

Abstract green lines of varying thickness and color (from light to dark green) sweep across the left side of the page, creating a dynamic, organic feel.

339-349 Horsley Road Milperra

Vegetation Management Plan

prepared for

Vaughan Constructions

339-349 Horsley Road, Milperra - Vegetation Management Plan

prepared for

Vaughan Constructions

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11/08/2023

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Revision Schedule

Rev No	Date	Description	Issued to
1	20/07/2023	Vegetation Management Plan (VMP) for submission	Vaughan Constructions
2	11/08/2023	Vegetation Management Plan (VMP) amended	Vaughan Constructions

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1. Introduction

1.1 Background

Hale Capital Development Management Pty Ltd (the Applicant) was granted Stage significant development approval to construct and operate an ambient multi-level warehouse and distribution centre at 339-349 Horsley Road, Milperra (the Site). The Site is legally identified as Lot 140 DP550194 and Lot 141 DP550194 (see Figure 1-1).

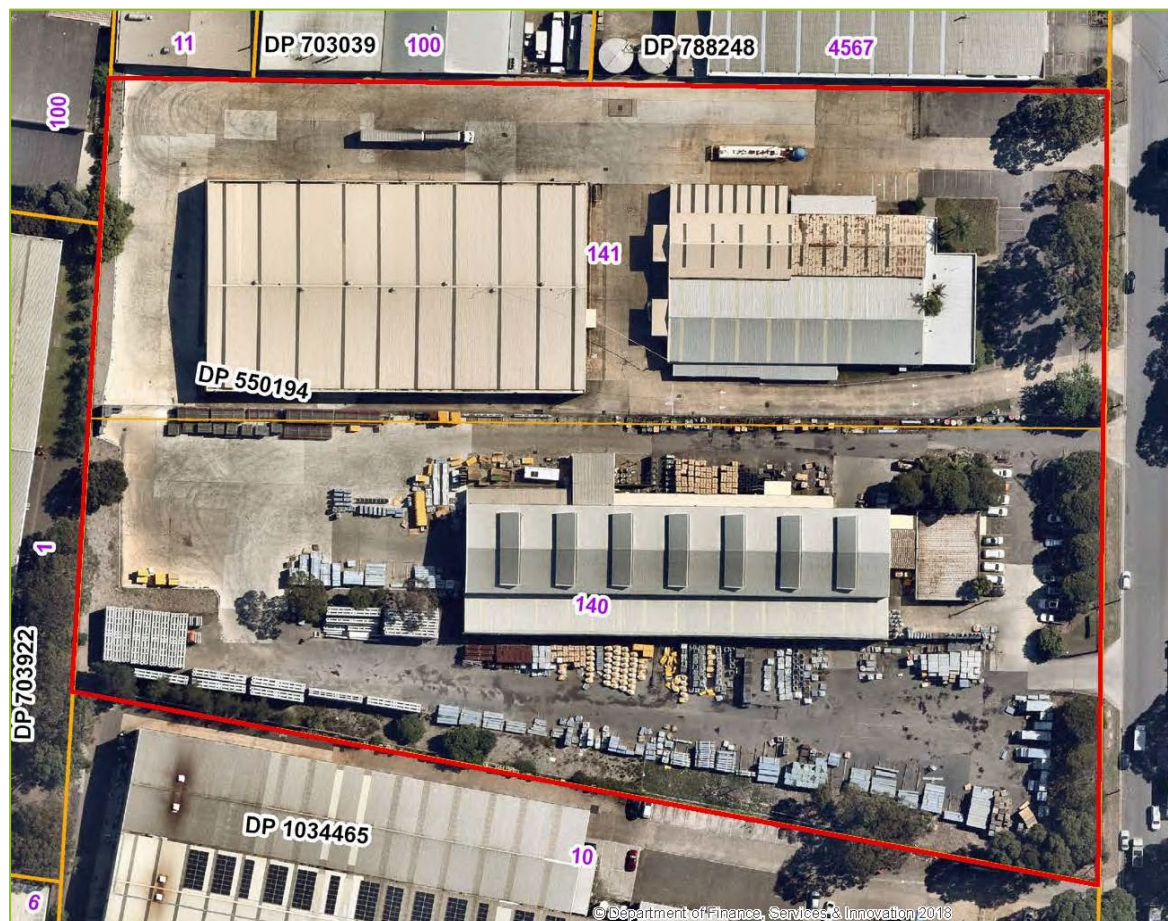


Figure 1-1. Subject site

Approval was granted on 9 June 2023, subject to the conditions specified in Schedule 2 of the Instrument of Consent. This Vegetation Management Plan has been prepared to specifically address the consent conditions identified in Table 1-1.

Table 1-1. Relevant consent conditions

Condition		Reference in this VMP
BIODIVERSITY		
B24.	Prior to the commencement of construction, the Applicant must undertake pre-clearance surveys of the site in accordance with the recommendations in section 9.1.1 of the Biodiversity Development	Section 5

Condition		Reference in this VMP
	Assessment Report, prepared by écologique (version 3) and dated 2 March 2023.	
B25.	Prior to the commencement of construction, the Applicant must prepare a Vegetation Management Plan (VMP) to manage the protection of retained vegetation during construction, to the satisfaction of the Planning Secretary. The Plan must form part of the CEMP in accordance with condition C2 and must:	Purpose of this VMP
	(a) be prepared by an appropriately qualified person	Document page ii
	(b) implement the recommendations in section 9 of the Biodiversity Development Assessment Report, prepared by écologique (version 3) and dated 2 March 2023, including any post clearing assessment required	Sections 5 and 8
	(c) stipulate tree protection measures (including fencing) for all existing trees not identified as being removed in accordance with the Arboricultural Impacts Assessment prepared by Canopy Consulting (version 5) dated 23 March 2023 and Australian Standard 4970:2009 – Protection of Trees on Development Site	Section 4
	(d) detail how any fauna found during tree removal will be managed	Section 5
	(e) detail opportunity for felled tree hollow reuse on site	Section 5.1.3
	(f) ensure works (including trenching or excavation) within the tree protection zone of trees to be retained are carried out under the supervision of a Diploma qualified (AQF 5) Arborist	Section 4
B26.	The Applicant must:	Purpose of this VMP
	(a) not commence construction until the Vegetation Management Plan is approved by the Planning Secretary.	
	(b) not commence construction until the most recent version of the Vegetation Management Plan approved by the Planning Secretary is implemented, including tree protection measures physically in place.	
	(c) carry out construction in accordance with the most recent version of the Vegetation Management Plan approved by the Planning Secretary.	
LANDSCAPING		
B40.	Prior to the commencement of operation of the development, the Applicant must prepare a Landscape Management Plan to manage the landscaping works on-site to the satisfaction of the Planning Secretary. The plan must:	Section 6 and Habit8 (03.05.2023)
	(a) detail local native species to be planted on-site	
B40.	(b) describe the monitoring and maintenance measures to manage existing and planted vegetation;	Section 6

Condition		Reference in this VMP
	(c) detail the location of any reused felled trees within vegetated areas in accordance with condition B25	Section 5.1.3
	(d) include mechanisms to replace any trees that do not survive	Section 6
	(e) be consistent with the Applicant's Management and Mitigation Measures at Appendix 2.	Compliant
B41.	The Applicant must:	Noted
	(a) not commence operation until the Landscape Management Plan is approved by the Planning Secretary.	
	(b) not commence operation until the most recent version of the Landscape Management Plan approved by the Planning Secretary is implemented	
	(c) maintain the landscaping and vegetation on the site in accordance with the approved Landscape Management Plan required by condition B40 for the life of the operation of development.	

1.3 Relevant legislation

Specific legislation relevant to this VMP is summarised in Table 1-1.

Table 1-2. Legislation relevant to this FFMP

Legislative mechanism	Relevance to proposal
<i>Biodiversity Conservation Act 2016</i> (BC Act)	<p>Impacts on threatened flora and fauna species, populations and ecological communities are administered by the NSW Environment Minister under the BC Act.</p> <p>Impacts on biodiversity values due to the construction of the Project have been assessed under the NSW Biodiversity Offset Scheme, which are detailed in the Project BDAR (écologique, 2023a), which has informed this VMP.</p>
<i>Biosecurity Act 2015</i> (Biosecurity Act)	<p>Biosecurity is the protection of the economy, environment and community from the negative impacts of pests and diseases, weeds and contaminants.</p> <p>The Biosecurity Act introduces the premise that biosecurity is a shared community responsibility and introduces the legally enforceable concept of a General Biosecurity Duty (GBD). The GBD means that any person dealing with a biosecurity risk must take measures to prevent, minimise or eliminate the biosecurity risk (as far as is reasonably practicable).</p> <p>Biosecurity risks relevant to the Project include priority weeds, feral and pest animals, and the potential introduction and spread of pathogens and disease.</p>

Legislative mechanism	Relevance to proposal
<i>Pesticides Act 1999</i>	<p>The Pesticides Act controls the use of pesticides in NSW. It aims to reduce risks to human health, the environment, property, industry and trade, and promote collaborative and integrated policies for pesticide use. Under this Act, all pesticide users in NSW must:</p> <ul style="list-style-type: none"> • Only use pesticides registered or permitted by the Australian Pesticides and Veterinary Medicines Authority (APVMA) • Obtain an APVMA permit if they wish to use a pesticide in a way not covered by the label • Read the approved label and/or APVMA permit for the pesticide product (or have the label/permit read to them) and strictly follow their directions • Only keep registered pesticides in containers bearing an approved label • Prevent injury to people, damage to property and harm to non-target plants and animals from using a pesticide
<i>Prevention of Cruelty to Animals Act 1979 (PCA Act)</i>	<p>Consultation with the Department of Primary Industries (DPI) and Secretary of the Animal Care and Ethics Committee (ACEC) has confirmed animal relocation, or in some cases euthanasia, does not require animal ethics approval as it is being performed under animal management practices and does not fit under the definition of animal research under the Animal Research Act 1985.</p> <p>Instead, the legislation pertaining to this activity is the Prevention of Cruelty to Animals Act 1979 (PCA Act). For this reason, an Animal Research Authority (ARA) is not required for the relocation of any terrestrial or aquatic fauna that may result from either clearing of native vegetation or dam decommissioning during the construction of the WNSLR.</p> <p>Under this Act Part 2 Clause 5(3), a person in charge of an animal shall not fail at any time:</p> <ol style="list-style-type: none"> a. to exercise reasonable care, control or supervision of an animal to prevent the commission of an act of cruelty upon the animal, b. where pain is being inflicted upon the animal, to take such reasonable steps as are necessary to alleviate the pain, or c. where it is necessary for the animal to be provided with veterinary treatment, whether or not over a period of time, to provide it with that treatment. <p>These clauses have been provisioned for in this VMP.</p>

2. Site Description

2.1 Plant community types

This VMP addresses the approved removal of approximately 1,617 m² (0.16 ha) of planted native vegetation, which comprises the following:

- 467 m² of planted local native species, and
- 1,150 m² of planted non-local species.

Approximately 249 m² of the planted local native species was allocated to the plant community type (PCT) Coastal Valleys Swamp Oak Riparian Forest (PCT 4023 – formerly PCT 1800).

PCT 4023 is commensurate with the threatened ecological community (TEC) listed under both BC Act and EPBC Acts. However, the vegetation allocated to PCT 4023 in the Site is of planted origin and does not meet the condition and diagnostic thresholds to be considered a TEC community under either Act.

2.2 Arboriculture

An arboricultural impact assessment (AIA) of the Site identified and assessed 107 trees (Canopy Consulting, 2023) of which 71 trees (under 61 tag numbers) require removal and 36 trees (under 35 tag numbers) will be retained.

Table 2-1. Trees assessed in AIA

Project impact	Qty
Unmitigable encroachment into tree protection zone (TPZ) area and require removal	59 (under 55 tags)
Nil – removal recommended due to health or structural concerns or weed status	12 (under 6 tags)
Total being removed	71 (under 61 tags)
Major encroachment into TPZ area and require specific mitigation measures to ensure these trees remain viable	9 (under 9 tags)
Either acceptable minor encroachments of less than 10% into TPZ area or a nil encroachment and are anticipated to remain viable providing tree protection measures are installed and maintained	27 (under 26 tags)
Total being retained	36 (under 35 tags)

2.3 Fauna habitat

The Site does not contain microhabitat required by any threatened species that are likely to occur within the locality.

Existing vegetation was found to lack habitat features for most fauna other than highly mobile bird and bat species that might forage on Myrtaceae tree species when flowering.

Notwithstanding, resident avifauna may nest in the Site's trees in spring and early summer.

3. Implementation summary

Safeguards to manage potential biodiversity impacts are summarised in Table 3-1, together with who is responsible for their implementation, at what stage of the works and the relevant statutory mechanism.

Table 3-1. Management and mitigation measures summary table

ID	Measure/Requirement	Responsibility	Timing / Frequency	Reference / Notes
INDUCTION				
VMP1	All employees and contractors will be inducted to ensure that procedures outlined in this VMP are met. This will have a focus on clearing limits, tree protection management requirements and compliance with statutory requirements applicable to flora and fauna.	Management / Contractors / Employees	Prior to each employee or contractor commencing work on site	Provisions under the BC Act, Biosecurity Act, PCA Act, Pesticides Act, relevant Australian Standards.
VMP2	The approved Tree Protection Management shall be implemented and tree protection measures must be installed and maintained, as required to the satisfaction of the project arborist	Civil Contractor / Project Arborist	Prior to and during construction	Section 2.2 and Attachment A.
PRE-CLEARING SURVEYS				
VMP3	Pre-clearing surveys are to be undertaken immediately prior to clearing works by an experienced ecologist. Habitat features that will be cleared are to be appropriately marked and located by GPS.	Civil Contractor / Project Ecologist	Pre-clearing	Section 5

ID	Measure/Requirement	Responsibility	Timing / Frequency	Reference / Notes
VMP4	Pre-clearance reporting (including GPS measurements and FFMP constraints mapping) must be prepared to inform the following: <ul style="list-style-type: none"> Clearing limits, no-go zones, and areas that must be protected; Habitat features within clearing limits that require two-stage felling; and Amendments required to the Project's CEMP. 	Civil Contractor / Project Ecologist	Pre-clearing	Section 5
WILDLIFE PROTECTION				
VMP5	An ecologist is to be present for all felling of identified habitat features.	Civil Contractor / Project Ecologist	Ongoing throughout construction	Section 5
VMP6	Fauna rescue and release protocols will be followed to ensure native fauna are not impacted during construction.	Civil Contractor / Project Ecologist	Ongoing throughout construction	Section 5
VMP7	Should unexpected fauna be encountered on site, a stop works procedure must be followed.	Management / Contractors / Employees	Ongoing throughout construction	Section 5
LANDSCAPE MANAGEMENT				
VMP8	The approved Landscape Management Plan shall be implemented	Civil Contractor / Landscape Contractor	Ongoing throughout construction	Section 6 and Habit8 (23 March 2023)

ID	Measure/Requirement	Responsibility	Timing / Frequency	Reference / Notes
VMP9	The approved Landscape Management Plan shall be implemented	Civil Contractor / Landscape Contractor	Pre-operation	Section 6 and Habit8 (23 March 2023)
VMP10	Post construction, operation must not commence until the most recent version of the Landscape Management Plan approved by the Planning Secretary is implemented	Civil Contractor / Landscape Contractor		
VMP11	Landscaping and vegetation on the site must be maintained in accordance with the approved Landscape Management Plan for the life of the operation of development.	Landscape Contractor	Ongoing	
WEED AND PATHOGEN MANAGEMENT				
VMP12	General biosecurity duty shall be complied with at all times in order to minimise the risk of introduction and/or spread of biosecurity risks.	Management / Contractors / Employees	Throughout construction	Section 8

4. Tree protection

Section 6 of the Arboricultural Impact Assessment (AIA) identifies specific tree protect measures that are required to ensure the trees nominated for retention remain viable post-construction.

The specific measures identified in Section 6 of the AIA are to be read in conjunction with the Tree Protection Management Plan (TPMP) provided in Appendix C of the AIA.

Both Section 6 and the TPMP are provided in Attachment A of this VMP.

The TPMP indicates the position of tree protection devices and other measures to ensure the protection of trees within the site to be retained as part of the proposed development.

In general, the following protection measures have been recommended:

- **For trees where nil development encroachment will occur:**

Indirect or inadvertent encroachments may occur due to haul routes or machinery movement tree protection should be installed.

- **For trees where minor development encroachment will occur:**

Tree protection must be installed and maintained.

- **For trees where major development encroachment will occur:**

All works and excavations within the TPZ must be supervised by the Project Arborist. Tree protection must be installed and maintained for the duration of the project. Additional measures such as mulching or temporary irrigation may be required.

Additional inspections shall be conducted by the Project Arborist at several key points during the construction to ensure that protection measures are being adhered to during construction stages and decline in tree health or additional remediation measures can be identified.

Trees that are being retained in Figure 2-1.

Trees that are being removed are shown in Figure 2-1 and Figure TRP01 of the TPMP (refer Attachment A of this VMP).

Where tree protection fencing will be required is indicated in Figure 2-1 and shown in Figure TPMP01 of the TPMP (refer Attachment A of this VMP).


339-349 Horsley Road
Milperra SSD-45998963

Figure 2-1.
Vegetation clearing





Legend

 Subject site

 Tree protection fencing

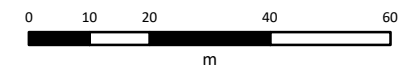
Trees

 To be retained & protected

 To be removed



écologique



Coordinate System: MGA Zone 56 (GDA 2020)

Image source: Nearmap 04 June 2022

Date drawn: 10 August 2023

5. Wildlife protection

5.1 Pre-clearance process

5.1.1 Pre-clearance surveys

Pre-clearing surveys are undertaken to provide a final check for presence of flora and fauna species and habitat on a site immediately before clearing begins. Pre-clearing surveys are required to:

- Identify habitat features suitable for native fauna that will require clear felling supervision and which will require a two-stage clearance procedure (refer Section 4.3);
- Identify any threatened flora or fauna that may have moved into the subject site since ecological surveys were conducted;
- Provide input into determining appropriate exclusion zones; through:
 - Recording the details for all habitat features found in vegetation to be cleared (including where applicable: GPS location; species or type of habitat feature),
 - Marking the limits of clearing, habitat features in areas to be cleared and native vegetation to be protected during construction, using suitable methods,
- Locate nearby habitat suitable for the release of fauna that may be encountered during the pre-clearing process or habitat removal;
- Prepare constraints mapping and relevant induction materials;
- Determine any additional management measures that may need to be incorporated into the CEMP.

5.1.2 Marking limits of vegetation clearing

Prior to any clearing being undertaken within the subject site, clearing limits need to be clearly delineated, where clearing is adjacent to vegetation that is being retained. Clearing limits can be marked with high visibility tape, temporary fencing, or other appropriate boundary markers.

Materials and methods of marking trees to be removed or retained and protected will be agreed to prior to their employment. This will ensure there is no overlap with methods used by various Project contractors and that vegetation to be cleared, habitat features to be cleared, and vegetation to be retained and protected, are clearly identifiable.

Generally, to minimise confusion over growing amounts of flagging tape (or spray paint) generated by different surveys and the marking of environmental sensitive areas, certain colours will be used for specific purposes. The following colour coding system (that follows traffic light) is recommended:

- Green = trees to be cleared
- Orange (or yellow) = individual trees ready for clearing but in close proximity to habitat features (see below).
- Red (or pink) either flagging tape or spray painted "H" = habitat trees to be cleared that require fauna spotting and staged clearing.

To avoid unnecessary damage to adjacent vegetation or inadvertent habitat removal, the following shall apply:

- No-go / exclusion zones shall:
 - Be made completely visible and known to all contractors working on the Project;

- Be suitably protected by exclusion fencing;
- Remain untouched and not impacted for the duration of construction; and
- Be marked on constraints mapping for use in site inductions.
- No stockpiling of equipment, soils, or machinery will occur beyond the no-go / exclusion boundary;
- Construction vehicles shall not enter into vegetation retained beyond the approved impact areas. At no point is cleared vegetation to be bulldozed into adjacent areas retained beyond the limits of clearing;
- Where possible no plant, including motor vehicles, would be operated within 2x the dripline / canopy of retained trees, i.e., if the tree canopy is four metres in diameter, then an eight metre buffer will be placed around the tree trunk where the plant access is excluded;
- Sediment and erosion controls must be installed and maintained for the duration of the Project (see Section 5.2).

5.1.3 Reuse of felled trees

Condition B25(e) requires that opportunities for the reuse of felled tree hollows be detailed.

Opportunities to reuse any hollows found during the clearing process and non-hollow bearing tree materials will be incorporated into the landscaping, where practical.

This may potentially include, but *will* be limited to the following:

- If any hollows are found, the section of the tree containing the hollow will be retained for relocation within the Site's landscaping (providing it is able to be removed in one piece without breaking up, and the piece is small enough to be relocated in the Site).
- Chipped felled trees suitable for reuse as mulch providing that mulch can be re-used immediately in retained vegetated areas and/or stored on-site until needed.
- Placement of smaller branches or trunk sections in locations where planting densities will not be constrained.

5.2 Sediment and erosion control

Sediment and erosion control measures are to be installed prior to earthworks and maintained for the duration of the works in accordance with the Project's relevant erosion and sediment control plan.

Specific controls required during vegetation removal include:

- Appropriate boundary sediment controls (sediment fencing, excavated sediment traps, check dams, straw bale filters, etc) shall be installed around all areas of remnant vegetation to be retained; and
- Where vegetation removal is limited to isolated trees and shrubs, the tree/shrub removed shall have the root base backfilled and compacted as required.

5.3 Clearance process

Due to the proximity of vegetation to be cleared to neighbouring land, infrastructure and vegetation to be retained, tree felling will be done via chain sawing of branches and the main tree trunk(s) in sections and controlled lowering of limbs to ground followed by stump grinding and/or removal of the root ball where practical.

Most trees will be removed this way with only very small trees and shrubs mechanically knocked over.

5.3.1 Single staged clearing

Where no areas of habitat have been identified in the trees to be removed, clearing can be undertaken in a single-stage process, and includes the under-scrubbing of non-habitat vegetation using a combination of manual slashing and small excavator (as applicable). Vegetation cleared during single-stage clearance shall not be stockpiled on-site (unless chipped for reuse as mulch) as it may provide temporary habitat for displaced fauna.

5.3.2 Two-staged clearing

A two-stage clearing process is designed to enable fauna to feel secure whilst clearing occurs around their tree, and to allow them a chance to self-relocate at night to coincide with typical foraging behaviours of arboreal animals.

During clearing, an experienced ecologist must be present for the clearing of any habitat features.

Before the commencement of clearing works, local vets and or wildlife carers are to be notified (see Section 5.4.2).

Stage 1

Firstly, vegetation not identified during pre-clearance surveys as fauna habitat will be cleared. All vegetation around the habitat item will be cleared so that the fauna habitat item is isolated.

Stage 2

Secondly, identified habitat trees are left to stand overnight to allow resident fauna to voluntarily move from the area. Habitat trees will then be cleared by arborist using the following protocols:

- Tree will be gently agitated by machinery prior to clearing to encourage any animals remaining to leave the habitat;
- Tree branches surrounding and above the habitat item will be removed in manageable sections using chainsaw;
- Once surrounding foliage and timber have been removed the arborist shall inspect the hollow or nest to determine if the habitat item is in use (in consultation with ecologist and where necessary using camera/video to relay information to ecologist on ground);
- Whenever possible the animal will be recovered and relocated in either:
 - A section of tree containing the hollow (cut and carefully lowered to the ground), or
 - Removal of the main structural limb supporting an occupied nest and lowered to the ground inside bucket (see photo plates 1 and 2).
- Nests will be relocated and securely fastened to a tree being retained on the Site;
- Tree hollow relocation with animal *in situ* will be dependent on animal type and size (bird, microbat or other arboreal mammal) and where animal does not require veterinarian care. Whenever possible habitat will be relocated to a suitable tree being retained on the Site.



Photo plate 1: location of nest and location of supporting limb where cut



Photo plate 2: nest safely removed and in bucket for relocation

5.3.3 Post-clearance

- Following clearing, a post-clearing assessment will be prepared and must include at minimum the following results:
- Details of native fauna captured and relocated, injured or deceased;
- Photos of rescued fauna;
- Number of habitat features felled; and
- Analysis of the effectiveness of clearing and fauna rescue methods.

5.4 Fauna rescue and release procedure

All fauna handling and relocation shall be undertaken in accordance with this procedure to ensure that impacts upon native fauna are minimised for the duration of clearing works.

Employment of the procedure will assist in natural relocation of fauna that occupy the habitat features identified within the subject site and where required handling and relocation.

5.4.1 Fauna handling protocol

Ecologists are responsible for capturing vertebrate fauna during the habitat clearing process. Fauna handling is to be only undertaken by the experienced ecologist on site or licenced wildlife carer.

All fauna that are encountered during clearance works are to be identified and assessed by an ecologist with records of their health status detailed (e.g., released, self-relocated, transported to vet or as per Wires).

The acting ecologists must operate under the following:

- Scientific Licence under Part 2 of the BC Act; and
- Compliance with the PCA Act.

The following procedure is relevant to the rescue/relocation and transport of fauna, instances where fauna is shocked, trapped, injured, or if eggs or juvenile fauna are discovered.

1. Stop work if encountering any fauna within work area
2. If fauna is not injured allow it to move out of work area
3. If fauna does not move out of work area due to injury or other reasons, the health of the animal must be determined and the decision based on the welfare of the animal and whether it is likely to survive on release. Stress would be minimised through:
 - The use of soft containment and placement in a pet carrier or similar,
 - Animal retained in a quiet, warm location that is well ventilated, and
 - Relevant vet/rescue agency contacted.
4. Once the vet/rescue agency arrives at the site, they are responsible for the animal. Any decisions regarding the care of the animal will be made by the vet/rescue agency.
5. In the event the local veterinary service and/or rescue service cannot attend the site, the injured/captured animal will be transported to their location.

5.4.2 Fauna release locations

A suitable release location must be identified and when needed, injured animals will be assessed by a licensed ecologist and taken to a vet for further treatment if required. The vets nearest to the subject site are

- Panania Vet Clinic (2.8km from Site): 47 Anderson Avenue Panania Tel: 9774 1633 (Mon-Fri 9am-6pm)
- Vets for Pets Revesby (3.9km from Site): 143 The River Road Revesby Tel: 8739 8842 (Mon-Fri 9am-7pm)

The location of where each fauna species that is released must also be recorded.

6. Landscape specifications

6.1 Services

Before landscape work is commenced the Landscape Contractor is to establish the position of all service lines and ensure tree planting is carried out at least 3 metres away from these services. Service lids, vents and hydrants shall be left exposed and not covered by any landscape finishes (turfing, paving, garden beds etc.). Finish adjoining surfaces flush with pit lids.

6.2 Planting program

6.2.1 Plant supply

All plants supplied are to conform with those species listed in Table 6-1 (taken from the Landscape Concept Plan DA submission prepared by Habit8, dated 03.05.2023)

Generally, plants shall be vigorous, well established, hardened off, of good form consistent with species or variety, not soft or forced, free from disease or insect pests with large healthy root systems and no evidence of having been restricted or damaged.

Trees shall have a leading shoot. Immediately reject dried out, damaged or unhealthy plant material before planting.

All stock is to be container grown for a minimum of six (6) months prior to delivery to site.

Table 6-1. Plant Schedule

Code	Botanical name	Size	Density	Qty
Large trees				
AC	Angophora costata	100L	As shown on Landscape plans L01- L08 (Habit 8, 03.05.2023)	1
BI	Banksia integrifolia	100L		17
EC	Eucalyptus crebra	100L		5
BAC	Brachychiton acerifolius	100L		2
EM	Eucalyptus moluccana	100L		4
EP	Eucalyptus piperita	100L		8
EU	Eucalyptus punctata	100L		2
ET	Eucalyptus tereticornis	100L		6
MS	Melaleuca styphelioides	100L		5
Medium trees				
AP	Acacia parramattensis	100L	As shown on Landscape plans L01- L08 (Habit 8, 03.05.2023)	22
AB	Angophora bakeri	100L		8
CU	Ceratopetalum gummiferum	100L		16
ER	Elaeocarpus reticulatus	100L		33
EH	Eucalyptus haemastoma	100L		11
ML	Melaleuca linariifolia	100L		10

Code	Botanical name	Size	Density	Qty
MCWG	<i>Magnolia ‘Coolwyn Gloss’</i>	100L		20
GF	<i>Glochidion ferdinandi</i>	100L		11
TL	<i>Tristaniopsis laurina</i>	100L		15
CUP	<i>Cupaniopsis anacardioides</i>	100L		22
Shrubs				
BAN SPI	<i>Banksia spinulosa</i>	300mm	2m ²	50
CAL LIN	<i>Callistemon linearis</i>	300mm	2m ²	90
DIL SIE	<i>Dillwynia sieberi</i>	300mm	2m ²	100
GRE SER	<i>Grevillea sericea</i>	300mm	2m ²	120
HAK SER	<i>Hakea sericea</i>	300mm	2m ²	30
IND AUS	<i>Indigofera australis</i>	300mm	2m ²	150
KUN AMB	<i>Kunzea ambigua</i>	300mm	2m ²	160
LEP POL	<i>Leptospermum polygalifolium</i>	300mm	2m ²	100
CAL CIT	<i>Callistemon citrinus</i>	300mm	2m ²	220
DOF TRI	<i>Dodonaea triquetra</i>	300mm	2m ²	60
DOR EXC	<i>Doryanthes excelsa</i>	300mm	2m ²	131
PIT REV	<i>Pittosporum revolutum</i>	300mm	2m ²	318
Groundcover				
HAR VIO	<i>Hardenbergia violacea</i>	150mm	4m ²	490
PAN PAN	<i>Pandorea pandorana</i>	150mm	4m ²	260
DIA CAE	<i>Dianella caerulea</i>	150mm	4m ²	450
DIA REV	<i>Dianella revoluta</i>	150mm	4m ²	690
LOM LON	<i>Lomandra longifolia ‘Tanika’</i>	150mm	4m ²	1015
THE AUS	<i>Themeda australis</i>	150mm	4m ²	350
DIC REP	<i>Dichondra repens</i>	150mm	4m ²	350
DIC SIL	<i>Dichondra ‘Silver Falls’</i>	150mm	4m ²	200
VIO HED	<i>Viola hederacea</i>	150mm	4m ²	450
CAR GLA	<i>Carpobrotus glaucescens</i>	150mm	4m ²	420

TURF TYPE: Couch (Confirm prior to construction)

Plants that are not: true to species; vigorous and healthy; with a well-developed root system; free from disease / pests; and are not without scars or dead wood; are to be rejected at delivery.

6.2.2 Planting medium

Planting mixture is to be 300mm depth Imported Garden Mix. Type: Premium Available: Australian Native Landscapes (ANL)

Turf soil mixture (150mm DEPTH) Type: Turf underlay Available: Australian Native Landscapes (ANL)

6.2.3 Planting procedure

GENERALLY:

- Dig hole sufficient for root ball of plant. The removal from the container and the positioning of the plant is to be done with minimum disturbance to the roots.
- Slow-release native plant fertiliser (low phosphorous formulated native plant fertiliser tablet/granules) and water saving crystals shall be placed into the planting hole.
- After planting, the soil shall be replaced and carefully firmed, leaving a slight depression around each plant to allow for water collection. Soil is to be replaced in the hole so that the base of the stem is level with the soil surface, not set below the soil, or sitting above.
- All plants should be watered-in thoroughly after planting to settle any air pockets around the root ball of the plant and to give the plant a good initial supply of water.

STAKING AND TYING:

- Stakes shall be straight hardwood, free from knots and twists, pointed at one end and sized according to size of plants to be staked. a. 100-greater than 200litre 3x(1800x50x50mm)
- Ties shall be 50mm wide hessian webbing or approved equivalent nailed or stapled to stake.
- Drive stakes a minimum one third of their length, avoiding damage to the root system, on the windward side of the plant.

TURF:

- Obtain turf from a specialist grower of cultivated turf. turf shall be of even thickness, free from weeds and other foreign matter;
- Lay in stretcher pattern with joints staggered and close butted, perpendicular to gradient of FSL.
- Water immediately after laying.

FERTILISER

- Mass planting areas: Fertiliser shall be 'Nutricote' or approved equivalent in granule form intended for slow release of plant nutrients over a period of approximately nine months. Thoroughly mix fertiliser with planting mixture at the recommended rate, prior to installing plants.
- Turf: Shall be Shirleys No. 17 or approved equal thoroughly mixed into the topsoil prior to placing turf.
- Trees in grass and super advanced trees: Pellets shall be in the form intended to uniformly release plant food elements for a period of approximately nine months equal to Shirleys Kokei pellets, analysis 6.3:1.8:2.9. Kokei pellets shall be placed at the time of planting to the base of the plant, 50mm minimum from the root ball at a rate of two pellets per 300mm of top growth to a maximum of 8 pellets per tree.

6.2.4 Mulch

- MULCH TYPE: (75mm DEPTH) Type 1: Pine bark: From mature trees, graded in size from 15mm to 30mm, free from wood slivers. Dark brown in colour and texture.
- COMPOST Shall be "GO Compost" as available from Soilco or approved equal.

- MULCH APPLICATION: Place mulch to the required depth, (refer to drawings) clear of plant stems, and rake to an even surface finishing 25mm below adjoining levels. Ensure mulch is watered in and tamped down during installation.

6.3 Maintenance program

Maintenance shall mean the care and maintenance of the landscape works by accepted horticultural practice as rectifying any defects that become apparent in the landscape works under normal use. This shall include, but shall not be limited to:

- Watering
- Mowing
- Fertilising
- Re-seeding, returfing
- Weeding, pest and disease control
- Staking and tying
- Replanting, cultivation, pruning, aerating, renovating, top dressing
- Maintaining the site in a neat and tidy condition

GENERAL

The landscape contractor shall maintain the landscape works for the term of the maintenance (or Plant establishment) period to the satisfaction of the council. The landscape contractor shall attend to the site on a weekly basis. Landlord to maintain all landscape areas in perpetuity (life of the development).

WATERING

Grass, trees and garden areas shall be watered regularly so as to ensure continuous healthy growth.

RUBBISH REMOVAL

During the term of the maintenance period the landscape contractor shall remove rubbish that may occur and reoccur throughout the maintenance period. This work shall be carried out regularly so that at weekly intervals the area may be observed in a completely clean and tidy condition.

REPLACEMENTS

The landscape contractor shall replace all plants that are missing, unhealthy or dead at the Landscape Contractor's cost. Replacements shall be of the same size, quality and species as the plant that has failed unless otherwise directed by the Landscape Architect. Replacements shall be made on a continuing basis after the plant has died or is seen to be missing.

STAKES AND TIES

The landscape contractor shall replace or adjust plant stakes and tree guards as necessary or as directed by the Landscape Architect. Remove stakes and ties at the end of the maintenance period if so directed.

PRUNING

- General: Prune to reflect the natural growth flowering and regrowth habit of the individual species.
- Shrubs: Prune after flowering - Spring and Summer and on a spot basis as required. Hedge trimming: Schedule trimming at times which will maintain the character and design of hedges. Allow up to three times per season.
- Tip pruning: To encourage development of new shoots during the active growing season. Do not remove buds before the flowering season in those plants that have terminal flowers.

- Radical pruning: To maintain a hedge or formal shape or when a particular problem, growth habit, damage, or disease requires branch removal.
- Trees: Prune to eliminate diseased or damaged growth, avoid inter-branch contact and thin out crowns in a natural manner, maintain sight lines to signs and lights, or maintain visibility for personal security. Tree branch removal to AS 4373.

MULCHED SURFACES

All mulched surfaces shall be maintained in a clean and tidy condition and be reinstated if necessary to ensure that a depth of 75mm is maintained. Ensure mulch is kept clear of plant stems at all times. Remove all mulching materials off lawn or paved areas and maintain a clean and tidy appearance when viewed on a weekly basis.

PEST AND DISEASE CONTROL

The landscape contractor shall spray against insect and fungus infestation with all spraying to be carried out in accordance with the manufacturer's directions.

GRASS AND TURF AREAS

The landscape contractor shall maintain all grass and turf areas by watering, weeding, re-seeding, rolling, mowing, trimming or other operations as necessary. Seed and turf species shall be the same as the original specified mixture. Grass and turf areas shall be sprayed with approved selective herbicide against broad leaved weeds as required in accordance with the manufacturer's directions.

Grass and turf areas shall be fertilised once a year in autumn with "Dynamic Lifter" for lawns at a rate of 20kg per 100m². Fertiliser shall be watered in immediately after application. Irregularities in the grass and turf shall be watered in immediately after application. Grass and turf areas shall be kept mown to maintain a healthy and vigorous sward. Mowing height: 30- 50mm.

WEED ERADICATION

Eradicate weeds by environmentally acceptable methods using a non-residual glyphosate herbicide (eg. 'Roundup') in any of its registered formulae, at the recommended maximum rate. Regularly remove by hand, weed growth that may occur or recur throughout grassed, planted and mulched areas. Remove weed growth from an area 750mm diameter around the base of trees in grassed areas. Continue eradication throughout the course of the works and during the maintenance period.

SOIL SUBSIDENCE

Any soil subsidence or erosion which may occur after the soil filling and preparation operations shall be made good by the landscape contractor at no cost to the client.

7. Biosecurity

7.1 Overview

Biosecurity is the protection of the economy, environment and community from the negative impacts of pests and diseases, weeds and contaminants.

The Biosecurity Act introduces the premise that biosecurity is a shared community responsibility and introduces the legally enforceable concept of a General Biosecurity Duty (GBD). The GBD means that any person dealing with a biosecurity risk must take measures to prevent, minimise or eliminate the biosecurity risk (as far as is reasonably practicable).

Biosecurity risks relevant to the Project include the potential introduction and spread of priority weeds and pathogens and disease.

The site is largely hardstand with garden beds and limited areas where weed infestations occur. No evidence of pathogens or disease has been observed within the site.

However, weed propagules, pathogens and disease are easily spread on vehicles and plant and the risk of their introduction and spread cannot be discounted.

7.1 Weed control

Section 6.4 (landscape maintenance) summarises weed control requirements.

Generally, the following requirements must be adhered to for chemical treatment of weeds:

- Herbicide application is to be administered by authorised personnel only (ChemCert Accreditation AQF 3), in accordance with Workcover requirements, the Pesticides Act 1999, label directions and any relevant industry codes of practice.
- A Records Sheet must be completed within 24 hours of applying the herbicide and a copy submitted to the Project Environmental Representative.
- All personnel managing and using herbicides must receive appropriate training prior to commencing work.
- Only herbicides registered for use near water may be used near water.
- Avoid applying herbicides: (i) on hot days when plants are stressed. (ii) after seed has set. (iii) within 24 hours of rain or when rain is imminent. (iv) when winds will cause drift of herbicides into non-target areas.

7.2 Biosecurity hygiene protocol

Management, contractors and employees are required to fulfil their general biosecurity duty (GBD), which may simply be to ensure that their vehicles, boots and equipment are clean of any potential biosecurity risks.

It is expected that management, contractors and employees should know all biosecurity risks associated with the industry, business and relevant day-to-day work activities.

The presence or potential for biosecurity risks within the subject site will be addressed at a project level during site inductions, and the biosecurity protocol below is to be presented to all contractors and its requirements made clear.

All contractors are to follow the hygiene protocol detailed below in Table 7-1 prior to clearing, during construction and post-construction.

Table 7-1. Hygiene protocol

Protocol	Timing
Pre-start site inductions:	
Relevant biosecurity risks are to be discussed during toolbox talks.	Pre-start
In general:	
<p>Minimise work during wet/rainy periods.</p> <p>Vehicle/machine hygiene inspections are to be undertaken prior to works starting to determine if vehicles are free from soil and plant material.</p> <p>Tools to be cleaned free of soil and plant material prior to bringing tools to site or moving between works areas.</p> <p>Permanent or semi-permanent vehicle wash-down facilities may be constructed where machinery and vehicles require routine cleaning for fixed activities</p> <p>Truck wash down, rumble grids to be installed and operated to ensure mud, weeds or pathogens are not transported around the region or onto roads.</p> <p>Mud spilt on roads to be immediately removed by a road sweeper.</p>	At all times
Weeds and Pathogens	
Contractors that have recently engaged in work activities where Phytophthora or Myrtle rust are known to occur must ensure that infected soil, water and/or plant material are removed from machinery, vehicles, equipment and footwear	Prestart
Any soil, plants or other materials entering the site should conform to Australian Standards—for example, AS3743–2003 Potting mixes or AS4454–2012 Composts, soil conditioners and mulches.	At all times
Chytrid fungus	
Contractors that have recently engaged in work activities where the Chytrid fungus is known to occur must ensure that hygiene protocols include disinfection of work boots, car/plant wheels and tyres with benzalkonium chloride (an active ingredient to commercially available products such as ‘toilet duck’).	Prestart
Frogs rescued from each dam are to be inspected for any symptoms of Chytrid fungus by the Project ecologist and transported from the site in accordance with hygiene protocols for the control of disease in frogs (DECC 2008).	Dam decommissioning
<p>Relevant biosecurity risks are to be discussed during toolbox talks.</p> <p>Tools to be cleaned free of soil and plant material prior to bring tools to site or moving between works areas.</p>	Pre-clearance and prestart
Vehicles/machines must pass the hygiene inspection prior to works commencing, additional cleaning may be required to achieve this.	

8. References

Canopy Consulting (2023) Arboricultural Impact Assessment and Tree Management Plan v.3. 339-349 Horsley Rd, Milperra NSW 2214. Inspection Date: 18 June 2022. Prepared for Hale Capital Development, 23 March 2023

écologique (2023) SSD-45998963 339-349 Horsley Rd, Milperra –Biodiversity Development Assessment Report v.3. Prepared for Hale Capital Development Management, 2 March 2023.

Greater Sydney Local Land Services (LLS) (2019) Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022. Developed in partnership with the Greater Sydney Regional Weed Committee - Revised September 2019. ISBN: 978-0-6480418-1-8

Habit8 (2023) Proposed Industrial Development 339-349 Horsley Rd, Milperra NSW 2214. Landscape Concept Plan DA Submission. Issue I. Prepared for Hale Capital Development Management, 3 May 2023.

Attachment A. AIA/tree protection management plan



6. Recommendations

6.1. Project Arborist

An official “Project Arborist” must be commissioned to oversee the tree protection, any works within the TPZ’s and complete regular monitoring compliance certification.

The project arborist must have minimum five (5) years industry experience in the field of arboriculture, horticulture with relevant demonstrated experience in tree management on construction sites, and Diploma level qualifications in arboriculture – AQF Level 5.

6.2. Tree Retention and Removal

The recommendations of this report do not constitute consent to remove trees subject to this report. The council or consent authority should be contacted prior to undertaking works as consent may be required to remove and/or prune the tree(s).

Table 12 summarises tree removal and retention and is shown in the tree removal and retention plan.

Table 12: Tree Retention and Removal

Recommendation	No. of Trees or Groups (Tree QTY)	Tree Numbers
Remove - project impacts	55 (59)	2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 52, 55, 56, 57, 58, 61, 62, 63, 64, 65, 67, 68, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89
Remove - irrespective	6 (12)	13, 15, 16, 35, 69, 70
Retain - generic	26 (27)	1, 11, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 53, 54, 59, 60, 94, 95, 96
Retain - generic plus	9 (9)	23, 24, 25, 26, 66, 90, 91, 92, 93
Total	96 (107)	

A total of 59 trees under 55 tag numbers have unmitigable encroachments and will require removal to facilitate the proposed development. Of these, 5 trees (5, 10, 12, 20, 21 and 22) are exempt under CBDP.

Trees 13, 15, 16, 35, 69 and 70 are also recommended for removal as they are dead or in poor structural condition, are a weed species and should be removed irrespective of the development.

The proposed development would therefore see the removal of 71 trees in total under 61 tag numbers and the retention of 35 trees under 36 tag numbers.

Trees 23, 24, 25, 26, 66, 90, 91, 92, and 93 have major encroachments for bulk earthworks. These trees require generic tree protection measures plus those outlined in Section 6.3.

Trees 1, 11, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 53, 54, 59, 60, 94, 95, 96 have either an acceptable minor encroachment of less than 10% of the TPZ area or a nil encroachment. These trees are anticipated to remain viable provided tree protection measures (TPZ fencing and mulching) are installed and maintained.

6.3. Offset Planting

Any tree approved to be removed from a site should be replaced with a tree of like habit and indigenous to the LGA where possible, planted as near as practicable to the location of the removed tree, grown to maturity and replaced if the planting fails to survive and thrive.

Suggested species for replacement include:

- *Eucalyptus amplifolia* (Cabbage Gum)
- *Eucalyptus tereticornis* (Forest Red Gum)
- *Syncarpia glomulifera* (Turpentine)
- *Eucalyptus punctata* (Grey Gum)
- *Eucalyptus baueriana* (Blue Box)

Lophostemon confertus (Brush Box) should be used along the Horsley Road frontage to infill landscaped areas as this is the predominant species being retained in this area.

Trees should be sourced from a reputable nursery with stock grown to NATSPEC and Australian Standard AS 2303:2018 Tree Stock for Landscape Use criteria.

Trees should be a minimum of 100L pot size at the time of planting.

The trees should be planted and mulched with suitably composted, natural, hardwood mulch as per Figure 5.

Six things you should know when planting a tree.



- 1. Dial Before You Dig**
Several days before planting, call the Dial Before You Dig (DBYG) hotline on 1100 or apply via their website to have any underground services identified.
- 2. Handle with Care**
Always lift tree by the root ball. Keep roots moist until planting.
- 3. Digging a Proper Hole**
Dig 2 to 5 times wider than the diameter of the root ball with sloping sides to allow for proper root growth.
- 4. Planting Depth**
The trunk flare should sit slightly above ground level and the top most roots should be buried 25 to 55 mm.
- 5. Filling the Hole**
Backfill with native soil unless it's all clay. Tamp in soil gently to fill large air spaces.
- 6. Mulch**
Allow 25 to 50 mm clearance between the trunk and the mulch. Mulch should be 75 to 100 mm deep.

Source: Arbor Day Foundation

Figure 5: Recommended tree planting process. (Arbor Day Foundation, 2020)

6.4. Generic Tree Protection

Generic tree protection measures are recommended to restrict construction activities within the TPZ which may adversely affect the health and condition of a tree to be retained. In order of precedence, the following is required for trees to be retained. Tree protection measures are to be installed and maintained as shown in Appendix C - Tree Protection Management Plan.

1. Install TPZ fencing and signage as per Appendix C - Tree Protection Management Plan. Where impractical and subject to project arborist approval;
2. Install trunk and ground protection where machine access is required.

Notes:

- All activities within the fenced TPZ are to be supervised by the project arborist.
- TPZ fencing is not to be moved.

6.5. Generic Plus - Tree Protection Measures

Table 13 shows specific tree protection measures that are required to ensure the trees nominated for retention remain viable post-construction. These measures are to be read in conjunction with Appendix C – Tree Protection Management Plan (TPMP). The TPMP indicates the position of tree protection devices and other measures to ensure the protection of trees within the site to be retained as part of the proposed development.

Table 13: Specific Tree Protection Measures

Specific Recommendation - Includes Generic Recommendations +	No. of Trees or Groups (Tree QTY)	Tree Numbers
<ul style="list-style-type: none"> Exclude all cut and construction activities outside the area shown if the tree is to be retained as shown in Figure 6. Minor fill of up to 200mm of friable topsoil may be permitted (See Section 6.8). If additional fill is required, cellular confinement systems or a dry-well should be investigated to achieve these increased levels. Treat open soil area with Mycogold Biostim and Seamungs soil conditioner at label rates prior to demolition and every 6 months following until completion of construction. Install timed and metered irrigation system for duration of project Install mulch at a depth of 75-100mm. All demolition and construction activities within the TPZ are to be supervised by the project arborist. 	1 (1)	90
<ul style="list-style-type: none"> Treat open soil area with Mycogold Biostim and Seamungs soil conditioner at label rates prior to demolition and every 6 months following until completion of construction. Install timed and metered irrigation system for duration of project Install mulch at a depth of 75-100mm. 	8 (8)	23, 24, 25, 26, 66, 91, 92, 93
Total	9 (9)	

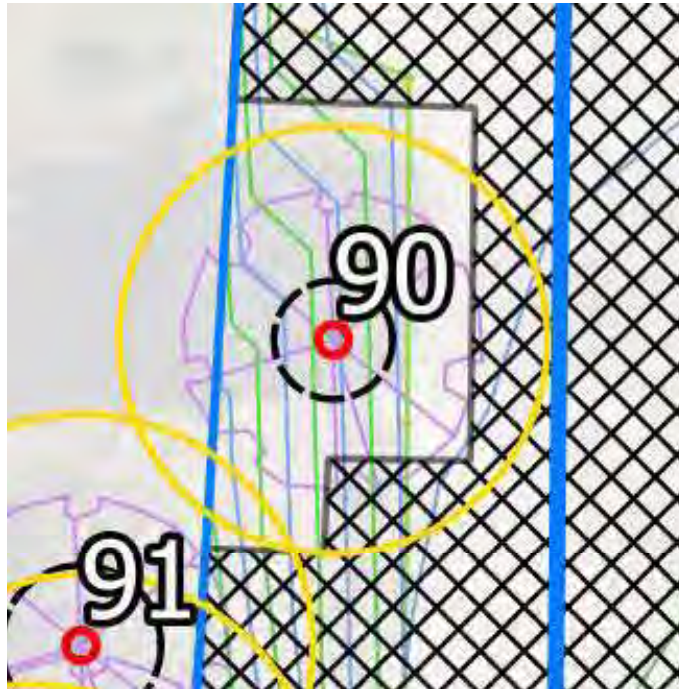


Figure 6: Non-hatched exclusion area required to retain tree 90. Fill using topsoil complying with section 6.8 may be possible within the TPZ subject to project arborist input. If additional fill is required, cellular confinement systems or a dry-well should be investigated to achieve these increased levels.

6.6. Compliance Inspection and Reporting

Compliance inspections are recommended to be completed on a **monthly** basis through the construction stage.

Following each inspection, the project arborist shall prepare a document detailing the condition of the trees. These documents should certify whether the works have been completed in compliance with the approved consent conditions relating to tree protection. These reports should contain photographic evidence where necessary.

Inspections are to be conducted by the project arborist at several key points during the construction in order to ensure that protection measures are being adhered to during construction stages and decline in tree health or additional remediation measures can be identified.

Any works within tree protection zones are to be monitored and supervised by the Project Arborist.

6.7. Compliance and Certification Reporting – Hold Points

The following project milestones are recommended to be carried out by the project arborist. These inspections are summarised below and expanded upon in the following sections.

Table 14: Compliance and Certification Table

Construction Stage	Task	Responsibility	Certification	Timing of Inspection
Pre-construction	Indicate clearly (with spray paint or tape on trunks) trees approved for removal only	Principal Contractor	Project Arborist	Prior to site establishment
	Install tree protection measures			
	Induct construction staff into Tree Protection Management Plan			
During Construction	Supervise all excavation works proposed within the TPZ of trees to be retained			As required prior to the works proceeding adjacent to trees to be retained
	Inspection of trees by Project Arborist			Quarterly during construction period
Post-construction	Final Inspection of trees by Project Arborist			Following practical completion of works

6.8. Tree Sensitive Construction Methods

Exploratory Root Investigation

Where trees are intended to be retained, and potential works areas may enter the TPZ or SRZ, determining root location and, therefore the impact on the trees is an important process.

Exploratory root excavation should be undertaken in a manner that causes the least amount of damage to root material in the process. This may include the use of air excavation (air-spade) or hydro or dry-vac excavation. Root investigations should be undertaken at pre-agreed locations that will most effectively guide the design.

Findings of the root investigation should be compiled into a report which identifies significant roots that should be retained and less significant roots that may be appropriate for severance. The size and volume of roots which may be cut must be assessed by an arborist and consider tree physiology, existing site and soil conditions and species traits and tolerance of root pruning.

Fill within Tree Protection Zones

Where unavoidable, fill placed within TPZ of trees to be retained shall be well-drained material equivalent or finer in texture than the existing site topsoil material and should comply with AS 4419:2003 *Soils for Landscaping and Garden Use*.

The fill can be lightly consolidated but not to engineering standards. If fill is to be placed by machinery, this must be done from outside the TPZ or from existing hard stand areas. Alternatively, ground, trunk and branch protection may be used to facilitate machine access.

Pavements within Tree Protection Zones

Any pavements or footpaths within TPZ of trees to be retained should be installed at or above the existing grade to minimise the need for excavation to avoid damage or severance of primary woody roots. The pavement sub-base shall be a coarse, gap-graded material with no fines in order to allow some aeration and moisture infiltration to the root zone. The use of permeable pavements, bonded aggregate or cellular confinement systems should be investigated as alternative construction methods.

Landscaping Works within Tree Protection Zones

The landscape plan is to be checked for compliance with the TPMP. Staged removal of tree protection methods may be required to facilitate landscaping works.

Any landscaping works within the TPZ of trees to be retained are to be under the direct supervision of the Project Arborist. These may include but are not limited to; retaining walls, irrigation and lighting systems, topdressing, planting and paving.

Any landscaping works requiring excavation for drainage or the like is to be undertaken using non-destructive methods previously described.

Trenching for Installation of Underground Services

All underground services should be routed outside the TPZ of trees to be retained. Where unavoidable, services may be installed via alternative methods which may include tree sensitive excavation or Horizontal Directional Drilling (HDD). Where HDD is used, entry and exit pits are to be located outside the TPZ of trees to be retained.

Where excavation or trenching is required to facilitate the installation of underground services within the TPZs of any site trees arborist supervision is required. Works should be undertaken using techniques that are sensitive to tree roots to avoid unnecessary damage. Such techniques include

- Excavation by hand
- Excavation using a high-pressure water jet and vacuum truck
- Excavation using an Air Spade with a vacuum truck.

Machine excavation is prohibited within the TPZs of retained trees unless undertaken at the direct consent from the project arborist and/or the responsible authority.

Arboricultural Impact Assessment

Horsley Road Multi-level Warehouse, Milperra (SSD-45998963)
339-349 Horsley Rd, Milperra NSW 2214



Where a situation occurs that a significant root (root greater than >50 mm diameter) requires pruning or removal, the root is to be severed with a sharp saw implement by or under the instruction of the Project Arborist.

Arboricultural Impact Assessment

Horsley Road Multi-level Warehouse, Milperra (SSD-45998963)
339-349 Horsley Rd, Milperra NSW 2214



13. Appendix C - Tree Protection Management Plan



0 5 10 15 20 25 30 m



SCALE: 1:750@A3

REV	DESCRIPTION	DATE
A	DRAFT	05/08/2022
B	FINAL	26/08/2022
C	FINAL	20/02/2023
D	FINAL	23/03/2023

TREE REMOVAL PLAN



PROPOSED INDUSTRIAL DEVELOPMENT

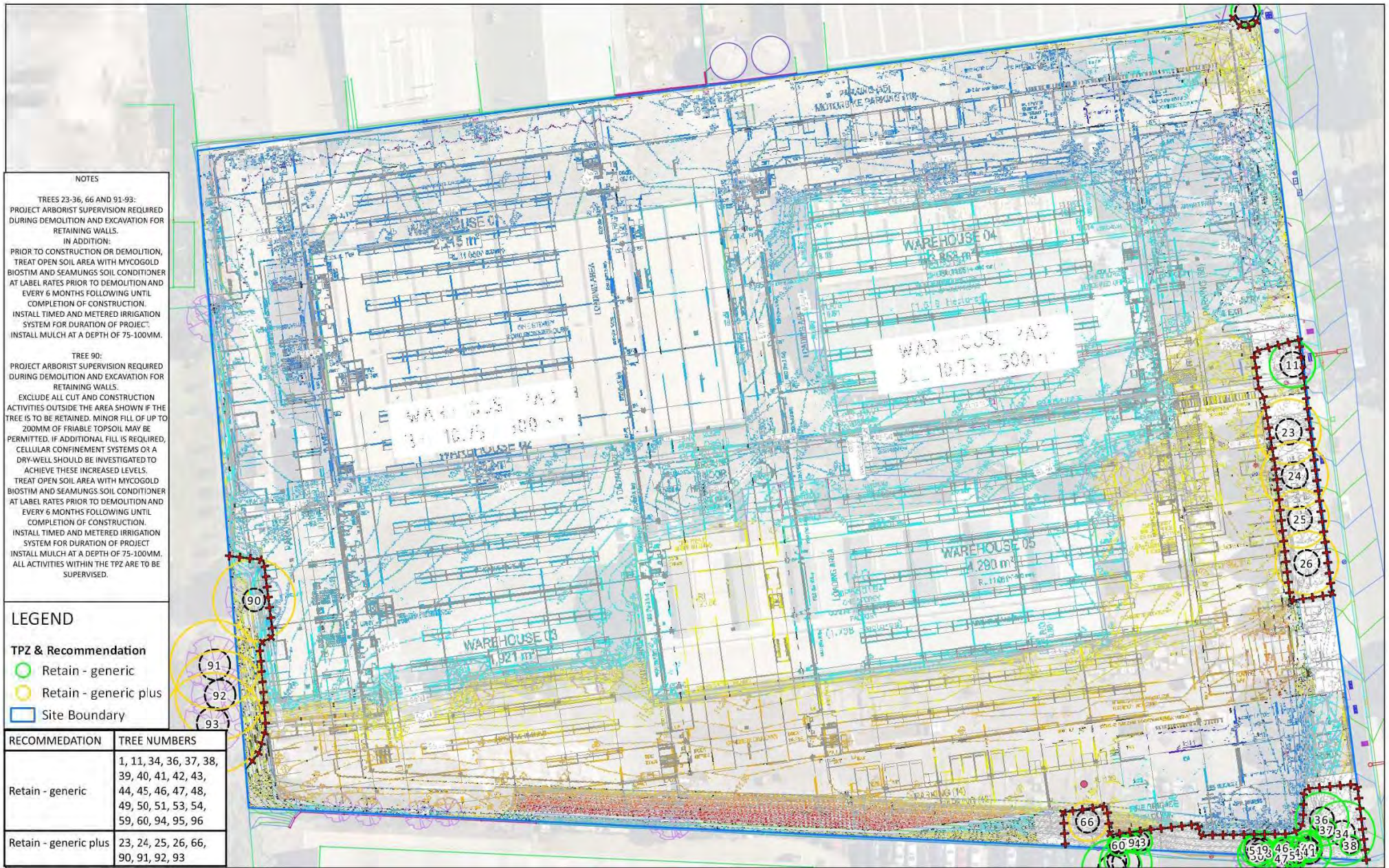
CLIENT: HALE
SITE: 339-349 HORSLEY RD, MILPERRA NSW

JOB No. E-001595-22

DWG No. TRP.01

DRAWN KH





NOTES

TREES 23-36, 66 AND 91-93:
PROJECT ARBORIST SUPERVISION REQUIRED DURING DEMOLITION AND EXCAVATION FOR RETAINING WALLS.

IN ADDITION:
PRIOR TO CONSTRUCTION OR DEMOLITION, TREAT OPEN SOIL AREA WITH MYCOGOLD BIOSTIM AND SEAMUNGS SOIL CONDITIONER AT LABEL RATES PRIOR TO DEMOLITION AND EVERY 6 MONTHS FOLLOWING UNTIL COMPLETION OF CONSTRUCTION. INSTALL TIMED AND METERED IRRIGATION SYSTEM FOR DURATION OF PROJECT. INSTALL MULCH AT A DEPTH OF 75-100MM.

TREE 90:
PROJECT ARBORIST SUPERVISION REQUIRED DURING DEMOLITION AND EXCAVATION FOR RETAINING WALLS.

EXCLUDE ALL CUT AND CONSTRUCTION ACTIVITIES OUTSIDE THE AREA SHOWN IF THE TREE IS TO BE RETAINED. MINOR FILL OF UP TO 200MM OF FRABLE TOPSOIL MAY BE PERMITTED. IF ADDITIONAL FILL IS REQUIRED, CELLULAR CONFINEMENT SYSTEMS OR A DRY-WELL SHOULD BE INVESTIGATED TO ACHIEVE THESE INCREASED LEVELS. TREAT OPEN SOIL AREA WITH MYCOGOLD BIOSTIM AND SEAMUNGS SOIL CONDITIONER AT LABEL RATES PRIOR TO DEMOLITION AND EVERY 6 MONTHS FOLLOWING UNTIL COMPLETION OF CONSTRUCTION. INSTALL TIMED AND METERED IRRIGATION SYSTEM FOR DURATION OF PROJECT. INSTALL MULCH AT A DEPTH OF 75-100MM. ALL ACTIVITIES WITHIN THE TPZ ARE TO BE SUPERVISED.

LEGEND

TPZ & Recommendation

- Retain - generic
- Retain - generic plus
- Site Boundary

RECOMMENDATION	TREE NUMBERS
Retain - generic	1, 11, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 53, 54, 59, 60, 94, 95, 96
Retain - generic plus	23, 24, 25, 26, 66, 90, 91, 92, 93

REV	DESCRIPTION	DATE
A	DRAFT	05/08/2022
B	FINAL	26/08/2022
C	FINAL	20/02/2023
D	FINAL	23/03/2023

TREE PROTECTION MANAGEMENT PLAN



PROPOSED INDUSTRIAL DEVELOPMENT JOB No. E-001595-22
 CLIENT: HALE DWG No. TPMP.01
 SITE: 339-349 HORSLEY RD, MILPERRA NSW DRAWN KH



TREE PROTECTION MANAGEMENT PLAN

339-349 HORSLEY RD, MILPERRA NSW

GENERAL

PROJECT ARBORIST

AN OFFICIAL "PROJECT ARBORIST" MUST BE COMMISSIONED TO OVERSEE THE TREE PROTECTION, ANY WORKS WITHIN THE TPZ'S AND COMPLETE REGULAR MONITORING COMPLIANCE CERTIFICATION.

THE PROJECT ARBORIST MUST HAVE MINIMUM FIVE (5) YEARS INDUSTRY EXPERIENCE IN THE FIELD OF ARBORICULTURE, HORTICULTURE WITH RELEVANT DEMONSTRATED EXPERIENCE IN TREE MANAGEMENT ON CONSTRUCTION SITES, AND DIPLOMA LEVEL QUALIFICATIONS IN ARBORICULTURE – AQF LEVEL 5.

GENERIC TREE PROTECTION

GENERIC TREE PROTECTION MEASURES ARE RECOMMENDED TO RESTRICT CONSTRUCTION ACTIVITIES WITHIN THE TPZ WHICH MAY ADVERSELY AFFECT THE HEALTH AND CONDITION OF A TREE TO BE RETAINED. IN ORDER OF PRECEDENCE, THE FOLLOWING IS REQUIRED FOR ALL TREES.

INSTALL TPZ FENCING AND SIGNAGE PER THE TPMP. WHERE IMPRACTICAL;
INSTALL TRUNK AND GROUND PROTECTION WHERE MACHINE ACCESS IS REQUIRED.

NOTES:

ALL ACTIVITIES WITHIN THE FENCED TPZ ARE TO BE SUPERVISED BY THE PROJECT ARBORIST.
TPZ FENCING IS NOT TO BE MOVED.

COMPLIANCE INSPECTION AND REPORTING

COMPLIANCE INSPECTIONS ARE RECOMMENDED TO BE COMPLETED ON A MONTHLY BASIS THROUGH THE CONSTRUCTION STAGE.

FOLLOWING EACH INSPECTION, THE PROJECT ARBORIST SHALL PREPARE A DOCUMENT DETAILING THE CONDITION OF THE TREES. THESE DOCUMENTS SHOULD CERTIFY WHETHER THE WORKS HAVE BEEN COMPLETED IN COMPLIANCE WITH THE APPROVED CONSENT CONDITIONS RELATING TO TREE PROTECTION. THESE REPORTS SHOULD CONTAIN PHOTOGRAPHIC EVIDENCE WHERE NECESSARY.

INSPECTIONS ARE TO BE CONDUCTED BY THE PROJECT ARBORIST AT SEVERAL KEY POINTS DURING THE CONSTRUCTION IN ORDER TO ENSURE THAT PROTECTION MEASURES ARE BEING ADHERED TO DURING CONSTRUCTION STAGES AND DECLINE IN TREE HEALTH OR ADDITIONAL REMEDIATION MEASURES CAN BE IDENTIFIED.

ANY WORKS WITHIN TREE PROTECTION ZONES ARE TO BE MONITORED AND SUPERVISED BY THE PROJECT ARBORIST.

HOLD POINTS

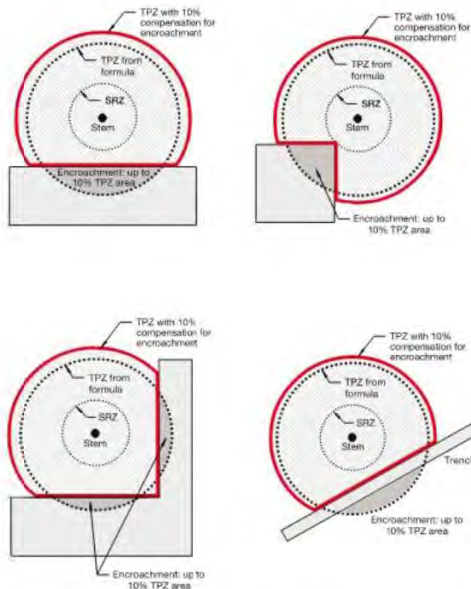
Construction Stage	Task	Responsibility	Certification	Timing of Inspection
Pre-construction	Indicate clearly (with spray paint or tape on trunks) trees approved for removal only	Principal Contractor	Project arborist	Prior to site establishment
	Install tree protection measures			
During Construction	Induct construction staff into Tree Protection Management Plan			As required prior to the works proceeding adjacent to trees to be retained
	Supervise all excavation works proposed within the TPZ of trees to be retained			
Post-construction	Inspection of trees by Project Arborist			Quarterly during construction period
	Final inspection of trees by Project Arborist			Following practical completion of works

EXPLORATORY ROOT INVESTIGATION

WHERE TREES ARE INTENDED TO BE RETAINED, AND POTENTIAL WORKS AREAS MAY ENTER THE TPZ OR SRZ, DETERMINING ROOT LOCATION AND, THEREFORE THE IMPACT ON THE TREES IS AN IMPORTANT PROCESS.

EXPLORATORY ROOT EXCAVATION SHOULD BE UNDERTAKEN IN A MANNER THAT CAUSES THE LEAST AMOUNT OF DAMAGE TO ROOT MATERIAL IN THE PROCESS. THIS MAY INCLUDE THE USE OF AIR EXCAVATION (AIR-SPADE) OR HYDRO OR DRY-VAC EXCAVATION. ROOT INVESTIGATIONS SHOULD BE UNDERTAKEN AT PRE-AGREED LOCATIONS THAT WILL MOST EFFECTIVELY GUIDE THE DESIGN.

FINDINGS OF THE ROOT INVESTIGATION SHOULD BE COMPILED INTO A REPORT WHICH IDENTIFIES SIGNIFICANT ROOTS THAT SHOULD BE RETAINED AND LESS SIGNIFICANT ROOTS THAT MAY BE APPROPRIATE FOR SEVERANCE. THE SIZE AND VOLUME OF ROOTS WHICH MAY BE CUT MUST BE ASSESSED BY AN ARBORIST AND CONSIDER TREE PHYSIOLOGY, EXISTING SITE AND SOIL CONDITIONS AND SPECIES TRAITS AND TOLERANCE OF ROOT PRUNING.



NOTE: Less than 10% TPZ area and outside SRZ. Any loss of TPZ compensated for elsewhere.

PERMISSIBLE TPZ ENCROACHMENTS

REV	DESCRIPTION	DATE
A	DA	23/03/2023

TREE PROTECTION MANAGEMENT PLAN

PROPOSED INDUSTRIAL DEVELOPMENT JOB No. E-001595-22

CLIENT: HALE
SITE: 339-349 HORSLEY RD, MILPERRA NSW

DWG No. TPMP.02
DRAWN KH

TREE PROTECTION MANAGEMENT PLAN

339-349 HORSLEY RD, MILPERRA NSW

DEMOLITION / PRE-CONSTRUCTION

SITE ESTABLISHMENT

THE PROJECT ARBORIST IS TO BE PROVIDED A COPY OF THE CONSTRUCTION MANAGEMENT PLAN (CMP) TO CHECK FOR COMPLIANCE WITH THE TPMP. THE CMP SHOULD ENSURE THAT SITE SHEDS, HAUL ROADS, LAYDOWN AREAS AND SEDIMENT CONTROL ARE LOCATED OUTSIDE THE TPZ OF TREES TO BE RETAINED.

AT THE COMPLETION OF SITE ESTABLISHMENT, THE PROJECT ARBORIST IS TO CERTIFY THAT TREE PROTECTION MEASURES COMPLY WITH THE TPMP.

TPZ FENCING

PROTECTIVE FENCING IS TO BE INSTALLED AS PER TREE PROTECTION MANAGEMENT PLAN. FENCING IS TO COMPLY WITH AUSTRALIAN STANDARD AS 4687-2007 TEMPORARY FENCING AND HOARDINGS.

ONCE ERECTED, PROTECTIVE FENCING MUST NOT BE REMOVED OR ALTERED WITHOUT APPROVAL FROM THE PROJECT ARBORIST. THE TPZ FENCING SHOULD BE SECURED TO RESTRICT ACCESS.

TPZ FENCING IS TO BE A MINIMUM OF 1.8M HIGH AND MESH OR WIRE BETWEEN POSTS MUST BE HIGHLY VISIBLE. FENCE POSTS AND SUPPORTS SHOULD HAVE A DIAMETER GREATER THAN 20MM AND SHOULD IDEALLY BE FREESTANDING, OTHERWISE BE LOCATED CLEAR OF THE ROOTS.

TREE PROTECTION FENCING MUST REMAIN INTACT THROUGHOUT ALL PROPOSED CONSTRUCTION WORKS AND MUST ONLY BE DISMANTLED AFTER THEIR CONCLUSION. THE TEMPORARY DISMANTLING OF TREE PROTECTION FENCING MUST ONLY BE DONE WITH THE AUTHORISATION OF THE PROJECT ARBORIST AND/OR THE RESPONSIBLE AUTHORITY. ANY WORKS TO BE UNDERTAKEN WITHIN THE TREE PROTECTION ZONE FENCING ARE TO BE MONITORED AND CERTIFIED BY THE PROJECT ARBORIST.

PROHIBITED ACTIVITIES WITHIN THE TPZ

ACTIVITIES GENERALLY EXCLUDED FROM THE TPZ INCLUDED BUT ARE NOT LIMITED TO:
MACHINE EXCAVATION INCLUDING TRENCHING;
EXCAVATION FOR SILT FENCING;
CULTIVATION;
STORAGE;
PREPARATION OF CHEMICALS, INCLUDING PREPARATION OF CEMENT PRODUCTS;
PARKING OF VEHICLES AND PLANT;
REFUELLING;
DUMPING OF WASTE;
WASH DOWN AND CLEANING OF EQUIPMENT;
PLACEMENT OF FILL;
LIGHTING OF FIRES;
SOIL LEVEL CHANGES;
TEMPORARY OR PERMANENT INSTALLATION OF UTILITIES AND SIGNS; AND
PHYSICAL DAMAGE TO THE TREE.

TREE PROTECTION SIGNS

SIGNS IDENTIFYING THE TPZ ARE TO BE INSTALLED ON THE TREE PROTECTION FENCING IN 10M INTERVALS.

TRUNK BRANCH AND GROUND PROTECTION

GROUND PROTECTION IS TO BE INSTALLED AS SHOWN IN THE TPMP PLAN. THE PURPOSE OF GROUND PROTECTION IS TO PREVENT ROOT DAMAGE AND SOIL COMPACTION. MEASURES MAY INCLUDE A PERMEABLE MEMBRANE SUCH AS GEOTEXTILE FABRIC BENEATH A 100MM THICK LAYER OF MULCH OR CRUSHED ROCK BELOW RUMBLE BOARDS, OR STEEL PLATES OR TRACK MATS.

TREE TRUNK/S AND/OR MAJOR BRANCHES LOCATED WITHIN CLOSE PROXIMITY TO WORKS, MUST BE WRAPPED WITH PROTECTIVE HESSIAN OR SIMILAR ACCEPTABLE MATERIAL TO PREVENT TREE INJURY. MAJOR BRANCHES WOULD TYPICALLY BE CONSIDERED TO BE OF A DIAMETER GREATER THAN 100MM DIAMETER. TIMBER BATTENS (50 MM X 100 MM X 2000MM OR SIMILAR) MUST BE PLACED AROUND TREE TRUNKS WITH BATTENS SPACED AT 100 MM INTERVALS AND FIXED AGAINST THE TRUNK USING METAL OR DURABLE PLASTIC STRAPPING WITH CONNECTIONS APPROPRIATELY FINISHED OR COVERED TO PROTECT PEDESTRIANS FROM SNAGGING INJURY. THE HESSIAN AND TIMBER BATTENS MUST NOT BE FIXED TO THE TREE. TREE TRUNK AND MAJOR BRANCH PROTECTION ARE TO REMAIN IN PLACE FOR THE DURATION OF WORKS AND MUST BE REMOVED AT THE COMPLETION OF THE PROJECT.

SCAFFOLDING

WHERE SCAFFOLDING IS REQUIRED IT SHOULD BE ERECTED OUTSIDE THE TPZ. WHERE IT IS ESSENTIAL FOR SCAFFOLDING TO BE ERECTED WITHIN THE TPZ, BRANCH REMOVAL SHOULD BE MINIMIZED. THIS CAN BE ACHIEVED BY DESIGNING SCAFFOLDING TO AVOID BRANCHES OR TYING BACK BRANCHES. WHERE PRUNING IS UNAVOIDABLE IT MUST BE SPECIFIED BY THE PROJECT ARBORIST IN ACCORDANCE WITH AS 4373-2007 PRUNING OF AMENITY TREES. NOTE: PRUNING WORKS WILL REQUIRE APPROVAL BY DETERMINING AUTHORITY. GROUND BELOW THE SCAFFOLDING SHOULD BE PROTECTED BY BOARDING (E.G. SCAFFOLD BOARD OR PLYWOOD SHEETING), WHERE ACCESS IS REQUIRED, A BOARD WALK OR OTHER SURFACE MATERIAL SHOULD BE INSTALLED TO MINIMIZE SOIL COMPACTION. BOARDING SHOULD BE PLACED OVER A LAYER OF MULCH AND IMPERVIOUS SHEETING TO PREVENT SOIL CONTAMINATION. THE BOARDING SHOULD BE LEFT IN PLACE UNTIL THE SCAFFOLDING IS REMOVED.

DEMOLITION OF HARDSTAND AREAS

DEMOLITION OF EXISTING HARD STAND AREAS WITHIN THE TPZ OF TREES TO BE RETAINED MAY BE UNDERTAKEN USING MACHINERY BUT MUST BE UNDER THE SUPERVISION OF THE PROJECT ARBORIST. DEMOLITION OF THE GROUND SURFACES MUST BE UNDERTAKEN FROM EXISTING HARD STAND AREAS OR GROUND PROTECTION AND SHOULD COMMENCE AT THE OUTER EXTENT OF THE EXISTING SURFACE MATERIAL AND MOVE AWAY FROM TREES TO BE RETAINED.

SEDIMENT CONTROL

SEDIMENT CONTROL WITHIN TREE PROTECTION ZONES IS TO BE INSTALLED TO AVOID BELOW GROUND EXCAVATION AS THIS MAY DAMAGE ROOTS. COIR LOGS INSTALLED ABOVE GRADE THAT ARE PINNED TO AVOID ROOTS ARE AN ACCEPTABLE METHOD.



EXAMPLE TPZ SIGNAGE

REV	DESCRIPTION	DATE
A	DA	23/03/2023

TREE PROTECTION MANAGEMENT PLAN

PROPOSED INDUSTRIAL DEVELOPMENT JOB No. E-001595-22
CLIENT: HALE DWG No. TPMP.03
SITE: 339-349 HORSLEY RD, MILPERRA NSW DRAWN KH

TREE PROTECTION MANAGEMENT PLAN

339-349 HORSLEY RD, MILPERRA NSW

DURING CONSTRUCTION

EXCAVATIONS WITHIN TREE PROTECTION ZONES

THE PROJECT ARBORIST IS TO MONITOR THE IMPACTS OF DEMOLITION, BULK EARTHWORKS, AND INSTALLATION OF TEMPORARY INFRASTRUCTURE INCLUDING BUILDING, SEDIMENT CONTROL AND DRAINAGE WORKS.

WHERE THE EXTENT OF ENCROACHMENT IS LESS THAN 10% OF THE TPZ, INCLUDING ANY EXCAVATIONS FOR BENCHING AND SHORING, EXCAVATION MAY BE UNDERTAKEN USING CONVENTIONAL CONSTRUCTION METHODS. 10% OF THE TPZ IS EQUIVALENT TO ONE-THIRD OF THE TPZ RADIUS ON ONE SIDE.

WHERE THE ENCROACHMENT IS TO BE GREATER THAN 10% OF THE TPZ AND PRIOR TO ANY MECHANICAL EXCAVATIONS FOR BUILDING FOUNDATIONS, SHORING, RETAINING WALL OR PAVEMENT SUBGRADE WITHIN THE TPZ OF TREES TO BE RETAINED; EXPLORATORY EXCAVATION USING NON-DESTRUCTIVE METHODOLOGY SHALL BE UNDERTAKEN AT THE PERIMETER OF THE STRUCTURE, EXCAVATION REQUIRED FOR SHORING, RETAINING WALL OR PAVEMENT SUBGRADE WITHIN THE TPZ.

SUCH TECHNIQUES INCLUDE:

- EXCAVATION BY HAND
- EXCAVATION USING A HIGH-PRESSURE WATER JET AND VACUUM TRUCK
- EXCAVATION USING AN AIR SPADE WITH A VACUUM TRUCK

THE NON-DESTRUCTIVE EXCAVATION SHALL BE UNDERTAKEN AT THE OUTER LIMITS OF THE STRUCTURE TO THE DEPTH OF THE FOUNDATION OR EXCAVATION, OR TO A MAXIMUM OF 800MM BELOW EXISTING SURFACE LEVELS. ALL CARE MUST BE TAKEN TO PREVENT THE DAMAGE OR SEVERANCE OF ROOTS GREATER THAN 50MM IN DIAMETER. ANY ROOTS ENCOUNTERED THAT ARE LESS THAN 50MM IN DIAMETER MAY BE CLEANLY SEVERED WITH A SHARP PRUNING IMPLEMENT AT THE INTERFACE OF THE EXCAVATION NEAREST THE TREE. THE EXPOSED ROOT ZONE IS TO BE KEPT MOIST BY WAY OF GEOTEXTILE OR HESSIAN PLACED ALONG THE OPEN INTERFACE OF THE EXCAVATION NEAREST THE TREE.

WHERE ROOTS GREATER THAN 50MM IN DIAMETER ARE ENCOUNTERED DURING EXPLORATORY EXCAVATION, ADVICE FROM THE PROJECT ARBORIST SHALL BE SOUGHT.

PAVEMENTS WITHIN TREE PROTECTION ZONES

ANY PAVEMENTS OR FOOTPATHS WITHIN TPZ OF TREES TO BE RETAINED SHOULD BE INSTALLED AT OR ABOVE EXISTING GRADE TO MINIMISE THE NEED FOR EXCAVATION TO AVOID DAMAGE OR SEVERANCE OF PRIMARY WOODY ROOTS. THE PAVEMENT SUB-BASE SHALL BE A COARSE, GAP-GRADED MATERIAL WITH NO FINES IN ORDER TO ALLOW SOME AERATION AND MOISTURE INFILTRATION TO THE ROOT ZONE. THE USE OF PERMEABLE PAVEMENTS, BONDED AGGREGATE OR CELLULAR CONFINEMENT SYSTEMS SHOULD BE INVESTIGATED AS ALTERNATIVE CONSTRUCTION METHODS.

UNDERGROUND SERVICES WITHIN TREE PROTECTION ZONES

ALL UNDERGROUND SERVICES SHOULD BE ROUTED OUTSIDE THE TPZ OF TREES TO BE RETAINED. WHERE UNAVOIDABLE, SERVICES MAY BE INSTALLED VIA ALTERNATIVE METHODS WHICH MAY INCLUDE TREE SENSITIVE EXCAVATION OR HORIZONTAL DIRECTIONAL DRILLING (HDD). WHERE HDD IS USED, ENTRY AND EXIT PITS ARE TO BE LOCATED OUTSIDE THE TPZ OF TREES TO BE RETAINED.

WHERE EXCAVATION OR TRENCHING IS REQUIRED TO FACILITATE INSTALLATION OF UNDERGROUND SERVICES WITHIN THE TPZS OF ANY SITE TREES ARBORIST SUPERVISION IS REQUIRED. WORKS SHOULD BE UNDERTAKEN USING TECHNIQUES THAT ARE SENSITIVE TO TREE ROOTS TO AVOID UNNECESSARY DAMAGE. SUCH TECHNIQUES INCLUDE:

- EXCAVATION BY HAND
- EXCAVATION USING A HIGH-PRESSURE WATER JET AND VACUUM TRUCK
- EXCAVATION USING AN AIR SPADE WITH VACUUM TRUCK

MACHINE EXCAVATION IS PROHIBITED WITHIN THE TPZS OF RETAINED TREES UNLESS UNDERTAKEN AT THE DIRECT CONSENT FROM THE PROJECT ARBORIST AND/OR THE RESPONSIBLE AUTHORITY.

WHERE A SITUATION OCCURS THAT A SIGNIFICANT ROOT (ROOT GREATER THAN >50 MM DIAMETER) REQUIRES PRUNING OR REMOVAL, THE ROOT IS TO BE SEVERED WITH A SHARP SAW IMPLEMENT BY OR UNDER INSTRUCTION OF THE PROJECT ARBORIST.

FILL WITHIN TREE PROTECTION ZONES

WHERE UNAVOIDABLE, FILL PLACED WITHIN TPZ OF TREES TO BE RETAINED SHALL BE WELL-DRAINED MATERIAL EQUIVALENT OR FINER IN TEXTURE THAN THE EXISTING SITE TOPSOIL MATERIAL AND SHOULD COMPLY WITH AS 4419:2003 (SOILS FOR LANDSCAPING AND GARDEN USE).

THE FILL CAN BE LIGHTLY CONSOLIDATED BUT NOT TO ENGINEERING STANDARDS. IF FILL IS TO BE PLACED BY MACHINERY, THIS MUST BE DONE FROM OUTSIDE THE TPZ OF FROM EXISTING HARD STAND AREAS. ALTERNATIVELY, GROUND PROTECTION MAY BE USED TO FACILITATE MACHINE ACCESS.

LANDSCAPING WORKS WITHIN TREE PROTECTION ZONES

THE LANDSCAPE PLAN IS TO BE CHECKED FOR COMPLIANCE WITH THE TPMP. STAGED REMOVAL OF TREE PROTECTION METHODS MAY BE REQUIRED TO FACILITATE LANDSCAPING WORKS.

ANY LANDSCAPING WORKS WITHIN THE TPZ OF TREES TO BE RETAINED IS TO BE UNDER THE DIRECT SUPERVISION OF THE PROJECT ARBORIST. THESE MAY INCLUDE BUT ARE NOT LIMITED TO: RETAINING WALLS, IRRIGATION AND LIGHTING SYSTEMS, TOPDRESSING, PLANTING AND PAVING.

ANY LANDSCAPING WORKS REQUIRING EXCAVATION FOR DRAINAGE OR THE LIKE IS TO BE UNDERTAKEN USING NON-DESTRUCTIVE METHODS PREVIOUSLY DESCRIBED.

POST CONSTRUCTION

DEFECTS LIABILITY PERIOD

COMPLETION OF OUTSTANDING BUILDING OR LANDSCAPING WORKS FOLLOWING THE CONSTRUCTION PERIOD MUST NOT INJURE TREES.

FINAL CERTIFICATION

THE FINAL INSPECTION BY THE PROJECT ARBORIST SHOULD DETAIL THE HEALTH AND CONDITION OF THE TREES AND THEIR GROWING ENVIRONMENT AND PROVIDE RECOMMENDATIONS FOR ANY NECESSARY REMEDIAL ACTIONS. THESE ACTIONS MAY INCLUDE PRUNING IN ACCORDANCE WITH AS4373-2007 PRUNING OF AMENITY TREES AND/OR SOIL REMEDIATION TO REPAIR THE GROWING ENVIRONMENT.

ON PROJECT COMPLETION, THE PROJECT ARBORIST SHALL CERTIFY IN WRITING TO THE CERTIFYING AUTHORITY THAT THE CONDITIONS OF CONSENT RELATING TO TREE PROTECTION, TREE REMOVAL, PRUNING AND PLANTING OF NEW TREES HAVE BEEN COMPLIED WITH OR, IF THE CONDITIONS HAVE BEEN CONTRAVENED, DETAIL THE EXTENT AND NATURE OF THE DEPARTURE FROM THE CONDITIONS AND THEIR IMPACTS ON TREES.

REV	DESCRIPTION	DATE
A	DA	23/03/2023

TREE PROTECTION MANAGEMENT PLAN

PROPOSED INDUSTRIAL DEVELOPMENT JOB No. E-001595-22
CLIENT: HALE DWG No. TPM?04
SITE: 339-349 HORSLEY RD, MILPERRA NSW DRAWN KH

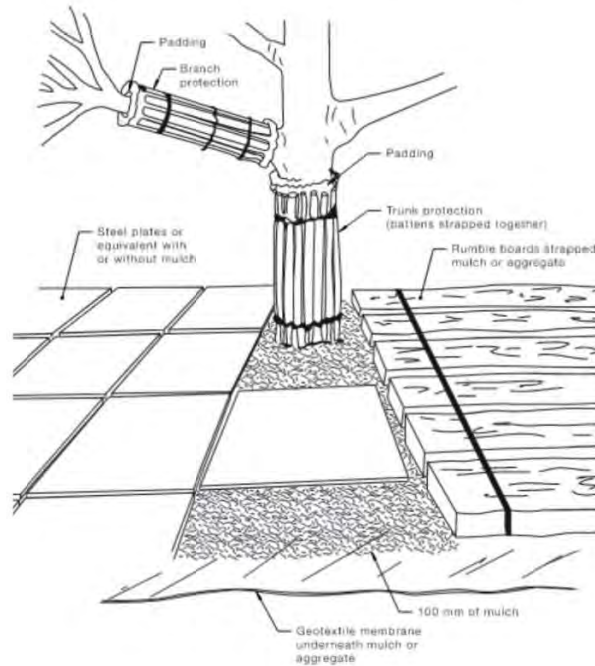


TREE PROTECTION MANAGEMENT PLAN **339-349 HORSLEY RD, MILPERRA NSW**

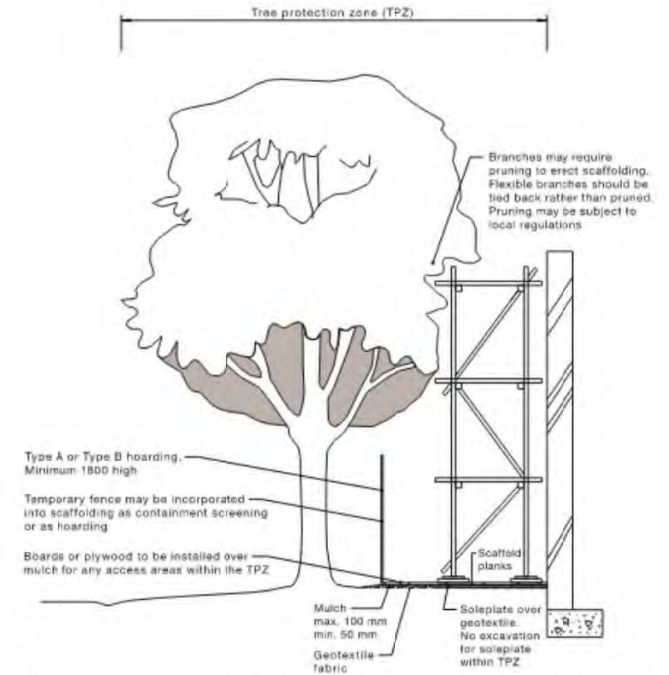


- LEGEND:**
- 1 Chain wire mesh panels with shade cloth (if required) attached, held in place with concrete feet.
 - 2 Alternative plywood or wooden piling fence panels. This fencing material also prevents building materials or soil entering the TPZ.
 - 3 Mulch installation across surface of TPZ (at the discretion of the project arborist). No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.
 - 4 Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

TPZ FENCING DETAIL - ABOVE



TRUNK BRANCH AND GROUND PROTECTION DETAIL



NOTE: Excavation required for the insertion of support posts for tree protection fencing should not involve the severance of any roots greater than 20 mm in diameter, without the prior approval of the project arborist.

SCAFFOLDING DETAIL

REV	DESCRIPTION	DATE
A	DA	23/03/2023

TREE PROTECTION **MANAGEMENT PLAN**

PROPOSED INDUSTRIAL DEVELOPMENT JOB No. E-001595-22
 CLIENT: HALE DWG No. TPMP.05
 SITE: 339-349 HORSLEY RD, MILPERRA NSW DRAWN KH

