




Infrastructure

L2-INF-PLA-001





ELECTRIC LINE CLEARANCE PLAN

2021 - 2024

Version: 12

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Approval

	Name	Position	Signature
Document Author	Bill Eastoe	Electrical Regulation Engineer	
Document Endorsers	Katrina Lewis	Facilities Production Manager - Vegetation	
	Scott Hollingsworth	Facilities Manager	
Approving Manager	Jasper Milligan	Acting General Manager Infrastructure	

Amendment Record

Approval Date	Version	Description
20/04/2010	1	First Issue under MTM. Previous MainCo document No. AM-MAINCO-00039
02/08/2012	2	ESV Reference requirements added
30/03/2013	3	First Issue under MTM.
28/03/2014	4	Revision: MTM Divisional accountability changes.
10/09/2014	5	Changes identified during ESV & MTM review 2014.
27/03/2015	6	2015-16 Interim Plan pending ELC regulations 2015 release. Regulations 2010 expire on 29 June 2015.
27/10/2016	7	2015-16: Revision to comply with ELCP 2015 Regulations
14/11/2017	8	Revised MTM Plan for 2017-20 - ESV submission request not required for 2017-18.
29/03/2018	9	Revision based on MTM 2017-18 ELCP Audit OFI's
05/06/2019	10	Revision incorporating changes for monitoring of training records of ELC personnel.
29/10/2020	11	ELC Plan update incorporating changes introduced in the Electricity Safety (Electric Line Clearance) Regulations 2020
29/03/2021	12	ELC Plan update incorporating Structure to Structure declared Hazardous Bushfire Risk Areas Ref. Page 26



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1. Executive Summary

The Electric Line Clearance Management Plan (the Plan) update for 2020-23, has been prepared for the purpose of compliance to the current Electricity Safety (Electric Line Clearance) Regulations 2020 Version as at 27 June 2020 and to inform stakeholders of the asset management approach, processes and strategies adopted for tree line clearance management.

Each year a significant effort is dedicated to vegetation control in the rail reserve, the two primary aims being to mitigate disruption to safe movement of trains in the rail corridor (train running envelope and signal sighting compliance) and to achieve and maintain electric line clearance.

This Plan aims to mitigate damage to traction electrical assets for vegetation contact, both within and outside of the rail corridor and the subsequent potential risk to public safety including rail service disruption and bushfire ignition.

The main MTM Divisional accountabilities for compliance to the Electric Line Clearance Regulations involve MTM Infrastructure Delivery and Engineering Electrical.

MTM's Infrastructure Delivery Responsibilities:-


Preparation compliance date before 31 March in each year, a management plan relating to compliance with the code to include:-

- A tree clearance program to safely create and maintain the required clearance space around power lines in accordance with requirements Code of Practice for Electric Line Clearance, Part 3 – Minimum Clearance Spaces.
- Management of procedures for standards and practices to be adopted and observed in tree cutting or removal in the vicinity of electric lines and the keeping of the whole or any part of a tree clear of electric lines; and
- Provide further information in respect of the management plan on request within 14 days or such longer period as specified by Energy Safe Victoria.

Note: Amendment to this management plan may occur if instructed to do so by Energy Safe Victoria within 14 days or such longer period as specified.

MTM's Electrical Engineering Responsibilities:-

- Endorse priorities for vegetation clearance programmes based on rail safety and electrical asset risk with a priority on high voltage (22kV) assets.
- Annual confirmation CFA designated Hazardous Bushfire Risk Area boundaries as related to Metro Rail Network Assets. (Refer Appendix 4 – Page 27).
- Ensure that a copy of the management plan is available for inspection by the public at the responsible person's principal office in the State during normal business hours and published on Metro's Internet site.

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2. Purpose

The following are identified as the key objectives of this plan in fulfilling our stated mission and the duties set out in the Electricity Safety (Electric Line Clearance) Regulations 2020:

- Rail safety and Public Safety;
- Provision of a safe working place for VMC employees and contractors;
- PTV and Public satisfaction with overgrown vegetation management
- Compliance with Electricity Safety (Electric Line Clearance) Regulations 2020

3. Scope

The objective of this plan is to ensure that Regulations are met with regards to all Electric Line Clearance to all vegetation for which MTM is responsible.

4. Abbreviations and Acronyms

ELCP: Electric Line Clearance Plan

MTM: Metro Trains Melbourne

MTM Rail Corridor: Rail Corridor Managed by MTM on behalf of PTV

INX: INX InControl Software System is a centralised management software system that records and manages Audits, Investigations and Inspections, Risk and Management of Change

VMC: Vegetation Management Company: Eastern Tree Services (ETS)

5. Management Plan Particulars


5.1 The following information is required as defined in Part 2 Section 9(4):

(a) Name, Address and Telephone Number of the Responsible Person.

Name (of Organisation): Metro Trains Melbourne
Address: Level 16, 700 Collins Street Melbourne VIC 3000
GPO Box 1880 MELBOURNE VIC 3001
Telephone No: 1800 800 007
Website: www.metrotrains.com.au

(b) Name, Position, Address and Telephone Number of the Individual who was responsible for the preparation of the plan.

Name: Bill Eastoe
Position: Electrical Regulation Engineer
Postal Address: GPO Box 1880 MELBOURNE VIC 3001
Telephone No: 1800 800 007

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(c) Name, position, address and telephone number of the persons who are responsible for carrying out the plan.

Name(s): Scott Hollingsworth
 Position(s): Facilities Manager- Infrastructure
 Business Postal Address: GPO Box 1880 MELBOURNE VIC 3001
 Telephone No: 1800 800 007

Name(s): Katrina Lewis
 Position(s): Facilities Production Manager - Vegetation
 Business Postal Address: GPO Box 1880 MELBOURNE VIC 3001
 Telephone No: 1800 800 007

(d) The telephone number of a person who can be contacted in an emergency that requires clearance of a tree from an electric line that the responsible person is required to keep clear of trees;

Emergency Contact:


MTM 1800 800 007 - 6 am to midnight daily (all night on Fri-Sat)
 METROL 03 96100 7203 - After hours contact

(e) The objectives of the management plan

The objectives of this MTM Electric Line Clearance Plan is to achieve prescribed standards and safety in tree cutting and removal in the vicinity of MTM electric lines and achieving and maintaining the whole or any part of a tree clear of electric line to clearance defined in Schedule 1 Code of Practice Part 3 – Minimum clearance spaces in the ELC Regulations 2020. The key performance measures are a continuous reduction of non-compliant tree spans; refer MTM Tree Management Procedure, as applicable to insulated and bare conductors, voltage level and HBRA and LBRA overhang compliance requirements

The following are identified as the key objectives of this plan:

- Rail Safety of the Public Safety and Risk Reduction
- Electrical safety
- Reliability of supply – mitigate supply outages
- Provision of a safe working place for employees and contractors;
- Compliance with Electric Line Clearance Regulation 2020
- Customer and community satisfaction
- Management to maximise environment & amenity
- Protection of areas of important vegetation
- Minimise fire starts HBRA

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(f) The land of which the management plan applies:

MTM Electrical overhead assets are contained within easements including rail corridor.

MTM Engineering- Electrical team confirm CFA HBRA boundaries impacting MTM assets on an annual basis prior to each declared bushfire season. Refer: Appendix 3 - Page 28 MTM Rail Network Hazardous Bushfire Risk Areas.

(g) Any hazardous bushfire risk area and low bushfire risk areas in the land referred to in paragraph (f) (as indicated on the map)

Refer Appendix 4 Page 29.

(h) Each area that the responsible person knows contains a tree that may need to cut or remove to ensure compliance with the code

The location of areas containing trees which may need to be cut or removed for compliance with the Code and that are –

- (i) **Indigenous to Victoria;** Indigenous vegetation means plants like trees, shrubs, herbs and grasses that would have grown naturally in Victoria before European arrival, refer:

Appendix 2. Dominant Tree Species in the Metropolitan Rail System

Appendix 3. The Land to which the management plan applies – System Dominant Vegetation.


- (ii) **Listed in a planning scheme to be of ecological, historical or aesthetic.**

The VMC on behalf of MTM will liaise with Municipalities to identify any trees contained within Planning Schemes and are deemed to be of ecological, historical or aesthetically significance to add to the MTM Network Protected Flora Site register Appendix 6 page 27. This will be undertaken through an annual request of authorities to provide special data of significant vegetation that may impact MTM assets.

- (iii) **Trees of cultural or environmental significance will be included in the Metro Network Protected Flora Sites - register, if they are significant for either cultural or ecological reasons.**

Tree of cultural or environmental significance means a tree that is—

- included in the Heritage Register within the meaning of the **Heritage Act 1995**; or
- included in the Victorian Aboriginal Heritage Register established under section 144 of the **Aboriginal Heritage Act 2006**; or
- flora or a habitat of fauna listed as threatened in accordance with section 10 of the **Flora and Fauna Guarantee Act 1988**; or
- flora listed in the Threatened Flora List with a conservation status in Victoria of "endangered" or "vulnerable"; or a habitat of fauna which is:-
 - (i) listed in the Threatened Invertebrate Fauna List with a conservation status in Victoria of "vulnerable", "endangered" or "critically endangered"; or
 - (ii) Listed in the Threatened Vertebrate Fauna List with a conservation status in Victoria of "vulnerable", "endangered" or "critically endangered".

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(i) The means which the responsible person is required to use to identify a tree of a kind specified in paragraphs h (i), (ii) or (iii)

A tree is of cultural or environmental significance if it is listed on any of the following registers or lists:

- Victorian Heritage Register
- Victorian Aboriginal Heritage Register
- Flora listed as “endangered” or “vulnerable” on the Advisory List of Rare or Threatened
- Plants in Victoria (Threatened Flora List)
- Flora and Fauna Guarantee Act 1988 Threatened List

To determine the status of a tree prior to maintenance work, the VMC shall:

- Check the Network Protected Flora Sites register for significant ecological sites in the rail reserve; Refer: Appendix 6 -page 6: Network Protected Flora Site Map
- Contact local council and check the Network Heritage Sites map for heritage trees and landscapes.

If a tree is identified as being culturally or ecologically significant, the relevant authorities and/or owner shall be consulted. In the event that important trees require cutting or removal, appropriate advice will be obtained from a qualified Arborist and an inspection will include the identification of any threatened species inhabiting the tree. Pruning or removal of any significant tree shall be kept to a minimum, as necessary to meet clearance and safety requirements.


Prior to commencement of trimming, lopping or removal of significant trees, VMC clearing crews shall be instructed in the importance of tree clearance and the identification of any threatened species inhabiting the tree. The Arborist where practical to be in attendance to instruct clearance crews of the specific requirements of tree pruning / removal

Local coverage of nationally significant vegetation can be found using the Protected Matters Search tool at the Australian Government Department of the Environment website at the following link: <http://www.environment.gov.au/topics/about-us/legislation/environment-protection-and-biodiversity-conservation-act-1999/protected>

(j) The management procedures that the responsible person is required to adopt to ensure compliance with the Code, which must :-

i. Include details of the methods to be adopted for managing trees and maintaining a minimum clearance space as required by the Code.

Where practicable, pruning will be undertaken using elevated work platforms or other similar methods in an effort to minimise overall site damage. MTM will as far as practicable, restrict cutting or removal of native trees of cultural or environmental significance to the minimum extent necessary for compliance with the requirements of the code, the schedule to the code or to make an unsafe situation safe.

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It is assumed that no mineral (earth) disturbance will take place as part of MTM'S vegetation cutting program. In the event of such works being required, MTM will conduct a specific site assessment to consider the impact such works may have on the asset. Where relevant, the VMC is required to recommend mitigation measures to reduce the impact of the works on the asset. These recommendations will be implemented on a case by case basis with MTM approval.

MTM's strategy is to achieve and maintain clearances of trees to electric lines as per the Electricity Safety (Electric Line Clearance) Regulations 2015. In 2015 MTM engaged ETS to undertake Tree Clearance Services the works involved a complete inspection of the MTM electrical. Inspections are subsequently planned yearly in HBRA and 3 yearly in LBRA.

The method adopted by MTM shall be the use of qualified Arborists to inspect and maintain the clearances as per the pruning cycle detailed in this plan and the MTM Tree Management Procedure L1-SQE-PRO-037.


Track Access is an inhibitor to regular pruning cycles, pruning works are managed through Rail Occupations, between train services or on night shift between last and first train. Track Occupations in summary minimises rail service disruptions for a range of works in the rail corridor. The extensive planning involved in the program of track "occupation" is developed to ensure effective works coordination in track closures for a range of works including tree clearance. The correct balance between limited track access the extent of tree clearing required during access is monitored through monthly reports including infringement statistic reductions

When significant tree emergency pruning is required, MTM's overhead staff priority is to achieve clearances to enable safe running of trains, in accordance with company procedures and the Electricity Safety (Electric Line Clearance) Regulations 2015. The engagement of a qualified Arborist will follow as soon as practicable after the emergency works, to make sure that the vegetation is pruned to the standards covered by this Electric Line Clearance Management Plan i.e. sustained HV clearance envelope greater than 2.5 metres and LV in 1.5 metres whenever practical.

Cutting and removal of non-compliant branches or trees in the Metro HBRA will be completed annually in preparation for the declared bushfire season. HBRA areas will be subject to annual review and clearance prior to the declared fire danger period.

MTM Vegetation Clearance Envelope of the rail network is to be inspected on a 3 year program. The cutting cycle in rail is driven by track access generally tree clearance works in the rail corridor occurs outside normal train services to minimise disruption to rail consumers.

Access is managed either in emergencies, at night after the last train at night and before the first train in the morning and during Occupations where train services are replaced by bus service. The extent of tree clearance is reviewed to balance limited rail access time and works for regulatory compliance.

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ii. For the purposes of determining a minimum clearance in accordance with Division 1 of Part 3 of the Code

(A) The method for determining an additional distance that allows for cable sag and sway for the purposes of determining a minimum clearance space in accordance with Division 1 of Part 3 of the Code

The major class of MTM aerial lines involve low voltage uninsulated 1500V DC contact conductors. The traction requirement for this class of conductors is to maintain the contact cable within extremely low sag variations to enable constant contact to the rolling stock pantograph. The low sag characteristic is achieved by a catenary support cables and tensioning with weight wheels

The minimum clearance space for 1500 V DC with auto tensioning (No Sag) is 1:00 Metre in LBRA and 1.5 Metres in HBRA as defined in the Code of Practice for Electric Lines Clearance Part 3 – Minimum clearances spaces, Section 25 and in HBRA 1.5 Metres as defined in Section 28.

MTM's uninsulated high voltage aerial cables spans (22KV), can approximate up to 75 metres spans

Sample calculation: for Sag and Sway based Section 26 LBRA and Section 28 HBRA:

Applicable clearance Space LBRA distance for two thirds of the span =

$$1500 + ((SD)-45) \times (1000/55))$$

75 Metre span = 2.05 metres

Applicable Clearance space HBRA distance for two thirds of the span =

$$1500 + ((SD)-45) \times (500 / 303)$$

75 Metre span = 1.55 metres

MTM Vegetation Clearance Envelope currently adopts a 22kV clearance envelope of 2.5 metres in HBRA and LBRA. - Refer MTM Tree Management Procedure Vegetation Clearance Envelope also addresses clearances for Sag and Sway, at the pole and mid span sag and sway as calculated above.

The extent of tree clearance is reviewed to ensure limited access and continuous reduction in non-compliant trees is achieved.

For Councils MTM will clarify clearance responsibilities of trees on Council land in vicinity of MTM overhead assets and confirm responsibility of the council for public notification and consultation compliance to 9(3)(p) Notification and consultation procedures.


For Trees on private properties MTM will clear trees from MTM electrical assets.

For Trees within the rail corridor impacting Distribution Business electrical assets MTM will clear trees.

For Councils and private tree owners MTM will provide advice on:

- (a) Safe limits of approach to electric lines for cutting or removing the tree; and
- (b) Safe methods for cutting or removing the tree.

MTM may seek additional clearances for different parts of a span of an electric line to address sag and sway, regrowth and limited track access.

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(k) The procedure to be adopted if it is not practicable to comply with the requirements of AS 4373

‘So far as is reasonably practicable’ in considering the standard that a duty holder is expected to meet under the Rail Safety National Law and National Regulations.

The extent of line clearance is compliance to MTM’s Vegetation Clearance Envelope. The Clearance envelope has been developed to achieve clearance spaces defined in Code of Practice for Electric Line Clearance, Rail Safety and regrowth between cyclic clearances. Where practical, consideration will be given to the characteristics of the species, growth rate and retention due to potential impact of the pruning on the health, structure and amenity of the tree.

As identified in MTM’s Tree Management Procedure (L1-SQE-PRO-037), VMC cutting personal will be are trained to carry out cutting in accordance with the Australian Standard AS 4373 —2007 “Pruning of Amenity Trees”. VMC Employees must have sufficient knowledge training, qualifications and experience to ensure that tree activities under their control are conducted in a safe and environmentally responsible manner. MTM does not have defined minimum experience criteria for cutting personnel. The VMC shall conduct yearly a training needs analysis of their employees to ensure that the level of training qualifications and experience is consistent with the requirements of the post.

During various inspections, overgrown, obstructive or potentially hazardous trees are identified by the inspectors and reported to the Facilities Production Manager - Vegetation to schedule maintenance or further assessment by an Arborist. A VMC Arborist is to hold a National Certificate Level IV in Horticulture and Arboriculture (including the “Assess Trees module), or equivalent qualification, with preferably a minimum of 3 years’ experience are responsible for assessing tree health at MTM.


The pruning techniques outlined in AS 4373 are designed to reduce the impact on the health of trees following pruning. Generally, trees are cut back to the most appropriate growth point to achieve electrical clearance, generally the trunk of the tree.

MTM’s Contract Officer and/or representative shall inspect the work carried out by the VMC during periods of that active pruning is taking place. The inspection criteria will be in compliance with AS 4373: Sections 3.2 Arborist qualifications, Section 3.46 Tree worker training and Section 7.3.6 Line Clearance. Refer Contractor Safety Inspection – Vegetation L4-STF-FOR-042 for Audit items and frequency. A record of these inspections shall be kept, citing any evidence of sub-standard pruning practice corrective actions and filed at the MTM office for audit review.

AS4373 Pruning of Amenity Trees reflects current arboriculture practices. MTM Tree clearance work is carried out by arborists or tree workers who are familiar with the principles, techniques and hazards of this work.

AS4373 is used by MTM in inspecting and auditing completed works evaluating and continuous improvement of MTM’s tree clearance works in order to reduce adverse or negative impact of pruning on trees.

The appropriate Plant and Equipment and cutting techniques is be assessed against plant access in the rail corridor, rail safety and sustained electric line tree clearance. When actioning the tree to meet Regulation compliance the VMC is unable to comply with the requirements of AS4373 as far as reasonably practicable’, determination of the most appropriate method of dealing with the offending trees concerned involves consideration of:-

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- The reduction in risk to public safety, rail service reliability, safety of clearance crews and ELCP compliance.
- The significance of the site as a natural habitat of rare or endangered species of both flora and fauna
- The significance and public value of the site's aesthetics;
- The impact on the tree's amenity and utility value if subjected to cutting versus removal.
- Limited VMC access available time in the rail corridor

(l) A description of each alternative compliance mechanism in respect of which the responsible person has applied , or proposes to apply:

MTM has not applied for an alternate compliance mechanism

(m) The details of each approval for an alternate compliance mechanism that:-

(i) The responsible person holds; and

(ii) is in effect

Not Applicable: MTM is not submitting an alternate compliance mechanism.

(n) A description of the measures that must be used to assess the performance of the responsible person under the management plan

MTM use the following measures to assess its performance in delivering and adhering to the processes and procedures outlined in the Management Plan:

Completion of Arborist Tree clearance inspections in declared:-


- HBRA currently annual
- LBRA 3 yearly

Tree Clearance compliance measure: achievement and ongoing compliance in HBRA and in LBRA.

The VMC Field Officer and the MTM Contract Coordinator will review compliance progress as reported in VMC monthly reports and conduct inspections of work sites to ensure that cutting and removal is done in accordance with industry standards, including AS4373 (Pruning of Amenity Trees) and that contractors continually demonstrate compliance with the prescribed safety and environmentally responsible aspects of the industry.

The VMC monthly reports capture the number of non-compliant trees for both Rail Safety and Electric Line Clearance.

VMC and are used is setting clearance trend reduction KPI's as a performance measure of the responsible person for compliance in HBRA and LBRA areas. VMC and MTM undertake contract performance meetings to review clearance progress, Contractual compliance and support requirements.

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- (o) **Details of the audit processes that must be used to determine the responsible person's compliance with the Code. A description of the measures that must be used to assess the performance of the responsible person under the management plan**

MTM's Vegetation Management Contractor is responsible for undertaking inspection of trees near MTM aerial electrical lines and recording of trees branches within the 4.5 metres refer Vegetation Clearance Envelope. Clearances will be recorded against spans for example multiple trees within a span will be recorded as the minimum clearance identified. The VMC then undertake clearance works of trees identified as non-complaint or infringing and also undertake internal inspections of works completed by their vegetation removal crews. The purpose of these inspections is to ensure clearance works have been completed as per the completed works order and the electric line clearance requirements outlined in this Electric Line Clearance Plan are being met. Metro introduced a program of Field Compliance Inspections of tree clearance against VMC work records in 2014/15. This involved the MTM Officer responsible for the VMC works and VMC representative to inspect random sections of line inspected and cleared by the VMC. The aim is to identify document and discuss any issues or non-conformances against VMC clearance records and ensure remedial works are undertaken to address the non-compliance.

Trees within the rail corridor will be cleared meet both rail electrical asset clearances line of site signal asset clearance. The extent of the clearance will factor in both tree regrowth and limited track access.

VMC to maintain records of site inspections for MTM audit these to include: - MTM ELCP compliance, work site management SWMS records and up to date training and authorisation include track access.

MTM Qualified Auditors conduct ELCP Compliance Audits - responsibility for remedial actions is identified and actioned within MTM's INX system

Where repetitive non-conformances are identified the MTM Officer shall seek clarification on the root cause of the non-compliance and may inspect additional sections until the root cause of the non-compliance has been addressed. This process will be subject to annual MTM Audit.


MTM-VMC meetings will capture non-conformance and review until closeout actions in place.

- (p) **The qualifications and experience that the responsible person must require of the persons who carry out the inspections, cutting or removal of trees in accordance with the Code for the purposes of determining a minimum clearance in accordance with the Code and the Electricity Safety (General) Regulations 2019;**

The VMC shall ensure that their employees are appropriately qualified and trained and holding appropriate certificates for both themselves and their equipment that legally entitles them to undertake the work. A record of accreditation and training for VMC personnel involved in MTM site access shall be kept by VMC which shall include , the current training and refresher status of individuals including mandatory training requirements, for example MTM Track Access Authorisation and UET20312 Certificate II in ESI Powerline Vegetation Control.

Note: individuals found on an MTM Work Site non-compliant to mandatory training will result in exclusion from MTM contact works. Currency of VMC Personnel Training records involved in MTM works to be regularly inspected in MTM-VMC contract meetings and during site inspections.

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VMC works to be undertaken in accordance with the Victorian Traction Industry Electrical Safety Rules 2014 Section 12.4:

No person shall perform tree clearing work in the vicinity of live electrical apparatus unless the person:

- a) Has completed a training course approved by ESV:-
 - National UET20312 Certificate II in ESI Powerline Vegetation Control; and Annual Refresher Training: - Refer ESV Training Approval Statement 2013 as published or amended from time to time by Energy Safe Victoria.
- b) has a standard of qualifications, proficiency and experience that enable the person to safely perform the work:-
 - National EWP Licence.
 - Chipper Operations Certificate.
 - Chainsaw Operations Certificate.
 - First Aid- Level 1.
- c) Has been endorsed in writing by the organisation (e.g. the employer) to perform the work; and
- d) Has documented a hazard identification and risk assessment; and
- e) Has implemented a risk management process to control hazards associated with the work; and
- f) Complies with 'Electrical Safety Rules for Vegetation Management Work near Overhead Power lines by Non-Electrical Workers', as published or amended from time to time by Energy Safe Victoria.

Individuals deemed 'Under Supervision': To enable individuals to be assessed as competent to perform a given task or while training is being completed. Individuals will attend training applicable for the role and be deemed competent by a RTO. Evidence to demonstrate competence, including Statement of attainment, Certificate of Completion, will be provided to MTM and when all valid evidence is provided the under Supervision will be removed.

Arborist to have:

- (a) National Certificate Level IV in Horticulture and Arboriculture qualification, including the "Assess Trees" module, or an equivalent qualification; and
- (b) At least 3 years

The VMC personnel are required to have training based on function performed (i.e. ground crew, auditor general or EWP cutter). The persons carrying out the pruning should also have the following;


Vegetation Assessor: a person whose qualifications, experience and ongoing training and assessment demonstrate competency in assessing and scoping vegetation near live electrical apparatus. This person determines cutting requirements to confirm compliance for vegetation near live electrical apparatus.

Suitably qualified VMC Tree Worker and Support Staff:

General Safety Induction (Blue/White card)

Medical Certificate (Rail Category 3)

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RIW card (Rail Industry Workers)
 SARC (Safe Access to Rail Corridor)
 Train Track Safety Awareness Level 1 Vic
 MTM Safety & Environmental Induction
 Apply First Aid
 Manual Handling
 Hearing Conservation
 CPR
 EWP High Risk Licence / EWP Rescue

- Chipper operations certificate
- Chainsaw Operations certificate
- Track Protection - MTM Rail Access certification.
- UET20312 Certificate II in ESI Powerline Vegetation Control *-

Authorised Person means a person who holds a current certificate specifying satisfactory completion of a training course in tree clearing, approved by Energy Safe Victoria (ESV). ESV has specified the minimum training requirement to clear vegetation from overhead electrical assets for non-MEC workers. Training courses include Electrical Systems Identification and Powerline Clearances Distances NUE 260 and UET20312 Certificate II in ESI Powerline vegetation control.

The VMC to maintain a training matrix for the above training courses and an induction processes for new VMC personnel working.

VMC and MTM representatives will undertake reviews of VMC training records to ensure Vegetation management and associated equipment skills training are up to date to ensure ETS Personnel on the corridor have appropriate training.


(q) Notification and consultation procedures including the form of the notice to be given in accordance with Division 3 of Part 2 of the code

MTM Cutting of Trees within the Rail Corridor administered by MTM

A. Notice for MTM Clearance works in the MTM Rail Corridor:

Written notice including notice published in a newspaper circulating in the area is not required other than if the tree is:-

- ☐ on private property that MTM neither owns nor occupies; or
- ☐ on land that is contiguous to private property and the use of that property may be affected during the cutting or removal
- ☐ The Tree is deemed under Planning Schemes to be of ecological, historical or aesthetically significance
- ☐ On public land managed by council; or
- ☐ A tree of cultural or environmental significance; or
- ☐ Listed in a planning scheme to be of ecological, historical or aesthetic significance.

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Note 1 : PTV and DELWP have entered into a Memorandum of Understanding that exempts Metro from having to seek approval from Planning authorities/DEPI (DELWP) to cut or remove native trees providing the cutting or removal is for the purpose of providing or maintaining safety clearances on the rail network. Vegetation clearing beyond rail safety clearances (such as for development projects) may require Planning approval.

Note 2 Rail Management Act 1996 No. 79 of 1996 Part 4—Rail and Tram Operators
60A Relevant rail transport operator to whom this section applies may clear trees without obtaining permit (b) is in the vicinity of a railway track operated or maintained by a relevant rail transport operator; and (2) A relevant rail transport operator may fell and remove the tree or wood without the need to obtain a permit under any relevant planning scheme under the Planning and Environment Act 1987, despite anything to the contrary in or under that Act.

B. Notice for Clearance Works for Tree within the Boundary of a Private Property or within Public Land outside the MTM Rail Corridor:

For MTM Electric Line Clearance work for trees on; Private property or public land or the property that may be affected during the cutting or removal prior to the commencement of programmed works, notice will be given via the issuing of an MTM 'Notice to Affected Persons' as identified in MTM's Tree Management Procedure of the land in which the tree is to be cut or removed at least 14 days minimum and no more than 60 days before the intended works.

The notification to include:

- Contact details of the responsible person
- The trees to be treated
- Details of the intended cutting or removal
- The proposed date (s) and time (s) of the works
- The reason for the works
- How it is expected the person(s) or property will be affected.
- Advice on procedures for resolving disputes and details on how to obtain access to the procedures
- Outline any costs the person or property may expect for tree works on private property.


Notice example refer MTM Tree Management Procedure L1-SQE-PRO-037 – Notice to Affected Persons.

C. Notice for MTM Clearance works for Certain Trees defined as:

- ☐ on public land managed by council; or
- ☐ A tree of cultural or environmental significance; or
- ☐ Listed in a planning scheme to be of ecological, historical or aesthetic significance.

Where it is identified cutting or removal of a certain tree of importance is required to meet the clearances required in the regulations, or where an area is identified as having a particular significance and has been accepted/ registered by Heritage Victoria.

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An Arborist inspection of a tree is required prior to any planned removal to ascertain that the cutting of the tree for compliance would make the tree unhealthy or unviable therefore tree removal is required.

Where the tree intended for cutting or removal is a tree of cultural or environmental significance, notice will include the impact of the cutting or removal of the tree and the actions to be taken to minimise that impact. Where the tree is within the boundary of a private property, MTM should consult with occupier or owner of private property or Council before cutting or removing the tree.

MTM must confirm the responsibility for clearance of the trees on public land managed by council; including responsibility for notice published in a newspaper circulating generally in the locality of the land in which the tree is to be cut or removed.

Where an area is accepted/ registered by Heritage Victoria, the owner/manager of the tree(s) is to be contacted before any cutting is performed.

Written notice must then specify one or more days on which, or a period during which, MTM intends that the intended cutting or removal will commence. MTM must not cut or remove the tree other than on a day or period specified (a) earlier than 14 days from the date of the notice; and (b) later than 60 days from the date of the notice.

- Describe the cutting or removal required for electric line clearance;
- Specify one or more days on which, or a period during which the intended cutting or removal will commence*.

Notice in writing, is required between 15-60 days prior to the planned commencement of the works, excluding emergency works.

D. For Emergency works as soon as practicable after completing the cutting or removal, VMC to give written notice:

If the tree that was cut or removed was within the boundary of a private property— an owner or occupier of the property; or

Written Notice for urgent cutting or removal

Must, as soon as practicable after completing the cutting or removal, give written notice of that cutting or removal to—

- (a) If the tree that was cut or removed was within the boundary of a private property— an owner or occupier of the property; or
- (b) If the tree that was cut or removed was on land that is managed by a Council and not by the responsible person—the Council.


A written notice must specify

- Where and when the cutting or removal was undertaken; and
- Why the cutting or removal was required; and
- The date of the last inspection of the span of the electric line in relation to which the cutting or removal was required before it was identified that the urgent cutting or removal was required.

Records of Urgent Cutting for a tree within the boundary of a private property or land that is managed by a Council

MTM must keep a record of a written notice for at least 5 years.

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(r) Dispute resolution

The revised Public Transport Industry Complaint Handling Procedure (CHP) was introduced in December 2013 (available at www.ptv.vic.gov.au). Operators such as Metro are required to handle customer complaints and feedback in accordance with the CHP and to ensure that internal complaint handling procedures comply with it.

Any disputes arising from tree maintenance activities shall be initially managed by MTM's Facilities Production Manager to negotiate a resolution. If however an agreement is not reached, the dispute shall be referred to Metro's Customer Relations department for resolution.

In the event the dispute is not resolved the option is to escalate the issue to the Customer Advocate at Public Transport Victoria for review by phone on Freecall 1800 800 007, by email at <customer.advocate@ptv.vic.gov.au>, or in writing to: Customer Advocate, Public Transport Victoria, PO Box 4724, Melbourne Vic 3001. <www.ptv.vic.gov.au>.

Alternatively, the matter can be referred to the Public Transport Ombudsman by phone on Freecall 1800 466 865, by email at enquiries@ptovic.com.au, or by fax on 8623 2100. Letters can be addressed to the Public Transport Ombudsman at PO Box 538, Collins Street West, Melbourne Vic 8007. Further details about the Public Transport Ombudsman's role and services are available at <www.ptovic.com.au>.

5.2 The following information is provided in determining a minimum clearance space in accordance with Division 1 of Part 3 of the Code responsible persons 2 Section 9 (4):
Specify the method for determining an additional distance that allows for conductor sag and sway

MTM low voltage aerial traction conductor traction is uninsulated 1500V DC contact conductors. The traction requirement for this conductor is to maintain the contact cable position within extremely low sag variations to enable constant contact to the rolling stock pantograph. The low sag characteristic is achieved by a catenary support cable and auto tensioning with weight wheels

MTM Vegetation Clearance Envelope adopts a uniform minimum clearance envelope of 2.5 metres to HV and 1.5 metres to LV overhead lines, this addresses additional distance that allows for sag and sway for MTM HV assets and minimal sag and sway for auto tensioned LV 1500 V DC assets, refer MTM tree Management Procedure Clearance Envelope. Different additional clearances are also assessed to mitigate restricted rail access periods.

5.3 Following information is required as defined in Part 2 Section 10 Obligations relating to management plan:

Availability of MTM's Electric Line Clearance Plan Details:

A copy of this current Management Plan is published on MTM Internet site


MTM's Internet Site www.Metrotrains.com.au

A copy of the ESV approved ELC plan to be available on the MTM internet site:

5.4 The following information is required as defined in Part 2 Section 11: Exemption

MTM will not seek exemption under the Electric Line Clearance Regulations 2020.

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5.5 Schedule 1 Code of Practice for Electric Line Clearance Section 8 - 2 (a) Assess the tree having regard to foreseeable local conditions

Where MTM has responsibility for a tree in the rail corridor that is likely to fall onto or otherwise come into contact with an MTM electric line or MTM asset, MTM will assess the tree with regard to foreseeable local conditions including weather and ground instability as far as practical using a suitably VMC qualified Arborist, prior to cutting or removal of tree.

In the event of a hazard tree is identified as a culturally significant, environmentally significant or habitat tree, MTM will where possible minimise the impact on the tree or fauna as previously outlined, for compliance with the requirements of the code, the schedule to the code or to make an unsafe situation safe.

Section 8 - 2 (b) advise the responsible person that the tree or part of the tree, is likely to fall onto or otherwise come into contact with an electric line

In a situation where it is identified the tree impacting Metro assets is the responsibility of a Municipal Council, MTM will advise the relevant Council to remove or cut the hazard tree.

5.6 Schedule 1 Code of Practice for Electric Line Clearance Section 14 Restriction on urgent cutting of trees

MTM maintains an internal 24 hour reactive/emergency service that is available to undertake emergency work including cutting and pruning activities on MTM managed assets/trees in the following situations:

- where a tree is identified as encroaching the asset or clearance space due to unanticipated growth;
- as a result of a tree falling or becoming damaged so that it requires cutting or removal to maintain the required clearance space; or
- Where a tree has been assessed by a suitably qualified arborist and confirmed to have an imminent likelihood of contacting the electric lines having regard to foreseeable local conditions.

After undertaking emergency cutting or removal in accordance with the regulations, MTM will as appropriate and as soon as practicable after completion of the works, give notice to affected persons; occupiers of the land on which the tree was cut or removed and where appropriate, the owner of the land on which the tree was removed.

As part of such works, MTM will record where and when the cutting or removal was undertaken, identify why the cutting/removal was required and record when the last inspection of the tree occurred. All records will be filed at the MTM's office and kept for a minimum of 5 years.

MTM's will undertake its urgent works in accordance with the Regulations and not remove or cut any more than one (1) metre from the minimum clearance space around the electric line. Ongoing monitoring by visual assessment of the regrowth rates of MTM's trees growing under power lines will be undertaken for continued compliance.


6. References and Legislation

Electricity Safety Act 1998

Electricity Safety (Bushfire Mitigation) Regulations 2013

Electricity Safety (Electric Line Clearance) Regulations 2020

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7. MTM Related MTM Document

MTM Network Protected Flora Sites A1978

8. Appendices


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Appendix 1: Prescribed Particulars of Electric Line Clearance Plan

No.	Regulation 9	Requirements Electrical Safety (Electric Line Clearance) Regulations 2020	MTM Reference Document
1	9-1	This regulation does not apply to a responsible person referred to in section 84A or 84B of the Act.	
2	9-2	Before 31 March in each year, a responsible person must ensure that a management plan relating to compliance with the code for the next financial year is prepared.	Executive Summary Page 4
3	9-4	A responsible person must ensure that a management plan prepared under sub regulation (2) specifies the following –	
4	9-4 (a)	the name, position, address and telephone number of the responsible persons for carrying out the plan;	Section 5.1 (a) Page 5
5	9-4(b)	the name, position, address and telephone number of the individual who is responsible for the preparation of the management plan	Section 5.1 (b) Page 5
6	9- 4(c)	Name, position, address and telephone number of the persons who are responsible for carrying out the management Plan.	Section 5.1 (c) Page 6
7	9-4(d)	the telephone number of a person who can be contacted in an emergency that requires clearance of a tree from an electric line that the responsible person is required to keep clear of trees;	Section 5.1 (d) Page 6
8	9-4 (e)	the objectives of the management plan	Section 5.1 (e) Pages 6
9	9- 4(f)	the land to which the management plan applies (as indicated on a map) Appendix 4: MTM Electrical Networks Information Sheet Overhead Wiring TMP Zone Map – includes Boundary of HBRA and LBRA as identified by the CFA in 2013.	Section 5.1 (f) Page 7

No.	Regulation	Requirements Electrical Safety (Electric Line Clearance) Regulations 2020	MTM Reference Document
10	9-4 g	Any hazardous bushfire risk areas and low bushfire risk areas in the land referred to in paragraph (f) (as indicated on the map)	Section 5.1(g) Page 7
10 a	9-4(h)	Each area that the responsible person knows contains a tree that the responsible person may need to cut or remove to ensure compliance with the Code and that is:- (i) Indigenous to Victoria or (ii) listed in a Planning Scheme to be of ecological, historical or aesthetic significance; (iii) trees of cultural or environmental significance	Section 5.1(h) Page 7
10 b	9-4(i)	the means which the responsible person is required to use to identify a tree specified in paragraph (h);(i), (ii) or (iii)	Section 5.1(i) Page 8
11	9-4(j)	the management procedures that the responsible person is required to adopt to ensure compliance with the Code, which must - (i) include details of the methods proposed to be adopted for managing trees; and maintaining a minimum clearance space as required by the Code and (ii) specify the method for determining an additional distance that allows for cable sag and sway for the purposes of determining a minimum clearance space in accordance with Division 1 of Part 3 of the Code	Section 5.1(j) Pages 8/9 Section 5.1(ii) Pages 9/10
12	9-4(k)	The procedures to be adopted if it is not practicable to comply with the requirements of AS 4373 while cutting a tree in accordance with the Code Note: Clause 9 of the Code requires a responsible person to cut trees , as far as practicable, in accordance with AS 4373	Section 5.1(k) Pages 11/12
13	9-4 (j)	A description of each alternative compliance mechanism in respect of which the responsible person has applied, or proposes to apply, for approval under clause 31 of the code	Section 5(l) Page 12
14	9-4 (m)	The details of each approval for an alternative compliance mechanism that- (i) the responsible person holds; and (ii) is in effect	Section 5.1(m) Page 12
15	9-4(n)	A description of the measures that must be used to assess the performance of the responsible person under the management plan	Section 5.1(n) Pages 12

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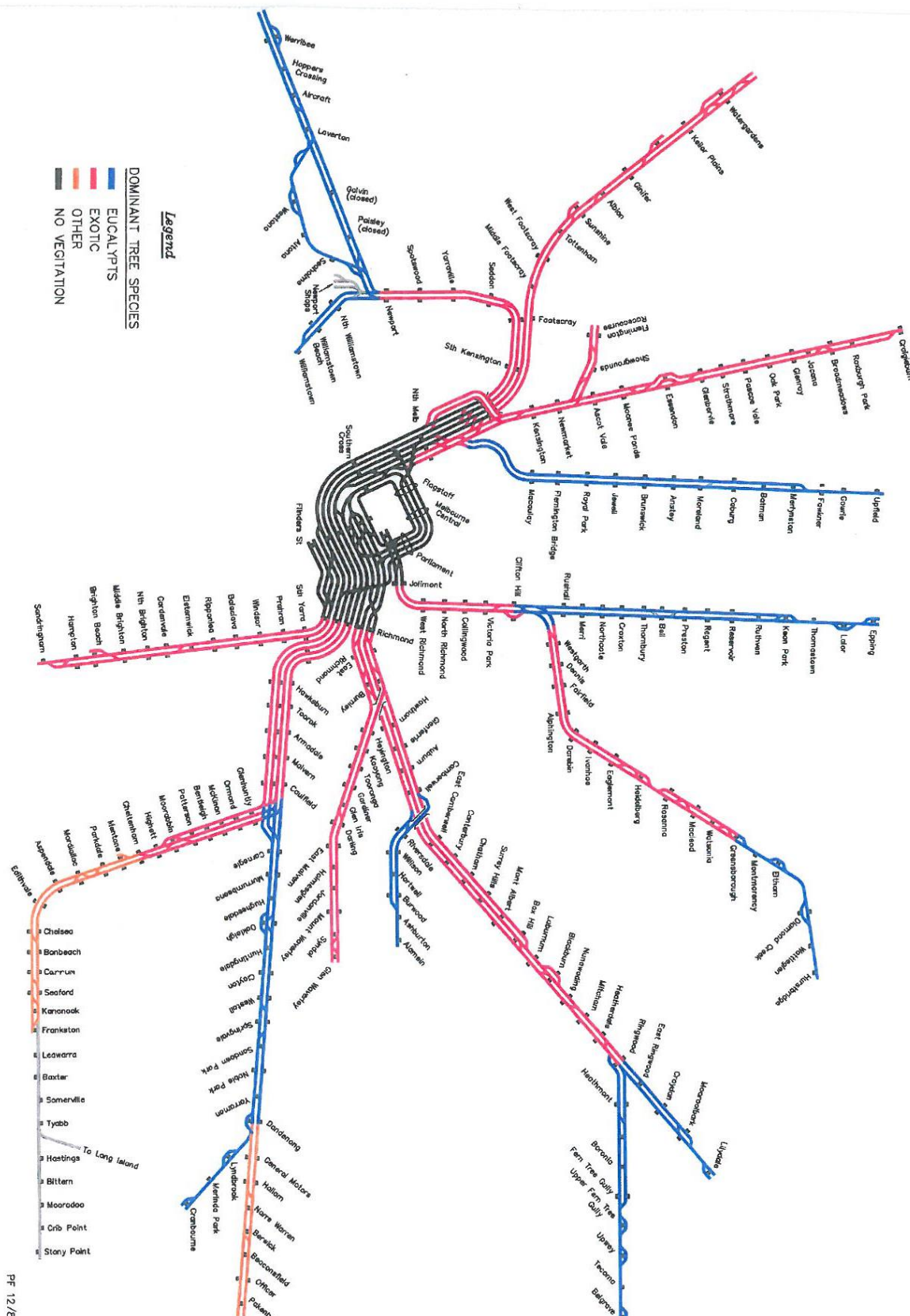
No.	Regulation	Obligations relating to Management off the plan Electrical Safety (Electric Line Clearance) Regulations 2020	MTM Reference Document
16	9-4 (o)	Details of the audit processes that must be used to determine the responsible person's compliance with the Code;	Section 5.1(o) Page 13
17	9-4(p)	The qualifications and experience that the responsible person must require of the persons who are to carry out the inspection cutting or removal of trees in accordance with the code.	Section 5.1(p) Pages 13/15
18	9- 4 (q)	Notification and consultation procedures, including the form of the notice to be given in accordance with Division 3 of Part 2 of the Code.	Section 5.1(q) Pages 115/17
19	9-4 (r)	A procedure for independent resolution of disputes relating to electric line clearance	Section 5.1 (r) Page 18
20	9-4(s)	If Energy Safe Victoria has granted an exemption under regulation 11 relating to a requirement of the Code, details of the exemption or a copy of the exemption	Information only
21	10 (1)	This regulation applies in relation to the management plan that a responsible person is required to prepare under regulation 9	Information only
22	10-2	A responsible person must provide a copy of the management plan to Energy Safe Victoria on request within 14 days or such longer period as specified by Energy Safe Victoria.	Information only
23	10 -3	The responsible person must, if requested to do so by Energy Safe Victoria, provide further information or material in respect of the management plan on request within 14 days or such longer period as specified by Energy Safe Victoria.	Information only
24	10 -4	A responsible person must amend the management plan if instructed to do so by Energy Safe Victoria within 14 days or such longer period as specified by Energy Safe Victoria.	Information only
25	10-5	A responsible person must not contravene a requirement of a management plan if the management plan is approved by Energy Safe Victoria.	Information only
26	10-6	The responsible person must ensure that a copy of the current management plan is published on the responsible person's internet site	Information only

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Appendix 2: Dominant Tree Species in the Metropolitan Rail System

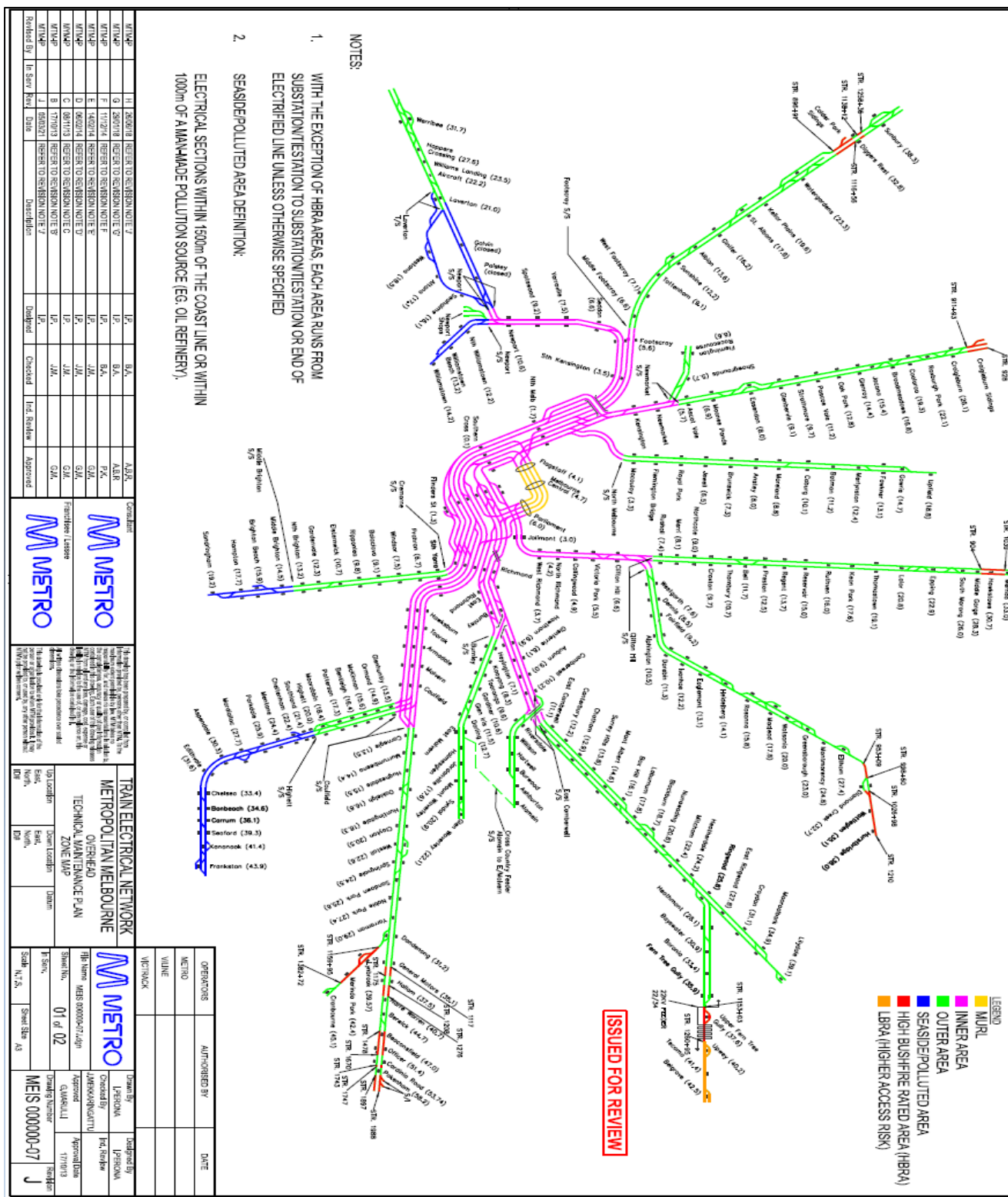
Dominant Tree Species in the Metropolitan Rail System		
LINE	LOCATION	DOMINANT SPECIES
Werribee	Footscray - Newport	Exotic
	Newport - Werribee	Eucalypts
Williamstown	Newport - Williamstown	Eucalypts
Watergardens	Southern Cross - Watergardens	Exotic
Craigieburn	North Melbourne - Craigieburn	Exotic
Upfield	North Melbourne - Upfield	Eucalypts
Epping	Flinders St - Clifton Hill	Exotic
	Clifton Hill - Epping	Eucalypts
Hurstbridge	Clifton Hill - Greensborough	Exotic
	Greensborough - Hurstbridge	Eucalypts
Lilydale	Richmond - Ringwood	Exotic
	Ringwood - Lilydale	Eucalypts
Belgrave	Ringwood - Belgrave	Eucalypts
Alamein	Camberwell - Alamein	Eucalypts
Glen Waverley	Burnley - Glen Waverley	Exotic
Pakenham	Richmond - Caulfield	Exotic
	Caulfield - Dandenong	Eucalypts
	Dandenong - Pakenham	Acacia
Cranbourne	Dandenong - Cranbourne	Eucalypts
Frankston	Caulfield - Cheltenham	Exotic
	Cheltenham - Frankston	Banksia
Sandringham	Richmond - Sandringham	Exotic
Prepared in conjunction with G. Crockett & Land management Systems. July 2007		

Appendix 3: The Land to which the Management Plan Applies – Dominant Vegetation



Appendix 4: MTM Rail Network Hazardous Bushfire Risk Areas.

The boundary of HBRA and LBRA is defined by the CFA in the area map is identified to the nearest Rail structure to structure that covers the HBRA defined area.



Appendix 5: Network Protected Flora Sites

	NETWORK PROTECTED FLORA SITES
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