



Pacific Highway Upgrade: Warrell Creek to Nambucca Heads

APPENDIX H: Working Around Trees Guideline
WC2NH-EN-FF-MPL_H Working Around Trees Rev 0

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Terms and Abbreviations

AADJV	Arup and Aurecon Design Joint Venture
ACCIONA	ACCIONA Infrastructure Australia Pty Ltd
AFJV	ACCIONA and Ferrovial Joint Venture
AS/NZS	Australian and New Zealand Standard
ASM	Acid Sulfate Materials
ASMMP	Acid Sulfate Materials Management Plan
CEMP	Construction Environmental Management Plan
D&C	Design and Construction
DJV	Design Joint Venture
DoE	Department of Environment (Commonwealth)
EEC	Endangered Ecological Communities
EDMS	Electronic Document Management System (TeamBinder)
ENM	Excavated Natural Materials
EO	Environmental Officer
EPBC	Environmental Protection and Biodiversity Conservation
EPRM	Excavated public road material
EWMS	Environmental Works Method Statement
Ferrovial	Ferrovial Agroman (Australia) Pty Ltd
IMS	Integrated Management System
ISO	International Standards Organisation
KPI	Key Performance Indicator
MCoA	Minister’s Conditions of Approval



MNES	Matters of National Environmental Significance
NSW	New South Wales
O&M	Operations and Maintenance
PCBU	Person Conducting a Business or Undertaking
PMT	Project Management Team
PV	Project Verifier
RMS	Roads and Maritime Services
FFMP	Flora and Fauna Management Sub-plan (CEMP Appendix B2 Flora and Fauna Management Sub Plan)
VENM	Virgin Excavated Natural Materials
WC2NH	Warrell Creek to Nambucca Heads (the Project)

Definitions

Client	An organisation inviting and receiving tenders and letting contracts. For the purposes of this project - Roads and Maritime Services
Contractor	An organisation that contracts with a client to carry out construction and related services. For the purposes of this Project - ACCIONA Ferrovial Joint Venture.
Deed	D&C Project Deed, IC-DC-C91-1, Pacific Highway Warrell Creek to Nambucca Heads
Design Joint Venture	Joint Venture consisting of Arup and Aurecon
Government Agency	NSW government department, authority, corporation or entity established by an Act of the NSW Parliament
Persons Conducting a Business or Undertaking	Is an employer, corporation, partnership, unincorporated association that has the primary duty of care for workplace health and safety - (AFJV and Contractors are a PCBU)
Principal Contractor	A person conducting a business or undertaking that commissions a construction project. For the purposes of this project - AFJV
Project	The design and construction of the upgrade to the Pacific Highway between Warrell Creek and Nambucca Heads
Project Verifier	For the purpose of the Project, this is Davis Langdon Australia Pty Ltd
Subcontractor	Organisation that contracts with a principal contractor as the client to carry out construction and related services
Supplier	Organisation that contracts with a client to provide a product and / or service.
TeamBinder	The project Electronic Document Management System software
Worker	Is anyone who carries out work for a PCBU and includes: an employee, contractor or sub-contractor or an employee of, labour hire personnel, apprentice or trainee, work experience student

1. Introduction

The Warrell Creek to Nambucca Heads Pacific Highway Upgrade project (the WC2NH Project) is being designed and constructed in a joint venture consisting of ACCIONA Infrastructures Pty Ltd (ACCIONA) and Ferrovial Agroman (Australia) Pty Ltd (Ferrovial), in liaison with various other pre-qualified construction contractors, with overall project management and site supervision of the project by Roads and Maritime Services (RMS).

1.1. Project Background

The WC2NH project consists of the detailed design and construction of 19.6 km of new dual carriageway road on the Pacific Highway between the northern end of the existing Allgomer Deviation south of Warrell Creek and the southern end of the Nambucca Heads to Urunga Pacific Highway upgrade project west of Nambucca Heads. The project includes:

- 19.6 km of new divided dual carriageway;
- two grade separated interchanges at Warrell Creek and Bald Hill Road south of Macksville. Roads and Maritime is also investigating the provision of north facing ramps at North Macksville;
- longitudinal bridges across Upper Warrell Creek (including North Coast Railway Line), Williamson Creek, Warrell Creek, Nambucca River floodplain (2 of) and Nambucca River;
- overbridges on Rosewood Road, Albert Drive, Scotts Heads Quarry access road, Bald Hill Road, Old Coast Road South, Mattick Road and Old Coast Road North;
- an underpass at Cockburns Lane;
- local roads and drainage and fauna crossing structures; and
- associated infrastructure.

2. Purpose

Many of the works to be undertaken for the WC2NH Project involve works within or near forests or bushland, including within endangered ecological communities (EEC). Damage to trees and roots from excavation or material /equipment storage can cause declining tree health leading to structural instability. Damage can also result in an increased risk to worker and public safety from unstable trees and possible fines for the AFJV and its subcontractors.

This guideline has been prepared to provide AFJV and its contractors with an easy to use guide to the minimum requirements for working around trees to reduce the risk of damage.

3. Induction/Training

Personnel involved in any aspect of working around trees will be trained in the requirements of this guideline. All personnel are to be inducted on the location of sensitive areas, exclusion zones, the associated fencing / signage delineating these areas and the relevant actions for them with regards to this guideline during the project induction, EWMS and regular toolbox talks.

4. Scope

This guideline is applicable to all activities relating to working around trees on the WC2NH Project.

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5. Guidelines

5.1. Tree Protection

For trees identified specifically for protection are to be appropriately demarcated by environmental and construction personnel, under supervision of an ecologist where required. Signposting and maintenance is to take place to ensure no impact to these trees.

5.2. Site Material Storage

The storage of soils/material under trees can compact soil, limit water and oxygen uptake, damage roots and cause tree death. Therefore prior to the commencement of works near trees, the Foreman or other construction personnel should determine areas where machinery, materials and equipment can be stored that are outside the drip line of trees.

5.3. General Construction near trees

For all works to be undertaken near vegetation to be retained, the following points should be observed:

1. Prior to using machinery within or close to the drip line of trees, observe the location of trunks, roots and branches to ensure damage is avoided.
2. Some branches can be tied back if they are obstructing work. This depends on the flexibility and strength of the tree. Contact the Foreman who will get the EO (who may contact the ecologist or arborist if required) to undertake flexibility test prior to tying back branches.
3. Report any tree damage to the Foreman or EO. Quick remedial action can usually prevent long term damage to the tree.

5.4. Tree trimming or removal

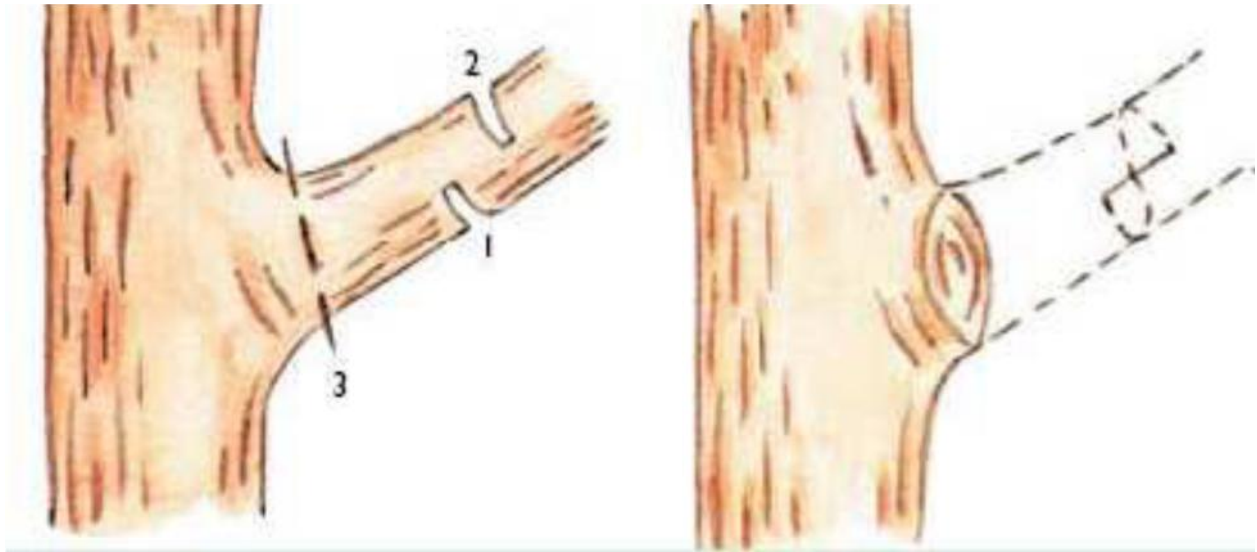
Some construction works will require tree removal or trimming that has not been included in the design. Where additional impacts to trees are proposed, the following process should be followed:

1. The Foreman should notify the EO of the location and need for the tree impact.
2. The EO should confirm that the tree (or other vegetation type) is not protected under relevant legislation and is able to be removed and/or trimmed as allowed under SWTC App 4.25.
3. If impact is permitted as per Step 2, and the tree is to be retained, the EO will contact an arborist to undertake the trimming of the tree(s) as required.
4. If impact is permitted as per Step 2, and the tree is to be removed, the EO will notify the Foreman that the tree can be removed.
5. The Foreman should await confirmation from the EO prior to re-commencing works around the tree(s).

Heavy machinery should not be used for pruning or trimming. Appropriate tools to use are loppers, chain saws and vehicle mounted saws. Larger limbs should generally be cut in accordance with the three cut method, shown below in Figure 1.

Limbs containing hollows should be retained wherever possible. If this is not possible, the hollow bearing limb should be inspected by the Project Ecologist, who supervises the felling operation, and placed in adjacent un-disturbed vegetation to provide fauna habitat.

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1. The under cut.
2. The upper cut to remove the branch.
3. The final trim cut.

Figure 1 - Three cut method

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