CARNEY & STONE

Arboricultural Consultants

TREE MANAGEMENT PLAN REVISED MARCH 2019

160 WHITEHORSE Rd BLACKBURN

MARCH 2019

CARNEY & STONE
Arboricultural Consultants

Residential
145 Kuhnes Rd Mardan 3953
Postal
PO Box 19 Leongatha 3953 Vic
Phone - 0356641399, Mobile – 0418865143
Email - arborist @netspace.net.au

TREE MANAGEMENT PLAN - REVISED MARCH 2019

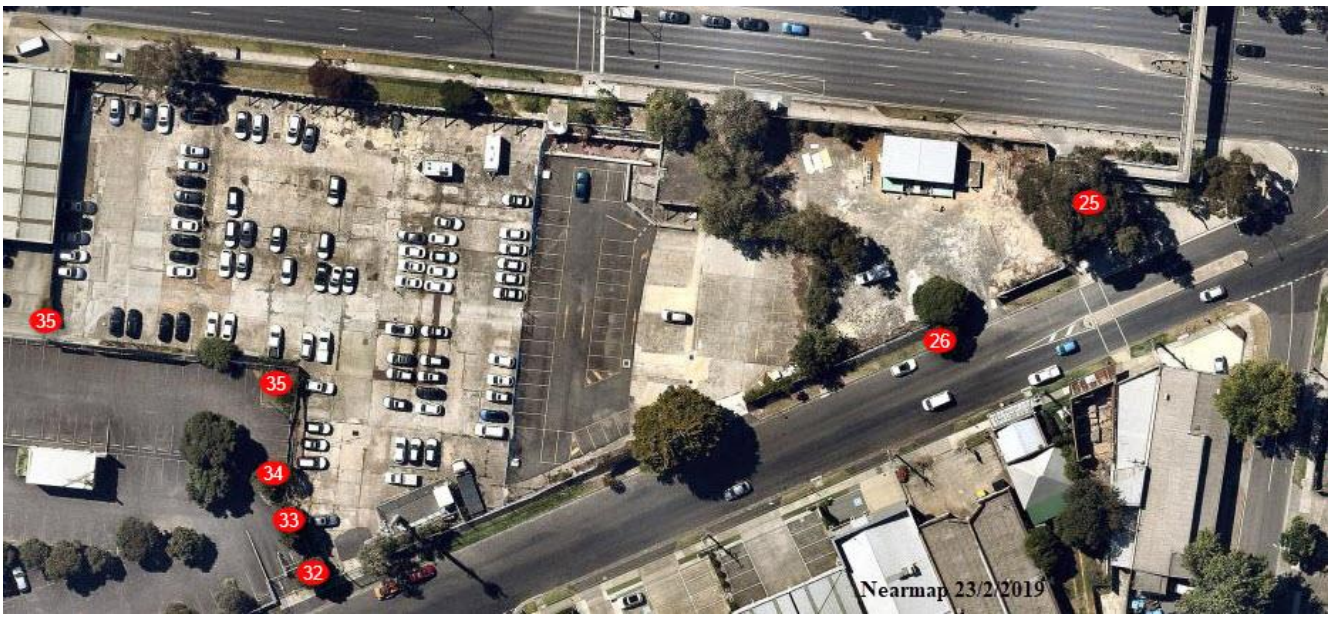
1. **Location:** 160 Whitehorse Rd Blackburn

2. **Prepared By:** Leigh Stone
   Associate Diploma of Applied Science (Horticulture) – Arboriculture
   Bachelor of Applied Science (Horticulture)

3. **Date of Plan:** 16/3/2017

4. **Purpose of Plan:**

   4.1. To provide a Tree Management Plan for 7 trees adjoining the subject property in view of a commercial development on the subject property, in response to the request outlined in Conditions of the Planning Permit WH/2017/277 from the City of Whitehorse. See **Photograph 1** below.



4.2. The project consists of a multi-storey tower complemented by basement carparks as seen in the perspective below.

4.3. **Tree 25** is located in a small adjoining triangle on the corner of Whitehorse Rd and Railway Rd.
Tree 26, a small street tree, is located part way down Railway Rd from Whitehorse Rd.
Trees' 32, 33, 34 35 and **36** are located in the adjoining property at 95-99 Railway Rd, to the E, which is controlled by the owners of the subject property.

4.3.1. **Tree's 32, 33** and **34** are located close to the side boundary adjoining the service entrance to the project off Railway Rd. Their root systems will be encroached upon well in excess of the 10% limit of the Minor Encroachment, and as they are semi mature *Acacia melanoxylon* (Blackwood) they are readily replaced within the Railway Rd property.

4.3.1.1. The removal of the 3 trees would be subject to a permit from the City of Whitehorse.

4.3.2. **Tree 35** – *Eucalyptus leucoxylon* 'Rosea' (Pink Flowered Yellow Gum) is located in such a position that it will not be affected by the project at 160 Whitehorse rd.

4.3.3. **Tree 36** – *Ligustrum lucidum* (Privet) is an environmental weed that should be removed.

4.4. This Tree Management Plan is primarily concerned with the protection of **Tree 25**.

5. **Tree Management Plan:**

5.1. A qualified Arborist is to be nominated to oversee the Tree Management Plan as described in the attached drawings and outlined below.

5.2. The condition of the trees is recorded in the attached Tree Management Plan – 160 Whitehorse Rd Blackburn – Revised March 2019 – 7 trees – information collected 16/3/2017, modified March 2019.

5.3. *Tree Protection Zones*

5.3.1. The locations of the 7 trees, and their Tree Protection Zones (TPZ) are shown in the attached drawings. **Drawing 1** Tree Management Plan – 160 Whitehorse Rd Blackburn - Revised March 2019 Tree Protection Zones - Australian Standard AS4970:2009 – Basement 1 and **Drawing 2** Tree Management Plan – 160 Whitehorse Rd Blackburn - Revised March 2019 Tree Protection Zones - Australian Standard AS4970:2009 – Ground Floor.

5.3.2. The 2 drawings were prepared because the construction of the project involves the initial excavation for the basement carparks and then the construction of the tower. Each phase has an effect on **Tree 25** which could not be satisfactorily described in one drawing.

5.3.3. **Tree 25 – *Eucalyptus leucoxylon* – Yellow Gum –** is located on public land adjoining a pedestrian crossover.

5.3.3.1. This is a large tree in fair condition, which adjoined an open area which has been vacant for many years and was recently used as a storage area in the State Government's railway crossing removal project as seen in **Photograph 2** below.

5.3.3.2. As can be seen in the above photograph, the area surrounding the base of the tree has been subjected to considerable compaction from the weight of stored material plus the consistent traffic of loaders and trucks.

5.3.3.3. Compaction has the effect of limiting oxygen and water penetration into the soil, both of these components are vital to the welfare of any tree.

5.3.3.4. During the inspection in March 2017 the tree showed little signs of distress and the recent photographs don't show any major reduction in the tree's health.

5.3.3.5. Earlier photographs indicate a bitumen topping on the area adjoining the tree which was removed partially in 2015.

5.3.3.6. As can be seen in **Drawing 1** the low wall adjoining the tree produces an encroachment of **14.69%** if a conventional footing is used. To reduce the impact of this wall and reduce the encroachment to well below the 10% *Minor Encroachment* as suggested in the Australian Standard AS4970:2009, the wall must be constructed on piers leaving the surrounding soil untouched.

5.3.3.6.1. All pier holes to be hand dug to 500mm, avoiding roots in excess of 30mm.

5.3.3.6.2. There is to be no excavation in the existing ground levels.

5.3.3.6.3. Any fill over the root zone of the tree in excess of 200mm, is to have a layer of screenings placed on top of the existing soil as set out in the '**Fill Detail**' on **Drawing 1**.

5.3.3.7. **Drawing 2** to covers the intrusion of the construction of the ground floor. This encroachment is limited to **4.2%**.

5.3.4. **Tree 2 – *Eucalyptus leucoxylon* – Pink Flowered Cultivar.**

5.3.4.1. This small native has a small diameter at breast height which puts it into the minimum size category as set out in the *Australian Standard AS4970:2009 Protection of Trees on Development Sites*. In this category the minimum sized **TPZ** is **2.00m** with the **Structural Root Zone (SRZ)** set at **1.5m**.

5.3.4.2. As seen in **Drawing 1**, the development is expected to have limited effect on this tree.

5.3.5. The table below outlines some of the causes that can origin of a trees decline.

Injury	Causes	Possible Impact
Root loss Any roots excess of 15mm must be cut cleanly using a hand saw or secateurs.	• Excavation – Depending on species and soil conditions - even shallow depths – 50mm or more. • Preparation of original ground surface for paving or Driveway. • Trenching for service installation – all services to be bored or hand dug within the TPZ of a tree, except within the 10% encroachment allowance. • Trenching for construction of footings except within the 10% encroachment allowance.	• Die back of canopy and foliage loss. • Premature death of the tree • Undermine the stability of the tree creating potential for wind thrown collapse
Restriction of water and oxygen to the root zone	• Excessive compaction carried out in the TPZ during installation of paving, paths and driveway.	• Die back in canopy and foliage loss/discolouration.

Oxygen is required for energy creation – water is required for trees survival	• Activity of vehicles and machinery inside. TPZ. • Extensive foot traffic in limited area.	• Slow premature death of the tree.
Damage to the canopy or trunk Excess removal of foliage	• Poor pruning cuts (including access pruning). • Impact from machinery/equipment - breakages. • Attaching of equipment or signage to the tree.	• Disease & pest infection. • Die back of canopy and foliage loss. • Decay, cavity development. • Premature removal.
Poisoning	• Storage and mixing or disposing of chemicals, waste into the root zone. • Accidental spillage of chemical waste into the root zone.	• Die back of canopy and foliage loss/discolouration. • Fast premature death of tree.

5.4. *Construction*

5.4.1. Details of the Construction requirements are shown on attached **Drawing 3** Tree Management Plan – 160 Whitehorse Rd Blackburn - Revised March 2019 Construction Basement 1 and **Drawing 4** Tree Management Plan – 160 Whitehorse Rd Blackburn - Revised March 2019 Construction Ground Floor.

5.4.2. **Tree 25 -** All requirements as set out in **Drawing 3**, are to be installed prior to the to the start of any work on the site.

5.4.2.1. **Drawing 3 -** The requirements include for the **basement** construction.

5.4.2.1.1. **Temporary** and **permanent fencing** with **signage** is to be installed prior to the start of construction.

5.4.2.1.2. Roots cut cleanly along the excavation to a depth of 500mm using a root cutting machine – the location of the root cutting is set out in **Drawing 3**.

5.4.2.1.3. The roots of **Tree 35** are also to be cut cleanly with a root cutting machine – dimensions are set out on **Drawing 3.**

5.4.2.1.4. Spreading 100 mulch where indicated.

5.4.2.2. **Drawing 4** – The requirements cover the erection of the **ground floor**.

5.4.2.2.1. The temporary fencing is to be reduced as indicted on **Drawing 4**.

5.4.2.2.2. The paving to the inside of the low wall at the E corner of the tower is to be installed without excavation or change in existing levels.

5.4.2.2.3. **Pruning -** Any branches of the **Tree 25** that are considered to be a problem there must be consultation with the Project Arborist before any canopy is removed and **must be removed by a qualified arborist in accordance with AS4373:2007** ***Pruning Amenity Trees*** and **kept to a minimum.**

5.4.3. **Tree 26 – Drawing 3** indicates temporary fencing to erected before any work commences.

5.4.4. Details of the liability consequences for any permanent damage to trees can be found in the Law Journal as presented by Philip Hamilton QC (Hamilton 2000).

5.4.5. The Project arborist is required to inspect the installation of the mulch and fences and is to discuss the implications of the excavation on any tree roots.

5.4.5.1. All excavation contractors to be advised of the implications of the tree root *Preservation Guidelines* – See **par 5.4.6.** below.

5.4.6. *Preservation Guidelines*

Tree Roots - Tree roots supply water and nutrients to the tree and act as the attachment point to the surrounding soil. Tree roots generally expand laterally from the trunk, up to twice the height of the tree, normally in the top 600 mm of soil, and predominantly occupy the top 200 mm of the soil. Water and nutrients are generally taken up at the extremities of growing roots through microscopic root hairs.

At a point, close to the trunk, there are a number of large woody roots, recognized as the root plate, that act as the prime connection between the surrounding soil and tree. These roots are known as the *Structural Root Zone (SRZ)* and any construction impact in this area, could affect the tree's stability and future health.

This summary is intended to give an understanding of the cultural requirements of trees during construction and the reasoning behind the tree protection zones which are based on the *Australian Standard AS4970 Protection of Trees on Development Sites.*

5.4.6.1. Storage of construction materials, building waste, including paint, plaster, and concrete refuse, is to be excluded from TPZ of the trees including the mulched area.

5.4.6.2. Inside the TPZ of any tree, all roots are to be retained, only roots below 15mm are to be removed, if cut, they must be cleanly cut with handsaw or secateurs.

5.4.6.3. Installation of all services, including drainage, power, water, and gas are to be excluded from the TPZ of any tree at the design stage.

5.4.6.4. Boring rather than trenching is to be employed where service assets don't allow for any variation in access and services need to be installed inside the TPZ. This operation, if necessary, is to be carried with an arborist present.

5.4.6.5. In the above situation, where it is not practicable to bore, a hand excavation is to be employed with all roots in excess of 15mm left undamaged, and any pipe work for drains or sewerage to be installed in sections, to retain root integrity.

5.4.7. *Post Construction – Future Maintenance*

5.4.7.1. On completion of construction and before any landscaping is commenced, the Project Arborist is to attend and carry out an assessment of the 3 trees retained as per the attached Tree Management Plan – 160 Whitehorse Rd Blackburn - Revised March 2019

5.4.7.2. At this time, detailed photographs of all trees are to be taken by the arborist to record their condition.

5.4.8. *Timeline*

Task	Timing	Liaison
Site meeting to discuss TMP & implementation	Pre – Before start of Excavation	Site manager / Project arborist
Installation of TPZ fencing and mulch and protective boarding	Pre – Excavation	Site manager / Project arborist
Monitor installation of services, water gas etc, within the TPZ.	Start of Construction	Site manager / Project arborist/Service provider.
12-week interval inspections to evaluate TPZ maintenance.	Construction period	Site manager / Project arborist
Removal of fencing plus assessment of trees.	Post Construction	Site manager / Project arborist

5.4.9. The Site Manager appointed to supervise construction must be made aware of this **Tree Management Report** with associated drawings and prepare the *Preservation Guidelines* as set out above.

5.4.10. The *Preservation Guidelines* and **Drawings 1-4** are to be handed to the excavation contractors.

6. References:

6.1. Hamilton, P. 2000, Trees and the Law 2: occupiers liability and negligence, *Victorian Law Journal*, 74 (2) pp. 73-76.

6.2. Standards Association of Australia 2009, *Protection of Trees on Development Sites*, AS4970:2009, Standards Association of Australia, North Sydney.

6.3. Standards Association of Australia 2007, *Pruning Amenity Trees* AS4373:2007, Standards Association of Australia, North Sydney.

7. Attachments:

7.1. Tree Management Plan – 160 Whitehorse Rd Blackburn - Revised March 2019 – 7 trees.

7.2. **Drawing 1** Tree Management Plan – 160 Whitehorse Rd Blackburn - Revised March 2019 Tree Protection Zones - Australian Standard AS4970:2009 – Basement 1

7.3. **Drawing 2** Tree Management Plan – 160 Whitehorse Rd Blackburn - Revised March 2019 Tree Protection Zones - Australian Standard AS4970:2009 - Ground Floor

7.4. **Drawing 3** Tree Management Plan – 160 Whitehorse Rd Blackburn - Revised March 2019 Construction Basement 1

7.5. **Drawing 4** Tree Management Plan – 160 Whitehorse Rd Blackburn - Revised March 2019 Construction Ground Floor

8. **Glossary:**

8.1. **Amenity Trees** – Broadly described as any tree planted, or indigenous that has been influenced by the impact of man-made intrusion.

8.2. **Bifurcated –** Where two trunks or branches of near equal diameter emerge from a single point on a tree.

8.3. **Callus Material –** As part of the external wound isolation process, trees tend to create, via the cambium layer, new cells at the edge of the wound that in time tend to cover the wound area. This effect is dependent on the trees condition and the extent of this process is species related.

8.4. **Compaction –** Where soil is compressed so that the infiltration of oxygen and water is reduced. Compacted soil restricts gaseous exchange to the roots thus limiting respiration in the root cells. The ability of water to permeate is also restricted, and the tree may die or can in time, react by shedding limbs in order to accomplish an equilibrium with the available water and nutrient supply. Compaction can be caused by vehicle, human and animal traffic; is difficult to alleviate, with the accepted method of alleviation being removal of the cause and the mulching of the root zone.

8.5. **Cultural Conditions –** Describes the basic requirements for sound tree or plant growth – adequate water and nutrient availability, exposure to sufficient sun light, access to clean air and suitable soil to supply positive growing conditions.

8.6. **DBH –** Diameter at breast height, generally accepted as the average of two diameter measurements of a tree's trunk at approx. 1200 mm from the natural ground level.

8.7. **Decline –** Describes a tree that may be prematurely senescing.

8.8. **Decurrent –** Trees that exhibit weak apical dominance and tend to have a rounded form. Typical are mature *Ulmus* spp. and most Eucalypts.

8.9. **Dicot -** A flowering plant with two embryonic seed leaves or cotyledons that usually appear at germination

Embryo with two cotyledons
Pollen with three furrows or pores
Flower parts in multiples of four or five
Major leaf veins reticulated
Stem vascular bundles in a ring
Roots develop from radicle
Secondary growth often present

8.10. **Endemic –** A plant particular to a particular area.

8.11. **Epicormic Growth -** Growth emanating from adventitious buds located along branches or at the site of heavy pruning or lopping. A feature of epicormic growth is the nature of the ongoing attachment of these branches. Unlike conventional branches that have developed an interlocking lamination between trunk and branch, epicormic growth develops quickly on the surface of a branch

or trunk in reaction to the reduction of photosynthetic capacity. As the attachment is poor, epicormic branches are likely to fail in moderate storms.

8.12. **Excurrent –** Trees that exhibit apical dominance. Typical are most young conifers.

8.13. **Fair –**A tree in fair condition exhibits a less than full canopy, presence of deadwood, minor insect infestations, isolated epicormic growth, no visible signs of decay, minor structural problems such as crossing branches, low hazard potential included bark. A fair tree will exhibit most of these features.

8.14. **Good** The condition of a tree is described as good when it presents with a full canopy, little or no signs of any insect pests, is free of epicormic growth, no visible signs of decay, little if any deadwood in the canopy, no visible signs of root damage, no obvious structural or morphological problems such as branches with included bark or acutely angled bifurcations. A good tree will have all of these features.

8.15. **Hazard Assessment -** Where danger represented by the tree's presence or condition is quantified in relation to the targets present, such as people or buildings or property.

8.16. **Heartwood –** The central section of the trunk of an established tree, essentially an area in the tree where waste products are stored in old cells, formerly used for the transport of water and nutrients from the roots.

8.17. **Included Bark –**The condition occurs where the angle of branch connection to a trunk or where bifurcated trunks join, is so acute as to prevent a sound biological union of the two sections. The resulting union can become unstable and fail in moderate storms.

8.18. **Lopping and Topping –** As defined in the Australian Standard AS 4373 – 1996 'is the random cutting of branches or stems between branch unions and internodes on young trees. This is an unacceptable practice for the following reasons

1. It increases the rate of shoot production and elongation**.**
2. The resulting regrowth is weakly attached and becomes prone to failure or collapse.
3. The stubs may decay.
4. The natural habit of the tree is destroyed.
5. It may reduce the lifespan of the tree.
6. It predisposes trees to fungal infections and insect attack.
7. It is considered undesirable to lop mature trees for the reasons stated above.

8.19. **Mature** – Describes the condition of a tree that has grown to a stage where it shows only minor annual growth and has reached close to its maximum size. The onset and duration of maturity is dependent upon the species and cultural conditions in which the tree is growing.

8.20. **Monocot** - Any of various flowering plants, such as grasses, orchids, and lilies, having a single cotyledon in the seed.

Embryo with single cotyledon
Pollen with single furrow or pore
Flower parts in multiples of three

Major leaf veins parallel
Stem vascular bundles scattered
Roots are adventitious
Secondary growth absent

8.21. **Morphological –** Relates to the external structural features of an organism, especially from the aspect of shape and degree of differentiation.

8.22. **Native –** A plant originating in the country where found.

8.23. **Poor –** A tree is considered to be in poor condition when it exhibits extensive tip dieback in branches, a depleted canopy, extensive epicormic growth, obvious fungal decay, insect infestations, extensive included bark, extensive deadwood. A poor tree may have all or most of these features.

8.24. **Semi-Mature** – Describes a tree that shows active annual growth but has reached close to its genetic potential with regards to height and width of canopy. The onset and duration of semi-maturity is dependent on the species and cultural conditions in which the tree is growing.

8.25. **Senescence –** The process of aging; physiological decline. In a tree, the time at which there is little if any new annual growth. The onset of senescence is dependent on the species and cultural conditions in which the tree is growing.

8.26. **Sinker Roots –** Occur in the root systems of many tree species and consist of vertical roots emanating from the large lateral roots close to the trunk. These roots aid the stability of the tree.

8.27. **Soil Horizons A1 & A2 –** Generally accepted as the top two layers in a duplex the soil profile. Horizon A1**.** being the humus layer, darker in colour adjoining the surface. Horizon A2 being the next layer below, below generally lighter in colour of the same texture as horizon A1

8.28. **Sounding –** The technique employed by many foresters to determine the integrity of the internal structure of a tree. The method involves tapping around the trunk, near the base of the tree, using the head of an axe. The variation or otherwise in the sound of the tapping gives the experienced ear an indication of any decay/hollow, that may be present in the trunk of a tree.

8.29. **Tap Root –** The primary root that occurs at the germination of most trees and grows straight down but tends to become subservient to the lateral root system as it develops and subsequently takes over the responsibilities of the taproot. In time, it can become inoperative and disappear.

8.30. **Tree –** A woody plant, usually with a single stem, and more than 5 metres tall.

8.31. **Young** – Describes a tree that is actively growing and shows significant increases in annual growth. The duration and extent of the growth of a young tree depends on the species and cultural conditions in which it is growing.

9. End of Tree Management Plan

Tree Management Plan - 160 Whitehorse Rd Blackburn - Revised March 2019

Site Location	160 Whitehorse Rd Blackburn
Tree Number	25
Location of Tree	As per attached Drawing 1
Date	16-03-2017
Botanical Name	*Eucalyptus leucoxylon*
Common Name	Yellow Gum
Type	10. Australian Native
Age	3. Mature
DBH in mm	850
DBH in mm Codominant Base	
Height in Metres	20
Width in Metres	15
Condition/Health/Vigour	2. Fair - Some Deadwood
Tree Structure	4. Fair - Codominant Stems
Root System	7. Filled Around Trunk
Root Buttress	1. Buried
Trunk	9. No Damage
Environmental Conditions	6. Area unmulched
Diseases	1. None Seen
Infestations	3. Psyllids
Hazard	4. Failure Long Term
Prune	7. None
Deadwood	4. None
Branch Removal	10. None
Monitor Decay	7. No
Remove Tree	1. Do Not Remove
Comments - General	1. Tree in Fair Condition - Monitor
Comments - Tree Structure	

Tree Management Plan - 160 Whitehorse Rd Blackburn - Revised March 2019

Site Location	Street Tree Railway Rd Blackburn
Tree Number	26
Location of Tree	As per attached Drawing 1
Date	16-03-2017
Botanical Name	*Eucalyptus leucoxylon 'Rosea'*
Common Name	Pink Flowered Yellow Gum
Type	10. Australian Native
Age	1. Young
DBH in mm	145
DBH in mm Codominant Base	
Height in Metres	4
Width in Metres	3
Condition/Health/Vigour	2. Fair - Some Deadwood
Tree Structure	4. Fair - Codominant Stems
Root System	8. No Damage Seen
Root Buttress	6. OK
Trunk	9. No Damage
Environmental Conditions	6. Area unmulched
Diseases	1. None Seen
Infestations	1. None Seen
Hazard	4. Failure Long Term
Prune	7. None
Deadwood	4. None
Branch Removal	10. None
Monitor Decay	7. No
Remove Tree	1. Do Not Remove
Comments - General	1. Tree in Fair Condition - Monitor
Comments - Tree Structure	

Site Location	160 Whitehorse Rd Blackburn
Tree Number	32
Location of Tree	As per attached Drawing 1
Date	16-03-2017
Botanical Name	*Acacia melanoxylon*
Common Name	Blackwood
Type	10. Australian Native
Age	2. Semi Mature
DBH in mm	340
DBH in mm Codominant Base	
Height in Metres	8
Width in Metres	6
Condition/Health/Vigour	2. Fair - Some Deadwood
Tree Structure	4. Fair - Codominant Stems
Root System	2. Exposed Roots
Root Buttress	6. OK
Trunk	6. Wound Lower
Environmental Conditions	5. Area mulched
Diseases	1. None Seen
Infestations	1. None Seen
Hazard	4. Failure Long Term
Prune	7. None
Deadwood	4. None
Branch Removal	10. None
Monitor Decay	7. No
Remove Tree	2. Remove not viable in current position
Comments - General	Remove Tree - property controlled by owners of 160 Whitehorse Rd
Comments - Tree Structure	Major encroachment by basement construction

Tree Management Plan - 160 Whitehorse Rd Blackburn - Revised March 2019

Site Location	95-99 Railway Rd Blackburn
Tree Number	33
Location of Tree	As per attached Drawing 1
Date	16-03-2017
Botanical Name	*Acacia melanoxylon*
Common Name	Blackwood
Type	10. Australian Native
Age	2. Semi Mature
DBH in mm	240
DBH in mm Codominant Base	
Height in Metres	9
Width in Metres	4
Condition/Health/Vigour	2. Fair - Some Deadwood
Tree Structure	8. Fair - Leaning Codominant Stems
Root System	2. Exposed Roots
Root Buttress	6. OK
Trunk	9. No Damage
Environmental Conditions	5. Area mulched
Diseases	1. None Seen
Infestations	1. None Seen
Hazard	4. Failure Long Term
Prune	7. None
Deadwood	4. None
Branch Removal	10. None
Monitor Decay	7. No
Remove Tree	2. Remove not viable in current position
Comments - General	Remove Tree - property controlled by owners of 160 Whitehorse Rd
Comments - Tree Structure	Major encroachment by basement construction

Site Location	95-99 Railway Rd Blackburn
Tree Number	34
Location of Tree	As per attached Drawing 1
Date	16-03-2017
Botanical Name	*Acacia melanoxylon*
Common Name	Blackwood
Type	10. Australian Native
Age	2. Semi Mature
DBH in mm	255
DBH in mm Codominant Base	
Height in Metres	8
Width in Metres	5
Condition/Health/Vigour	2. Fair - Some Deadwood
Tree Structure	10. Poor - Codominant Stems - Included Bark
Root System	2. Exposed Roots
Root Buttress	6. OK
Trunk	9. No Damage
Environmental Conditions	5. Area mulched
Diseases	1. None Seen
Infestations	1. None Seen
Hazard	4. Failure Long Term
Prune	7. None
Deadwood	4. None
Branch Removal	10. None
Monitor Decay	7. No
Remove Tree	2. Remove not viable in current position
Comments - General	Remove Tree - property controlled by owners of 160 Whitehorse Rd
Comments - Tree Structure	Major encroachment by basement construction

Tree Management Plan - 160 Whitehorse Rd Blackburn - Revised March 2019

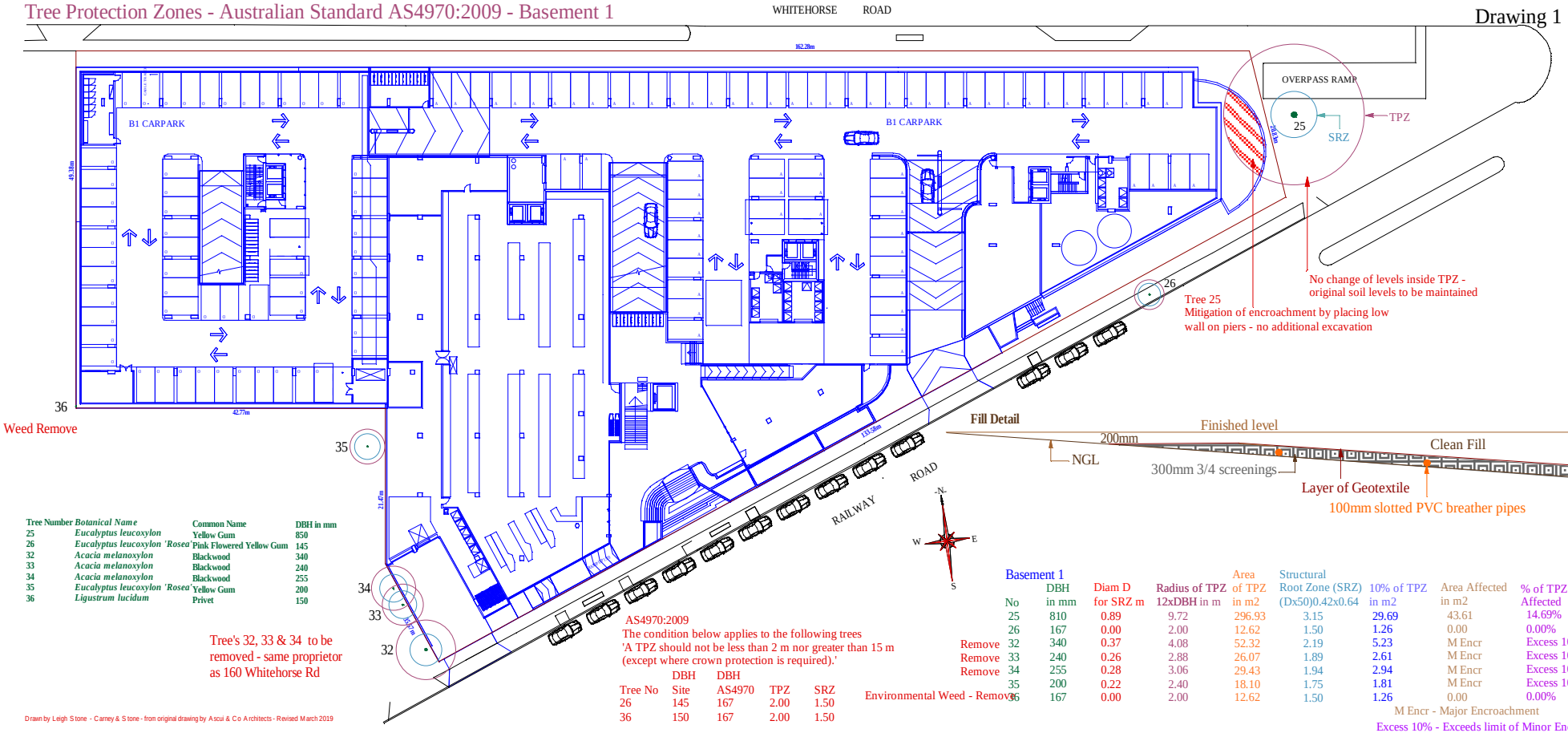
Site Location	95-99 Railway Rd Blackburn
Tree Number	35
Location of Tree	As per attached Drawing 1
Date	16-03-2017
Botanical Name	*Eucalyptus leucoxylon 'Rosea'*
Common Name	Yellow Gum
Type	10. Australian Native
Age	1. Young
DBH in mm	200
DBH in mm Codominant Base	140,150
Height in Metres	6
Width in Metres	5
Condition/Health/Vigour	2. Fair - Some Deadwood
Tree Structure	8. Fair - Leaning Codominant Stems
Root System	8. No Damage Seen
Root Buttress	6. OK
Trunk	9. No Damage
Environmental Conditions	5. Area mulched
Diseases	1. None Seen
Infestations	1. None Seen
Hazard	5. Current Hazard Potential - Low
Prune	7. None
Deadwood	4. None
Branch Removal	10. None
Monitor Decay	7. No
Remove Tree	1. Do Not Remove
Comments - General	1. Tree in Fair Condition - Monitor
Comments - Tree Structure	

Site Location	95-99 Railway Rd Blackburn
Tree Number	36
Location of Tree	As per attached Drawing 1
Date	16-03-2017
Botanical Name	*Ligustrum lucidum*
Common Name	Privet
Type	8. Exotic
Age	1. Young
DBH in mm	150
DBH in mm Codominant Base	
Height in Metres	4
Width in Metres	3
Condition/Health/Vigour	2. Fair - Some Deadwood
Tree Structure	10. Poor - Codominant Stems - Included Bark
Root System	8. No Damage Seen
Root Buttress	6. OK
Trunk	9. No Damage
Environmental Conditions	6. Area unmulched
Diseases	1. None Seen
Infestations	1. None Seen
Hazard	5. Current Hazard Potential - Low
Prune	7. None
Deadwood	4. None
Branch Removal	10. None
Monitor Decay	7. No
Remove Tree	5. Remove - Environmental Weed Species
Comments - General	11. Remove Tree
Comments - Tree Structure	Environmental weed

Tree Management Plan - 160 Whitehorse Rd Blackburn - Revised March 2019

Tree Protection Zones - Australian Standard AS4970:2009 - Basement 1

Drawing 1



Tree Number	*Botanical Name*	Common Name	DBH in mm
25	*Eucalyptus leucoxylon*	Yellow Gum	850
26	*Eucalyptus leucoxylon 'Rosea'*	Pink Flowered Yellow Gum	145
32	*Acacia melanoxylon*	Blackwood	340
33	*Acacia melanoxylon*	Blackwood	240
34	*Acacia melanoxylon*	Blackwood	255
35	*Eucalyptus leucoxylon 'Rosea'*	Yellow Gum	200
36	*Ligustrum lucidum*	Privet	150

Tree's 32, 33 & 34 to be removed - same proprietor as 160 Whitehorse Rd

AS4970:2009
The condition below applies to the following trees
'A TPZ should not be less than 2 m nor greater than 15 m (except where crown protection is required).'

Tree No	DBH Site	DBH AS4970	TPZ	SRZ
26	145	167	2.00	1.50
36	150	167	2.00	1.50

Basement 1

	No	DBH in mm	Diam D for SRZ m	Radius of TPZ 12xDBH in m	Area of TPZ in m2	Structural Root Zone (SRZ) (Dx50)0.42x0.64	10% of TPZ in m2	Area Affected in m2	% of TPZ Affected
	25	810	0.89	9.72	296.93	3.15	29.69	43.61	14.69%
	26	167	0.00	2.00	12.62	1.50	1.26	0.00	0.00%
Remove	32	340	0.37	4.08	52.32	2.19	5.23	M Encr	Excess 10%
Remove	33	240	0.26	2.88	26.07	1.89	2.61	M Encr	Excess 10%
Remove	34	255	0.28	3.06	29.43	1.94	2.94	M Encr	Excess 10%
	35	200	0.22	2.40	18.10	1.75	1.81	M Encr	Excess 10%
Environmental Weed - Remove	36	167	0.00	2.00	12.62	1.50	1.26	0.00	0.00%

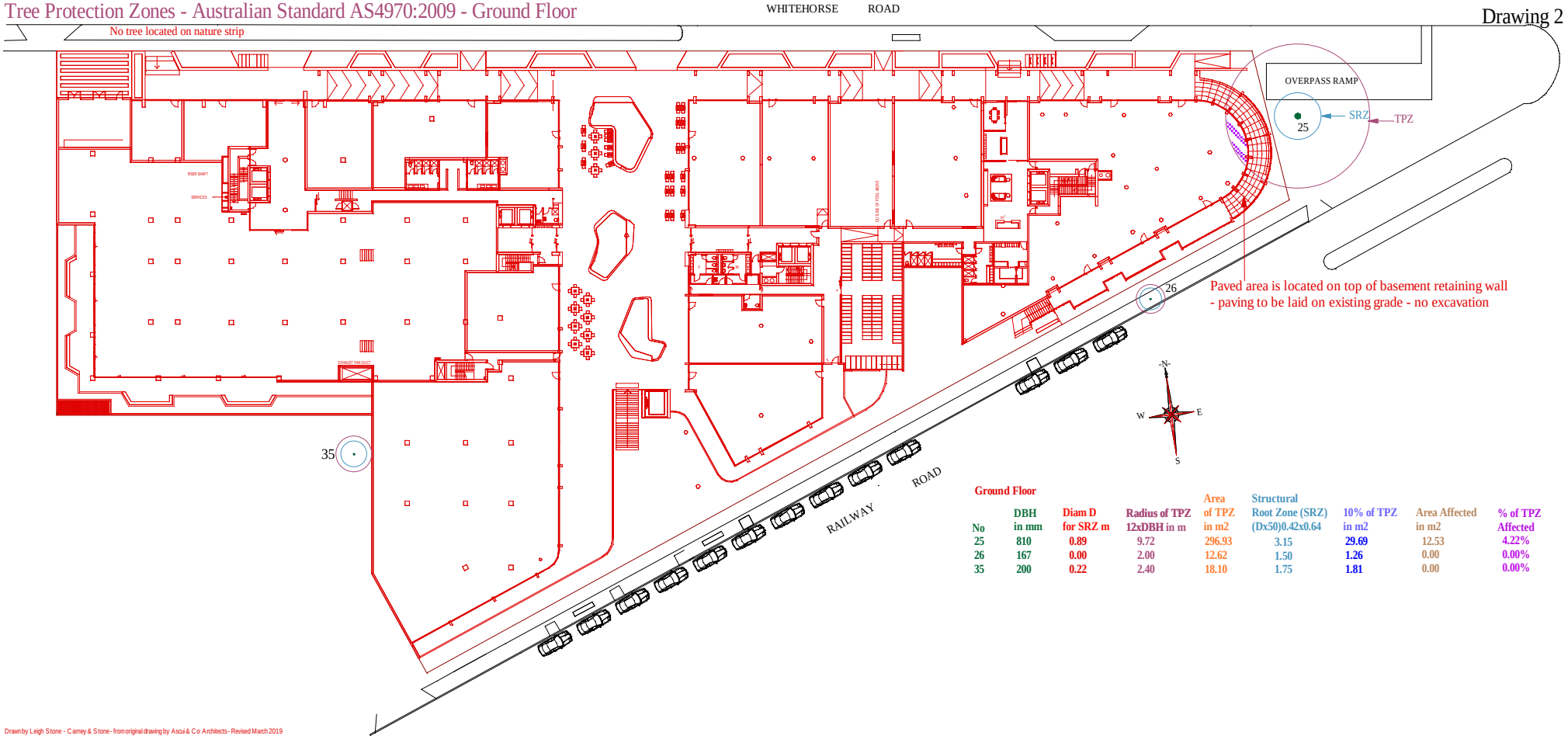
M Encr - Major Encroachment
Excess 10% - Exceeds limit of Minor Encroachment

Drawn by Leigh Stone - Carney & Stone - from original drawing by Ascui & Co Architects - Revised March 2019

Tree Management Plan - 160 Whitehorse Rd Blackburn - Revised March 2019

Tree Protection Zones - Australian Standard AS4970:2009 - Ground Floor

Drawing 2



Ground Floor

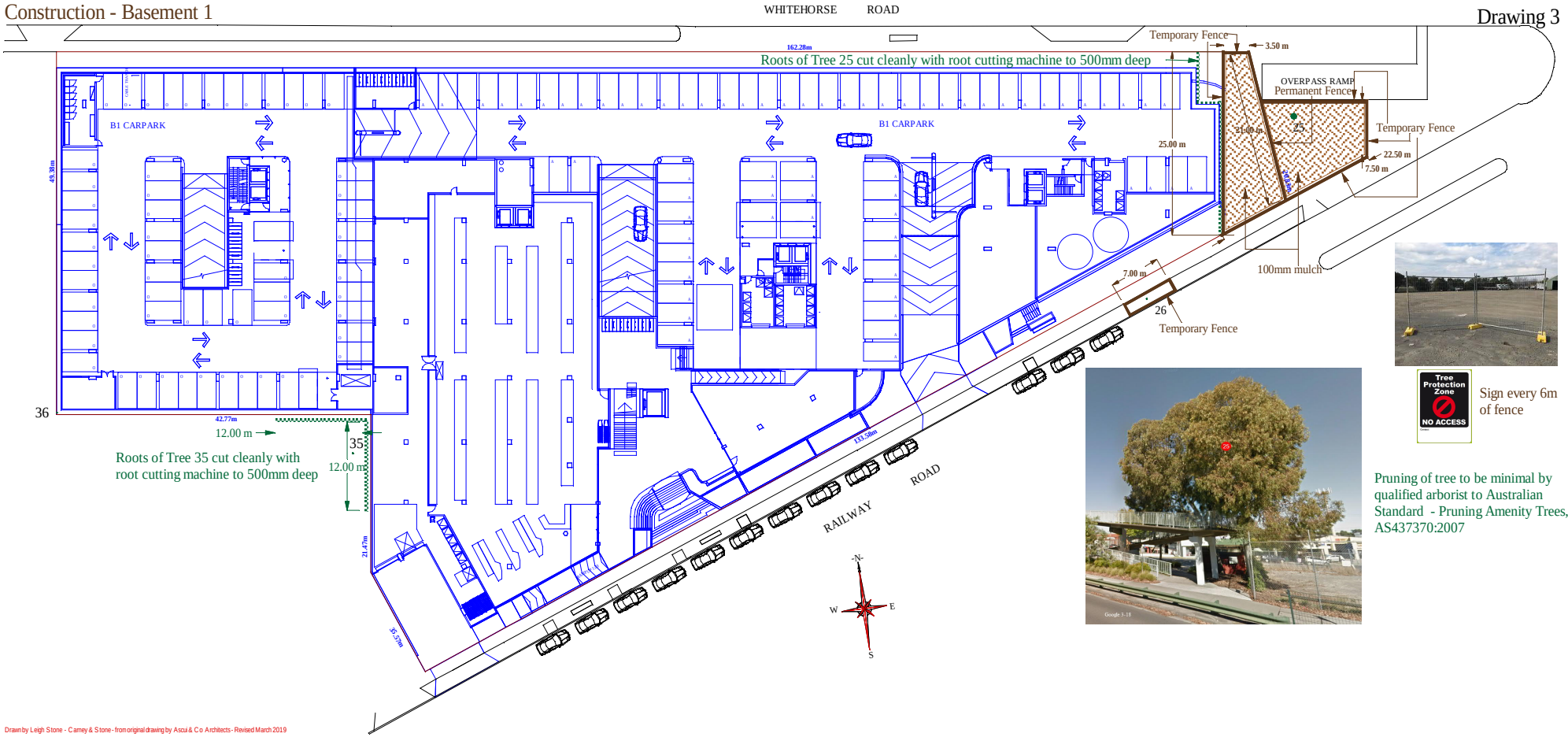
No	DBH in mm	Diam D for SRZ m	Radius of TPZ 12xDBH in m	Area of TPZ in m2	Structural Root Zone (SRZ) (Dx50)0.42x0.64	10% of TPZ in m2	Area Affected in m2	% of TPZ Affected
25	810	0.89	9.72	296.93	3.15	29.69	12.53	4.22%
26	167	0.00	2.00	12.62	1.50	1.26	0.00	0.00%
35	200	0.22	2.40	18.10	1.75	1.81	0.00	0.00%

Drawn by Leigh Stone - Carney & Stone - from original drawing by Ascui & Co Architects - Revised March 2019

Tree Management Plan - 160 Whitehorse Rd Blackburn - Revised March 2019

Construction - Basement 1

Drawing 3



Sign every 6m of fence

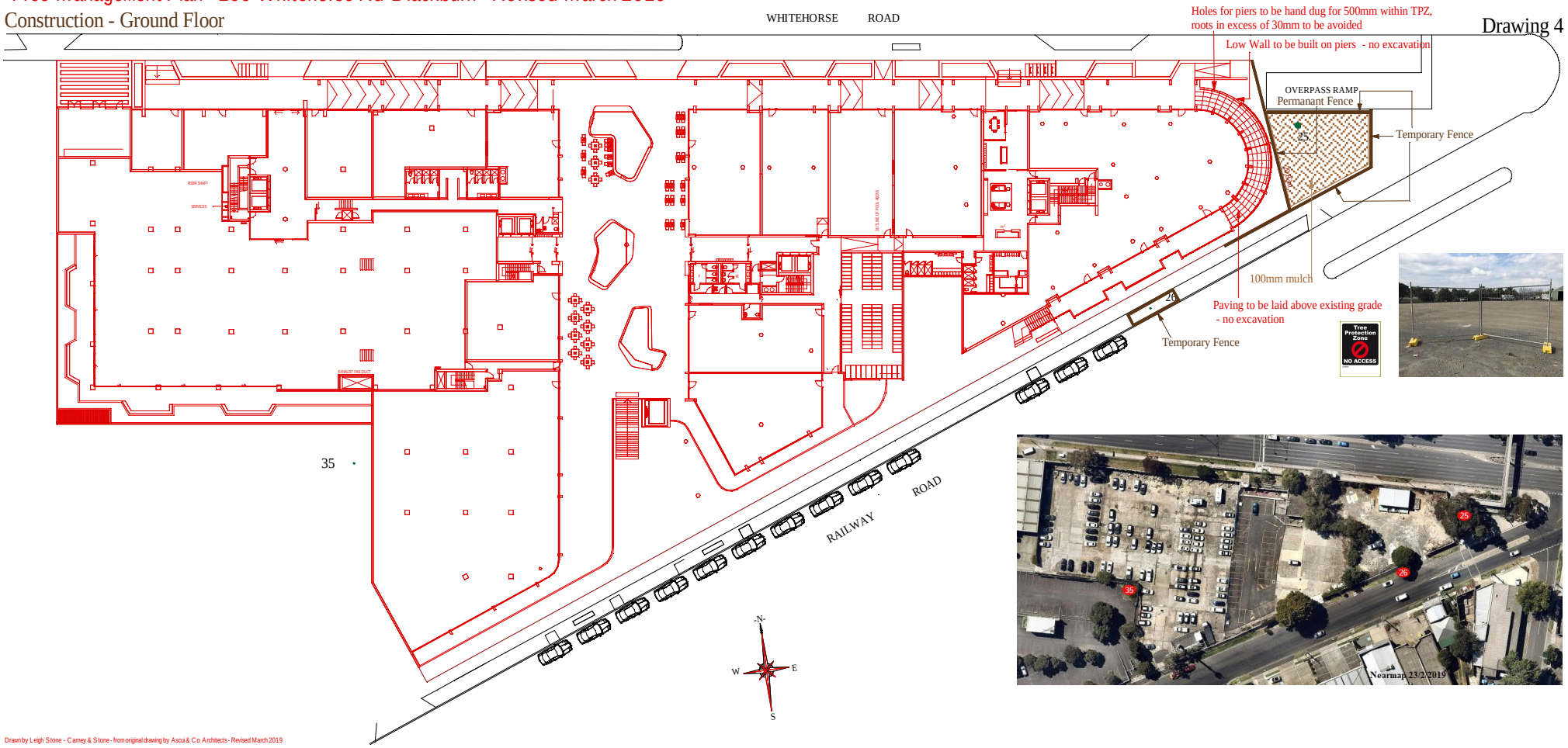
Pruning of tree to be minimal by qualified arborist to Australian Standard - Pruning Amenity Trees, AS437370:2007

Drawn by Leigh Stone - Carney & Stone - from original drawing by Ascui & Co Architects - Revised March 2019

Tree Management Plan - 160 Whitehorse Rd Blackburn - Revised March 2019

Construction - Ground Floor

Drawing 4



Drawn by Leigh Stone - Carney & Stone - from original drawing by Ascui & Co Architects - Revised March 2019