

CONSTRUCTION METHOD STATEMENT

Clearing and Grubbing

Hunter Expressway – Kurri Kurri to Branxton

Rev: 5

Date: 25th July
2011

CMS 01 – Clearing
and Grubbing

1. Summary/Purpose of Activity

Clearing and grubbing involves the clearing of vegetation and the removal (grubbing) of roots and stumps. Timbers suitable for reuse are salvaged for milling, reused as construction materials or mulched for use in landscaping activities. Clearing and grubbing activities involves the use of an excavator, dozer, chainsaw, chipper, tub-grinder, backhoe and trucks. The RTA has already undertaken work to provide environmental offsets for the clearing.

2. Objectives of this WMS

The objective of this CMS is to provide specific control measures so that the minimum possible area of land is cleared, to minimise impacts on endangered ecological communities and threatened species. Further the area cleared must be within the limits specified in the MCoA.

3. Area/Location of Activity/Site:

Within the approved project corridor in the agreed location of least disturbance which is compatible with construction. Access for clearing will only be through designated access points.

4. Timing of works/Expected duration:

Bulk vegetation clearing is undertaken during the first 3 months following construction commencement.

Isolated areas of clearing may be required during the construction period as specific requirements are identified eg. drainage structure. Such clearing would be minimal in duration.

5. Approvals Required

NPWS Conditions of Concurrence are required to be adhered to.

Pre-Clearing Permit is required prior to undertaking any activity involving clearing of native vegetation.

Permit to Excavate required prior to undertaking grubbing.

6. Consultation Requirements:

Abigroup will consult with the RTA, DECCW and I&I NSW (Fisheries) before finalising this CMS.

Community consultation will be conducted by the Community Relations team in accordance with the Community Involvement Plan.

Public complaints will be investigated, reported and recorded in accordance with Section 6 of the Community Involvement Plan.

Specific actions that are required by individuals within the construction crews are detailed in the attached table.

7. Incident Response

In the event of an incident such as un-authorized access or damage to protected vegetation or heritage item/area the Foreman or Environmental Officer will give directions to stop work and contact the Environmental Manager immediately. If the Environmental Manager is not available then the Project Director shall be contacted. The Environmental Manager/Project Director will respond to the incident in accordance with Section 6.2 of the CEMP.

8. Relevant References:

The information included in this WMS has been drawn from the Construction EMP and the relevant Sub Plans. For additional information related to this WMS refer to the following documents:

- Ministers Conditions of Approval for the project;
- Construction Environmental Management Plan;
- Soil and Erosion Control Plan;
- RTA D&C G36.6.9.1;
- RTA Scope of Works and Technical Criteria Appendix 4 CI 4.5
- RTA Scope of Works and Technical Criteria Appendix 5 CI 5.3
- Topsoiling and Stockpiling Construction Method Statement
- Chemical Management Work Method Statement
- Key Plan

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9. Related attached documents:

- Clearing and Grubbing Inspection and Test Plan G40 (Generic)
- Sensitive Area Plans (SAPs) & Drainage Drawings
- Pre-Clearing Permit
- Flora and Fauna Management Sub Plan (Requirements)
- Photograph of clearing flagging tape and signage

Level	Likelihood	Description
A	Almost certain	Is expected to occur during the project, 90% or > probability
B	Likely	Will probably occur during the project, ~50% probability
C	Moderate	Might occur at sometime during the project, ~10% probability
D	Unlikely	Could occur at some time during the project, ~1% probability
E	Rare	Only occur in exceptional circumstances, < 1% probability
Level	Consequence	Description
1	Insignificant	Insignificant Breach of Environmental Statutes
2	Minor	Minor Breach of Environmental Statutes
3	Moderate	Moderate Breach of Environmental Statutes
4	Major	Major Breach of Environmental Statutes
5	Severe	Shutdown of Project Due to Environmental Breach

Likelihood	Consequences				
	1 Insignificant	2 Minor	3 Moderate	4 Major	5 Severe
A (Almost Certain)	Medium	Significant	High	High	Extreme
B (Likely)	Medium	Medium	Significant	High	Extreme
C (Moderate)	Low	Medium	Significant	High	High
D (Unlikely)	Low	Low	Medium	Significant	High
E (Rare)	Low	Low	Low	Medium	Significant

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Construction Work Method and Risk Assessment

#	Sequence of Work Activities (How will work be done?)	Potential Hazards (What harm can occur?)	Risk	Safeguards/controls (How can the risk be minimised?)	Responsibility (Who will direct works to ensure compliance?)
Planning / Pre-construction					
1	Community Notification	Community are exposed to impacts without prior notice	Significant (C3)	Notification to the Community Relations team detailing works required. At least 5 days notice to the Community Relations team is required prior to the commencement of construction.	Project Engineer
				Notify adjacent residents adjoining the work site at least 5 working days prior to the commencement of clearing.	Community Relations Officer
				Works will be limited to Monday to Friday 7.00am to 6.00pm; and Saturday 8.00am to 1.00pm. No work outside of these hours or on Sundays and Public Holidays (unless approved by the Environmental Manager or conducting emergency work).	Foreman/Site Engineer
2	Permit to Excavate and Permit to Work Under Power lines	Damage to services.	High (C5)	Complete a Permit to Excavate and Permit to Work Under Power lines if relevant to works.	Foreman/Project Engineer
3	Safe work method statements	Unsafe work practices	High (B4)	<p>SWMS for work activity to be completed,</p> <p>UHF channel for works as per the diagram on the key plan and as follows:</p> <ul style="list-style-type: none"> - Zone 1 – Ch 33 - Zone 2 – Ch 31 - Zone 3 – Ch 27 <p>Site Safety Manual kept in nominated vehicle.</p> <p>Site foreman manages the site and checks in all visitors.</p> <p>External Plant Checklist, Operator assessment, tickets/licenses, Insurances to be checked and completed.</p>	Foreman/Project Engineer

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4	Provide training to personnel and sub-contractors involved	Non-compliance with work methods.	High (C4)	<p>Conduct planning meetings with subcontractors to identify clearing limits.</p> <p>Toolbox field operators on the requirements of this CMS and the ESCP and SAPs.</p> <p>Produce Clearing drawings</p> <p>Include heritage issues, clearing limits and no-go zones in induction.</p>	Foreman / Surveyor
5	Mark out sensitive areas within or adjacent to works.	Damage to flora, fauna and/or heritage items.	High (C4)	<p>Survey and fence any sensitive areas that require protecting within/adjacent to the works area in accordance with the sensitive area plans and in consultation with the Project Ecologist.</p> <p>EEC and other environmentally sensitive zones signposted with:</p> <p>DO NOT ENTER</p> <p>ENVIRONMENTAL</p> <p>PROTECTION AREA</p> <p>(see attached photo)</p>	Survey / Foreman
6	Mark out areas of environmental and/or archaeological significance.	Damage to flora, fauna habitat and/or heritage items.	High (D5)	<p>Fence areas of significant flora, fauna habitat or known archaeological sites that are to be retained (protected). These sites are to be managed in accordance with the Working near Sensitive Areas WMS.</p>	Environmental Officer / survey/ Foreman
7	Mark out limit of clearing for the footprint	Unauthorised damage to items of significance	High (C4)	<p>Limit of clearing to be marked with pegs/red and white danger tape at a maximum of 50m centres. Pegs marked to clearly indicate clearing side.</p> <p>Limits of clearing to be set out by survey</p>	Survey

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8	Identify vegetation to be retained and rescue identified flora and fauna.	Unnecessary removal of vegetation/habitat.	High (C4)	Recommended night surveys by qualified ecologist at locations prior to clearing activities.	Environmental Officer / Ecologists
				Qualified Ecologist to undertake a pre-clearing inspection to identify threatened plants that require protection within the limit of clearing.	Environmental Officer / Ecologists
8	Identify vegetation to be retained and rescue identified flora and fauna.	Unnecessary removal of vegetation/habitat.	High (C4)	Protect the plants to be retained with para-web fencing until they are salvaged. Para-webbing indicates individual plants close to and adjoining the construction zone, which are to be managed by the project ecologist. Para-web indicates individuals to be translocated if required. Endangered ecological communities to be retained are to be fenced.	Environmental Officer / Ecologists
				Identify any native animals in the clearing area.	Environmental Officer / Ecologists
				Identify and clearly mark out habitat trees (e.g. those containing hollows etc) as per section 5 of the Flora and Fauna Management Sub Plan with appropriate flagging.	Environmental Officer / Ecologists
				Check habitat trees (and hollows where necessary) for the presence of fauna using an infrared camera where possible or a cherry picker or tree climbers, immediately prior to the removal of the trees.	Environmental Officer / Ecologists
				A qualified ecologist using appropriate means will exterminate pests such as mice and rats found during the pre-clearing inspection.	Project Ecologist

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				Check latest Sensitive Area Plans against identified clearing limits prior to commencing clearing and grubbing operations.	Environmental Officer
Construction					
9	Clearing operations using tractor mulchers, tub grinders, shredders, excavators as required	Damage to retained vegetation.	High (C4)	Ensure that Pre-Clearing Permit is completed and approved prior to clearing commencing. To be approved at the Toolbox each morning by one of the following: General Superintendent Environmental Manager Construction Manager Earthworks Project Manager	Project Engineer / survey / Environmental / Sub Contractor / Foreman
		Injury to fauna.	Med (C2)	Create a minor level of disturbance adjacent to the occupied habitat tree to encourage fauna to leave.	Foreman
				Clear habitat trees of fauna using appropriate trapping methods such as mist nest, bags tied over openings and other appropriate methods as specified by the wildlife specialist.	Environmental Officer / Ecologists
		Injury to fauna.	Med (C2)	Check felled habitat trees for the presence of fauna and arrange for the capture and relocation of fauna where found. Report any live, injured or killed fauna to the wildlife specialist.	Environmental Officer / Ecologists
		Risk to public safety.	Med (D3)	Clear the area and ensure public access is prevented. Cease clearing activities if protest action occurs and call Community Relations Manager on 1800-001267	Foreman / Safety Officer / Community Manager
Waste/loss of resources with reuse value.	Med (C2)	Salvage all millable logs. Stockpile all tree heads and stumps for mulching and later reuse in landscaping works. Stockpiling shall be in an approved location away from residents and watercourses.	Foreman / Contractor		

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		Risk spreading weeds through job site	Med (D3)	Remove identified noxious and/or invasive weeds and stockpile separately. DO NOT incorporate this material into mulch.	Foreman / ecologists / Environmental Officers
		Risk of fire	Low (D2)	Limit mulch stockpiles to less than 3m high.	Foreman / Contractor
9	Clearing operations using tractor mulchers, tub grinders, excavators as required	Damage to watercourses and riparian areas.	High (A3)	Locate stockpiles clear of properties and away from watercourses where possible.	Foreman / Contractor
				Spills of fuel to be dealt with as outlined in the Chemical Management WMS.	Environmental Officer
		Damage to watercourses and riparian areas.	High (A3)	Provide protection that prevents vegetative material from falling into or entering any creek or stream. (e.g. Silt fence)	Foreman / Contractor
				Where construction activities allow, only remove the upright trunk part of the tree within riparian zones, leaving the stump and roots within the ground to minimise disturbed areas.	Foreman / contractor
				Access along identified paths and tracks, and Vehicle Movement Plan in place. Transport of clearing plant and equipment across waterways to be undertaken at an approved established crossing point only.	Foreman
		Ground disturbance resulting in pollution of waterways after rain.	Med (D3)	Implement ERSED control measures progressively and maintain ERSED controls as required following daily/weekly checks and after rain events.	Foreman / Environmental Officers
Water sprays, sprinklers and water carts will be employed to adequately dampen stockpiles, work areas and exposed soils to prevent the emissions of dust from the site.	Foreman				

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		Disturbance to residents	Med (B2)	Daily checking to, where possible, avoid the coincidence of noisy plant working simultaneously close together and adjacent to sensitive receivers.	Foreman
				Where possible, the offset distance between noisy plant items and nearby noise sensitive receivers will be as great as possible.	Foreman / community
				Unloading and loading will be carried out away from sensitive receivers and the selection of site access points will take into account the proximity to residents.	Foreman
9	Clearing operations using tractor mulchers, tub grinders, excavators as required	Disturbance to residents	Med (B2)	Water sprays, sprinklers and water carts will be employed to adequately dampen stockpiles, work areas and exposed soils to prevent the emissions of dust from the site.	Foreman
				Stockpiles are to be located as far as practical from residential areas.	Site Engineer
		Disturbance to residents	Med (B2)	Works are only to occur 7:00am to 6:00pm Monday to Friday; or 8:00am to 1:00pm Saturday.	Foreman
		Disturbance to residents	Med (B2)	Ensure plant / equipment is fitted with appropriate silencers and is maintained in an efficient condition.	Foreman
				All noise complaints to be recorded and actioned.	Community Relations Manager
				Equipment that is not in use will be switched off.	Foreman

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		Clearing in excess of clearing limit	High (C4)	Clearing boundaries have been designed to ensure that the Project clearing limit will not be exceeded. These boundaries will be marked out by the survey team using continuous red and white tape with stakes every 50m prior to any clearing works, the stakes will be marked to indicate the clearing side of the boundary. Post clearing checks will be carried out by the survey team to produce 'as built' clearing drawings and ensure that clearing boundaries have not been exceeded.	Environmental Officer
		Interaction with traffic	Medium (A1)	Clearing near roadways will have traffic control plans and measures in place prior to any interactions with traffic. Plant movements across roads will only occur when adequate traffic control is in place.	Project Engineer
10	Grubbing operations using dozer and rake.	Damage to services.	High (C4)	Use Dial Before You Dig, Permit to Excavate and where necessary undertake service pot holing to determine exact location of services before removing stump. Remove stumps as a separate operation in areas near services.	Foreman
				Cut roots between the stump and any service prior to digging the stump out.	Foreman
11	Mulching activities using tub grinder.	Noise causing annoyance to local residents.	Med (B2)	Locate plant and equipment as far away as practical from residences and orientate tub grinder so that the noisiest side is operating away from residences. Avoid parking near residents where possible.	Foreman
				Consolidate mulch stockpiles in a central location as far away as practical from local residences.	Sub-contractor
				Keep the tub grinder bowl full.	Sub-contractor
11	Commence mulching activities.	Potential fire spreading outside of the road corridor	Med (D3)	Ensure fire extinguishers are available at all times during tubbing.	Foreman
				Locate stockpiles with access available now and in the future for fire control and reuse.	Foreman

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CWMS Toolbox

Also refer to Abigroup standard toolboxes

- Role and responsibilities:
Foremen: Manage day to day works in the field. Ensure activities are undertaken in accordance with this CMS.
Engineers: Provide technical support and management of scope and program of works. Manage quality through Abigroup Quality system QESE.
Environmental Officer: Undertake inspections and conduct planning to ensure that no environmental incidents occur.
Surveyor: Mark out works in accordance with design.
- Safety Officer: Review of SWMS, undertakes safety inspections and audits to ensure safe work methods are being practiced.
- Community notices have been sent to the resident notifying them of the commencement of these activities
- Work hours – Weekdays 7am-6pm; Saturday 8am – 1pm. No work outside of these hours without prior approval.
- Stop work in the event of a protest and call Community Relations Manager on 0438 620 066.
- Pre-clearing surveys have been completed to identify the areas to be protected. These areas are fenced and signposted.
- Be aware of habitat trees still within the footprint to be cleared. These trees are marked with red tape for easy identification.
- All potential habitat trees must be checked for native fauna by a qualified person prior to clearing (as far as practical)
- If native animals are observed in any tree to be felled, stop work immediately and contact the Environmental Officer who will arrange for the animal to be removed
- If an injured animal is found, advise the Environmental Officer immediately.
- The limit of clearing is identified with red and white danger tape. DO NOT clear outside these limits with prior approval from the Environmental Officer or foremen
- Clear only that vegetation within the limit of clearing. No haul roads, access tracks, basins, ancillary infrastructure etc is permitted within vegetation protected areas.
- Ensure that all stock piles are placed away from residents, creek and fenced vegetation protection areas (EEC). Maintain clear access to mulch stockpiles in the event of a fire
- Inspect fallen habitat trees for the existence of fauna
- Ensure a relevant consultation/notification with DECCW has occurred to clear native vegetation within 40m of a watercourse
- Minimise ground disturbance near creek banks. Where possible, chainsaw trees at ground level leaving stump within the ground to aid in stabilisation of the bank area and faster regeneration. **Maintain ground cover around watercourses** to avoid the creation of large exposed areas (i.e. limit disturbance where practical)
- All vegetation cleared will be re-used where possible. It will be either stockpiled for milling purposes/construction materials or mulched for re-use in landscaping. Follow directions of Foremen
- Locate mulching machinery as far away from residents as practical to avoid un-necessary noise complaints.
- Water sprays, sprinklers and water carts will be employed to adequately dampen stockpiles, work areas and exposed soils to prevent the emissions of dust from the site.
- Check the clearing plan attached each time a new area is to be cleared – so you are familiar with the area and the protection areas
- Avoid parking near residents where possible

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WMS Approval

Approved By		Name	Signature	Date
Originator	Engineer	Steven Hare		9/3/2011
Reviewed	Superintendent	Robby Curtis		
Approved	Construction Manager	Mark Vella		25/3/2011

Photograph of example limit of clearing delineation:



Photograph of the signs used on site

