Number of Trees on Site: 28
- Number of Hedges on Site: 5
- Number of Trees to be Removed: 2
- <u>Tree Protection</u>: Tree protection barriers, tree protection site notices, temporary ground protection

1.0 Introduction

1.1 Brief

This report is prepared by Hillside Trees Ltd on behalf of Lucy and Kirk Scott

1.2 Purpose of the Report

- **1.2.0** This report is intended to accompany a planning application relating to proposed development at 229 North Road. This document has been produced to demonstrate that the implications of the proposed development in relation to the arboricultural and landscape value of the trees on the site have been fully considered during the detailed design process.
- **1.2.1** This report and the accompanying information is supplied in order to:
 - Identify trees to be removed and those to be retained and requiring protection during the site preparation and construction phase of the project.
 - Present information regarding the location of protective barriers (Construction Exclusion Zones) and temporary ground protection on a Tree Protection Plan.
 - Identify special engineering measures
 - Provide a Detailed Arboricultural Method Statement for the recommended works related to trees to be retained during and after the development.

1.3 Documents Provided to Hillside Trees Ltd.

- Existing Site Plan LPC Drawing No: LPC 5357 EX 102
- Topographical Survey: South West Surveys Drawing No: SWS042223topoB
- Proposed Site Plan: LPC Drawing No: LPS 5357 PR 101

1.4 Tree Survey Methodology

- **1.4.1** A tree survey was undertaken on 15th September 2023 by an Arboricultural Consultant of Hillside Trees Ltd.
- **1.4.2** The survey took place from ground level aided by the Visual Tree Assessment method (Mattheck and Breloer, 1994).

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Hillside Trees Ltd 2 Hillside, Bowden Hill, Chilcompton, Radstock, BA3 4EN Tel: 01761 233244 E: enquiries@hillsidetrees.co.uk **1.4.3** This survey is not a tree risk assessment but takes into account any observed structural defects of the trees in order to inform conclusions with regard to their retentive worth.

1.5 Data Collection

1.5.1 Data collected includes designated tree number, tree species, height, number of stems, stem diameter, crown clearance (height of periphery of crown spread above ground level), branch spread (to N, S, E and W), age class, physiological condition, useful life expectancy, tree structural condition, site notes (where this has a bearing on the present or future health or structural condition of the tree), and tree category.

1.6 Presentation of the Data Collected

- **1.6.1** Data collected regarding individual trees, groups of trees and hedges are presented in the Tree Schedule table in Appendix A in accordance with BS5837:2012 'Trees in relation to design, demolition and construction Recommendations'. The tree schedule also gives scientific names for all trees mentioned in the report.
- **1.6.2** The data significant to the proposed site layout is also presented on the Tree Protection Plan Drawing Number 240104-NRY-TPP-SD contained within the Detailed Arboricultural Method Statement (Appendix B).
- **1.6.3** All other relevant data are presented within the main body of this report.
- **1.6.4** Trees have been allocated an individual tree number. This tree number is used to identify individual trees, groups of trees and hedges throughout this report, within the Tree Schedule and on all plans presented in the appendices of this report.

2.0 Arboricultural Constraints

An assessment of the trees surveyed presented in the Tree Schedule table in Appendix A, is also considered in the main body of the report below.

A Tree Constraints Plan has been produced showing the root protection areas (RPAs) for the individual trees identified in the Tree Schedule (Appendix A). This represents the minimum area in m² which ideally should be left undisturbed around each tree were it to be retained. The RPA has been calculated in accordance with Section 4.6 of BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

The Tree Constraints Plan also shows a representation of the crown spread of each tree measured in four cardinal directions.

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The preparation of the Tree Constraints Plan described above has assisted in the design of the site layout through presenting the above and below ground constraints posed to the development of the site by the trees present.

It is believed that several of the mature boundary trees are subject to a Tree Preservation Order.

2.1 Trees Identified for Retention and Removal

The proposed development works involves the construction of 4 detached dwellings with associated access and parking

All on site trees and hedges will be retained with the exception 2 trees which will be replaced by the following number of trees under the South Gloucestershire Tree Replacement Standard

Tree no	Common name	Stem diameter in cm at 1.5m	No. Replacement trees needed
T1	Contorted willow	25.1	2
T6	Plum	18.0	N/A – U category tree
	Total nun	2	

1 small section of hedge will also be removed

2.2 Trees Outside Site Boundary

There are no trees outside the site boundary which are affected within the current proposals.

3.0 Tree Protection

The trees to be retained on site during and after development as listed in Section 2.1 will require protection.

Protection measures based on the RPA's presented in the Arboricultural Impact Assessment Plan, will involve the erection of tree protection barriers as discussed in the Detailed Arboricultural Method Statement (Appendix B). Where the proposed site layout requires the breaching of these ideal areas, measures are recommended in order to minimise the damage to the roots and the root environment of the tree in question. Such measures acknowledge the fact that the extent, distribution and actual position of roots of a tree within the RPA are not known.

REFERENCES

Mattheck, C. and Breloer, H. (1995). The Body Language of Trees: A handbook for failure analysis. Research for Amenity Trees 4. HMSO, London, 240pp.

STANDARDS PUBLICATIONS

Trees in relation to design, demolition and construction – Recommendations (BS5837), British Standards Institution, London (2012)

Tree Work Recommendations (BS3998), British Standards Institution, London (2010)

Appendix A

Tree Schedule

Table 1 Cascade Chart taken from BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.

Appendix A - Tree Schedule221-229 North Road, Yate

Clients: Lucy & Kirk Scott

Surveyor: Alister Rankine

Date of Survey: 15th September 2023



Tree Number	Single or Group	Number in Group	Common Name	Scientific Name	Height (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	Crown Clearance (m)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	Age Class	Physiological Condition	ULE (Years)	Tree Structural Condition and Site Notes.	BS Category
T1	S		Contorted willow	Salix matsudana Koidzumi 'Tortuosa'	10	251	2	3.01	3	2	2	2	2	М	F	10-20	Fair	C1
H25			Mixed Native Broadleaves		8	150	1	1.80	2	2	2	2	2	М	G	40+	Good	B2
G3	G	7	Oak	Quercus robur	22	1250	1	15.00	5	7	7	7	7	М	G	40+	Good	A1/2
H4			Mixed Native Broadleaves		8	150	1	1.80	2	3	3	3	3	М	G	40+	Good	B2
T5	S		Ash	Fraxinus excelsior	11	270	1	3.24	6	4	3	3	3	М	Р	<10	Poor. Stage 3 Ash Dieback Disease	U
T6	S		Plum	Prunus domestica	4	180	1	2.16	2	1	1	1	1	М	Р	<10	Fair	U
T7	S		Ash	Fraxinus excelsior	12	400	1	4.80	4	3	3	3	3	М	F	<10	Fair	U
H8			Hawthorn, Holly	Crataegus monogyna, Ilex aquifolium	8	150	1	1.80	2	3	3	3	3	М	F	10-20	Fair	C2
T9	S		Ash	Fraxinus excelsior	11	300	1	3.60	5	3	3	3	3	М	F	<10	Fair	U
T10	S		Purple cherry plum	Prunus cerasifera 'Pissardii'	7	311	3	3.73	4	3	4	3	3	М	Р	<10	Poor	U
T11	S		Sycamore	Acer pseudoplatanus	7	262	2	3.14	2	3	3	3	3	М	Р	<10	Poor	U
G12	G	2	Ash	Fraxinus excelsior	11	420	1	5.04	5	3	3	4	4	М	F	<10	Fair	U
H13			Hazel, Hawthorn	Corylus avellana, Crataegus monogyna	6	100	1	1.20	0	2	2	2	2	М	F	20-40	Fair	C2
T14	S		Oak	Quercus robur	14	580	1	6.96	8	5	5	5	5	М	G	40+	Good	B1/2
T15	S		Oak	Quercus robur	15	550	1	6.60	9	2	4	5	5	М	G	40+	Good	B1/2
T16	S		Oak	Quercus robur	15	780	1	9.36	8	5	7	6	7	М	G	40+	Good	B1/2
T17	S		Alder	Alnus glutinosa	14	683	4	8.19	6	4	4	3	4	М	F	20-40	Fair	C!
T18	S		Oak	Quercus robur	17	800	1	9.60	7	7	7	4	8	М	G	40+	Good	B1/2

Tree Number	Single or Group	Number in Group	Common Name	Scientific Name	Height (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	Crown Clearance (m)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	Age Class	Physiological Condition	ULE (Years)	Tree Structural Condition and Site Notes.	BS Category
G19	G	2	Ash	Fraxinus excelsior	17	450	1	5.40	6	6	6	6	6	М	Р	<10	Poor. Stage 2 Ash Dieback Disease	U
T20	S		Oak	Quercus robur	18	1250	1	15.00	6	6	6	6	6	М	G	40+	Fair. Cavity on north side of main stem	A1/2/3
T21	S		Oak	Quercus robur	18	790	1	9.48	7	6	6	6	6	М	G	40+	Good	A1/2
T22	S		Oak	Quercus robur	20	1082	2	12.98	8	6	7	7	7	М	G	40+	Good	A1/2
T23	S		Oak	Quercus robur	16	808	2	9.70	8	5	5	3	3	М	F	40+	Fair	B1/2/3
T24	S		Ash	Fraxinus excelsior	20	839	2	10.06	5	7	6	6	4	М	Р	<10	Poor. Stage 2 Ash Dieback Disease	U
H25			Hazel, Hawthorn	Corylus avellana, Crataegus monogyna	8	180	1	2.16	2	3	3	3	3	М	G	40+	Good	B2

Table 1 – Cascade chart for tree quality assessment

Category and definition		Identification on plan		
Category U Those in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	DARK RED RGB code 127-000-000 AutoCAD 246			
TREES TO BE CONSIDERED FO	OR RETENTION	Criteria - Subcategories		Identification on plan
Category and definition	1 Mainly arboricultural qualities	identification on plan		
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	LIGHT GREEN RGB code: 000-255-000 AutoCAD 90
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	MID BLUE RGB code: 000-000-255 AutoCAD 170
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	GREY RGB code: 091-091-091 AutoCAD 252

Appendix B

Detailed Arboricultural Method Statement



Arboricultural Method Statement Tree Protection Plan

229 NORTH ROAD, YATE, BRISTOL, BS37 7LG



On behalf of

Lucy and Kirk Scott

Prepared by

Alister Rankine BSc (Forestry); Tech Cert (Arbor A), ProfArborA *Arboricultural Consultant*

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Arboricultural Method Statement

INTRODUCTION

The purpose of this document is to give a step by step guide to protecting trees and hedges on this site. It is vital that all members of the team are familiar with it so that they not only understand **why** trees need protecting but also **how** they are to be protected and their own role in protecting them.

THE IMPORTANCE OF TREES

- Trees play a crucial role in the fight against climate change. One mature tree can absorb in the region of 1 tonne of carbon during its lifetime the world needs all the trees it can get
- Trees are an important wildlife habitat, for example many insects and birds rely on them for food and shelter
- Trees are an integral part of human habitat. People like trees for their landscape value and for their shading and sheltering properties

WHAT WILL CAUSE DAMAGE TO A TREE?

- Wounds to the trunk or limbs of a tree can let in pathogens which could go on to infect and eventually even kill a tree
- Removal of branches decreases the number of leaves a tree has. Leaves are vital to the tree for manufacture of the energy they need through photosynthesis
- Compaction of the soil around a tree will damage its roots making it unable to absorb water or oxygen which can result in the tree's death. The extent of the roots are shown on the Tree Protection Plan in the document below as Root Protection Areas or RPA's

HOW YOU AND YOUR TEAM CAN PREVENT DAMAGE TO TREES

- Ensure all members of the team read this document before work starts
- Follow the instructions given, don't cut corners
- Take pride in protecting trees treated well they will outlive you and continue to give benefit for years to come

Planning permission for this project depends on this method statement being followed. Dealing with breaches of condition is far harder, more time consuming and costly than following the instructions. Failure to comply could even result in prosecution.

THE PROJECT ARBORICULTURALIST IS ON HAND TO HELP. IF IN DOUBT, PLEASE RING FOR ADVICE. 01761 233244

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This Method Statement Comprises:

- 1. Method Statement Document
- 2. Appendices:
 - I. Schedule of Tree Removal
 - II. Protective Barrier Specification and Tree Protection Site Notice
 - **III. Temporary Ground Protection**
- 3. Tree Protection Plan (240104-NRY-TPPB-SD)

THESE DOCUMENTS ARE TO BE KEPT TOGETHER

Full Site Address:

229 North Road Yate Bristol BS37 7LG

Proposed Development:

The proposed development works involves the construction of 4 detached dwellings with associated access and parking

Contacts:

Client:

Lucy and Kirk Scott

Project Manager (for the client):

Simon Chambers LPC (Trull) Ltd

Telephone: 07770 730331

Email: simon.chambers@lpctrull.com

Contractor / Builder:

To be confirmed

Site Manager:

To be confirmed

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Arboricultural Officer:

Kate Tate
Assistant Arboricultural Officer
Department of Environment & Community Services
South Gloucestershire Council

Tel: 01454 86953

Email: Kate.Tate@southglos.gov.uk

Project Arboriculturalist:

Alister Rankine Hillside Trees Ltd.

Telephone: 01761 233244

Email: alister@hillsidetrees.co.uk

Works Requiring Tree Protection / Works:

Development	Tree Number	Type of Protection / Works	Reference
Operations			
Site Traffic	H2, G3, H4, T7, T5, T9	Tree protection barrier	Appendix II
		Tree protection site notice	Appendix II
General	T1, T6, H2 (small section)	Remove	Appendix I
Construction			
	G3	Temporary ground protection	Appendix III
		Special engineering methods	Section 6

Sequencing of Operations:

The tree protection measures appropriate for the site operations below, if required by the Local Planning Authority will be monitored by the Project Arboriculturalist.

It will be the responsibility of the Project Manager and / or the Site Manager to inform the Project Arboriculturalist if site visits and reports are required and to arrange them accordingly.

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Please note: If the Project Manager and / or the Site Manager fails to inform the Project Arboriculturalist when site monitoring is required and the schedule of monitoring visits is not followed, it will not be possible to issue a Certificate of Compliance at the end of the project.

1. Pre-commencement site meeting

a. The Appointed Contractor will co-ordinate with the Project Arboriculturalist to discuss and agree the site operations programme and tree protection.

2. Carry out tree removal (See Appendix I)

- a. All tree surgery works will be carried out by a suitably qualified and experienced tree surgeon
- b. All works will be carried out to industry best practice and will be in accordance with BS3998

3. Install tree protection barriers

- a. Tree protection barriers will be installed in the locations shown on the Tree Protection Plan
- b. The area between the tree protection barriers and the trees will be construction exclusion zones (CEZ's)
- c. Tree protection barriers will be constructed to specification described in Appendix II or 'Heras' weldmesh panels secured in robust bases and tightly clamped.
- d. If tree roots are encountered during the erection of the scaffold framework for the tree protection barriers uprights will be realigned to avoid damage.
- e. Site Notices will be securely fixed to the tree protection barrier panels (Appendix II)
- f. There will be no movement of tree protection fencing unless it is overseen by the Project Arboriculturalist



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g. No activity is planned to take place within the CEZ's; however, any work that does take place within the CEZ's will require approval of the Local Planning Authority and will be overseen and approved by the Project Arboriculturalist.

4. Installation of temporary ground protection

- a. Temporary ground protection will be installed in the location indicated on the Tree Protection Plan.
- b. Ground protection will consist of scaffold boards or heavy duty chip board placed on top of a compression-resistant layer (e.g. 100mm depth woodchip) laid on to a geo-textile membrane.

5. Construction of new buildings

a. Construction of the new buildings will not require access to the CEZ's.

6. Construction of garage for westernmost plot

a. The garage for the westernmost dwelling lies on the edge of the RPA of G3. As a precaution the structure will be lightweight and use screw pile foundations to minimise any disturbance within the RPA

7. Installation of services

a. Installation of services will not require access to the CEZ's

8. Removal of tree protection barriers and ground protection

- a. Tree protection barriers and ground protection will only be removed once all works associated with the development have been completed. These include:
 - Construction and fitting out of the new dwellings
 - Installation of services



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General Precautions

- 1. Any site office, welfare facilities and site storage will be positioned outside the CEZ's. The location will be agreed between the Site Manager and the Project Arboriculturalist prior to commencement of the project.
- 2. Any crane or plant for the manoeuvring of materials will be sited on locations to be agreed between the Site Manager and the Project Arboriculturalist prior to commencement of the project. All crane operations should be conducted under the supervision of a banksman to ensure adequate clearance from the retained trees is maintained at all times.
- 3. No materials that are likely to have an adverse effect on tree health will be stored or discharged within 10 metres of the trunk of a tree that is to be retained. Such materials include:
 - Oil
 - Bitumen
 - Cement
- 4. No fires will be lit unless the site of the fire is agreed with the Project Arboriculturalist.
- 5. Concrete will not be mixed or transported over unprotected ground, within 10 metres of the trunk of any tree.
- 6. In the event of unforeseen incidents occurring that may adversely affect or threaten the welfare or security of the trees, the Site Manager shall inform the Project Arboriculturalist at the earliest opportunity and not more than one working day following the incident.
- 7. The Project Arboriculturalist will visit the site to inspect and assess the circumstances and make any appropriate recommendations. The Local Planning Authority Arboricultural Officer will be informed by the Project Arboriculturalist of such incidents and recommendations will be submitted for approval by the Local Planning Authority, initially verbally, and then in writing.
- 8. A record of any emergency incidents and works shall be maintained by the Project Arboriculturalist.
- 9. Incidents which may merit such contingency plans include:
 - Accidental / unauthorised damage to the limbs, roots or trunk of trees



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- The spillage of chemicals within or adjacent to a Root Protection Area
- The discharge of toxins / waste within or adjacent to a Root Protection Area
- The un-scheduled breaching of a tree protective barrier or Construction Exclusion Zone

This Method Statement has Been Informed by the Following Information

- Arboricultural Site Survey carried out by Hillside Trees Ltd on 15th September 2023
- Existing Site Plan LPC Drawing No: LPC 5357 EX 102
- Topographical Survey: South West Surveys Drawing No: SWS042223topoB
- Proposed Site Plan: LPC Drawing No: LPS 5357 PR 101
- BS5837: 2012 'Trees in relation to design, demolition and construction Recommendations'



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Appendix I

Schedule of Tree Removal

Tree Number	Work Specification
T1, T6	Take down to ground level. Remove roots or grind stumps
H2	Remove small section to facilitate building work

All tree removal works will be carried out by a suitably qualified and experienced tree surgeon

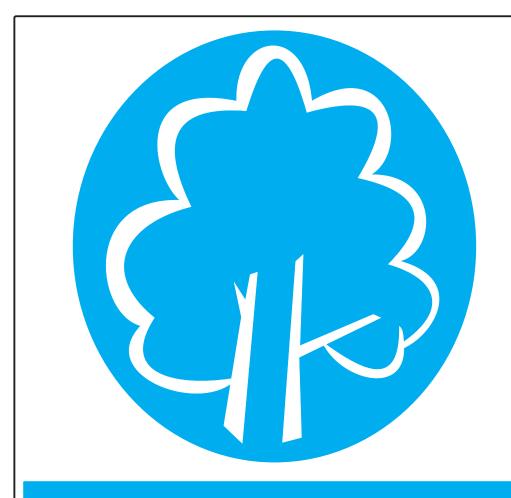
All works will be carried out to industry best practice and will be in accordance with BS3998:2010 'Works to Trees'



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Appendix II

Tree Protection Site Notice



PROTECTIVE FENCING. THIS
FENCING MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.



TREE PROTECTION AREA KEEP OUT!

(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A
TREE PRESERVATION ORDER.

CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

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Appendix III

Temporary Ground Protection



Temporary Ground Protection Method and Specification

BS5837 recognizes that incursions in to the construction inclusion zones will be required at times during some developments.

The objective is to minimize soil compaction

Example 1 - for pedestrian movements only, a single thickness of scaffold boards places either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g.) 100mm depth of woodchip), laid on to a geotextile membrane.

Example 2 - For pedestrian-operated plant up to a gross weight of 2 t, proprietary inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane;

Example 3 - For wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

WOODEN BOARDING/TRACK-WAY

WOODCHIP 100mm-200mm

GEOTEXTILE MEMBRANE

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Tree Protection Plan

Drawing No: 240104-NRY-TPPB-SD

