

COFFS HARBOUR CITY COUNCIL



**DEVELOPMENT SPECIFICATION
DESIGN**

1111 Clearing and grubbing

Version 1 01 January 2009

1111 CLEARING AND GRUBBING

1 SCOPE AND GENERAL

1.1 SCOPE

The work to be executed under this worksection consists of the clearing of all vegetation, both living and dead, all minor structures (such as fences and livestock yards), all rubbish and other materials which, in the opinion of the Superintendent, are unsuitable for use in the Works, the chipping of the crowns of trees and the branches of shrubs and the grubbing of trees and stumps.

The work also includes the disposal of all materials that have been cleared and grubbed.

All natural landscape features, including natural rock outcrops, natural vegetation, soil and watercourses are to remain undisturbed except where affected by the Works as approved by the Superintendent.

1.2 QUALITY

Requirements for quality control and testing, including maximum lot sizes and minimum test frequencies, are given in 0161 *Quality (Construction)*.

1.3 REFERENCED DOCUMENTS

The following documents referred to in this worksection are:

Worksections

0161 *Quality (Construction)*

0250 *Open space - landscaping*

1102 *Control of erosion and sedimentation*

1195 *Boundary fences for road reserves*

1.4 EROSION CONTROL

In advance of or in conjunction with clearing and grubbing operations, effective erosion and sedimentation control measures shall be implemented in accordance with 1102 *Control of erosion and sedimentation*.

1.5 BOUNDARY FENCE LINE

The clearing and grubbing required for boundary fencing is included in 1195 *Boundary fences for road reserves* and does not form part of the work under this worksection.

1.6 BLASTING

Explosives shall not be permitted to be used in clearing, grubbing or other demolition activities without the prior written approval of the Superintendent.

2 CONSTRUCTION

2.1 LIMITS OF CLEARING

Unless otherwise shown on the Drawings or directed by the Superintendent, the area to be cleared is that which will be occupied by the completed Works, erosion and sedimentation measures, stockpile sites and borrow areas, plus a clearance of 4 m beyond tops of cuts and toes of embankments where the natural fall of the ground is towards the roadway and 2 m beyond the tops of cuts and toes of embankments where the natural fall of the ground either slopes away from the roadway or is level.

The Contractor shall ensure that only the absolute minimum area for construction is cleared.

The Contractor shall peg out the limits of clearing and present this for approval 7 days prior to any commencement of work.

This action constitutes a **HOLD POINT**.

The Superintendent shall inspect the proposed area for clearing to confirm the clearing perimeters and, with Council's Tree Preservation Officer, shall mark with ribbon markers, or indicate to the Contractor, the trees that shall be preserved.

Upon the Tree Preservation Officer's approval of the limits of clearing, and agreement from the Contractor to tree preservation and removal requirements, the Superintendent will proceed to release the hold point.

2.2 CLEARING OPERATIONS

Extent

The area within the limits of clearing shall be cleared of all vegetation, both living and dead, all minor structures (such as fences and livestock yards), all redundant kerb and gutter, bitumen surfacing, footpaths and driveways, and all rubbish and other materials which, in the opinion of the Superintendent, are unsuitable for use in the Works.

The Contractor shall plan clearing operations such that wherever possible, clearing is carried out progressively and only the minimum area of land is left disturbed at any time.

Trees to be preserved

Trees that shall be preserved shall be protected during site works by the erection of solid barricades, as shown on the Drawings and, generally at a distance of 4 m from the trunk of the tree, unless otherwise authorised by the Superintendent.

Trees to be preserved in embankment areas

If any tree, which is to be preserved, is found to be within the area to be covered by embankment, the circumstances shall be brought to the notice of the Superintendent who shall decide whether the tree is to be removed or protected as directed by the Superintendent and as approved by Council's Tree Preservation Officer. Such protective measures shall be paid for as a Variation to the Contract.

Utility services

The Contractor shall take all measures to prevent damage to existing underground and overhead utility services.

Disturbance near trees

The erection of structures, excavation and filling, changes to soil profiles, stockpiling of spoil, storage of other materials and driving or parking of any vehicle or machinery within 4 m of the trunks of trees to be retained shall not be permitted unless part of the Works as approved by the Superintendent.

Damage to trees

Damage to trees shall also include damage to bark and root systems. No tree roots are to be cut without the prior approval of the Superintendent.

Excavation within 4 m of tree trunks

If excavation works are to be carried out within 4 m of the trunk of any tree, the Contractor shall develop appropriate work methods to avoid damage to the tree and its roots system.

This action constitutes a **HOLD POINT**.

The Superintendent's and Council's Tree Preservation Officer's approval of the work methods is required prior to the release of the hold point.

Trees outside limits of work

The Contractor shall plan all operations to ensure that there is no damage to any trees outside the limits of clearing specified or directed by the Superintendent.

No growing trees shall be destroyed or damaged by the Contractor other than those specified and those indicated by the Superintendent.

Unsound trees in road reserve

Any tree remaining within the road reserve but outside the limits of clearing which is, in the opinion of the Superintendent, unsound and likely to fall upon the roadway shall be cleared and disposed of in accordance with **Chipping of cleared vegetation**, subject to prior approval of Council's Tree Preservation Officer.

Overhanging branches

If directed by the Superintendent, any branch, which overhangs the road formation, shall be cut back to within 0.5 m of the tree trunk and disposed of in accordance with **Chipping of cleared vegetation**.

Timber falling on private property

Every precaution shall be taken to prevent timber from falling on private property and the Contractor shall dispose of any timber so fallen, or produce to the Superintendent the written consent of the property owner to its remaining there.

The cost of disposal of such fallen timber shall be borne by the Contractor.

Prior to entering private property, the Contractor shall obtain consent from the Superintendent and the property owner.

Damage to be made good

Damage of any kind, including damage to trees, fencing, occurring during clearing operations and construction shall be made good by the Contractor. The cost of making good such damage shall be borne by the Contractor.

2.3 GRUBBING

Extent

All trees and stumps, on or within the limits of clearing, unable to be felled and removed by the clearing methods used by the Contractor shall be removed by grubbing.

Depth

Grubbing operations shall be carried out to a depth of 0.5 m below the natural surface or 1.5 m below the finished surface level, whichever is the lower.

Backfill holes

Holes remaining after trees and stumps have been grubbed shall be backfilled promptly with sound material to prevent the infiltration and ponding of water.

The backfilling material shall be compacted to at least the relative density of the material existing in the adjacent ground.

2.4 CHIPPING OF CLEARED VEGETATION

Wood-chip mulch

The Contractor shall produce a wood-chip mulch derived from crowns of trees and branches of shrubs cleared under this worksection.

The wood-chip mulch produced shall be stockpiled for subsequent use in landscaping in accordance with 0250 *Open space – landscaping* or for use at other locations by the Principal as appropriate.

Dimensions

The wood-chip mulch shall be produced from branches having a maximum diameter of 100 mm and the chipped material produced shall not have two orthogonal dimensions exceeding 75 mm and 50 mm.

2.5 DISPOSAL OF MATERIALS

Removal from site

Unless otherwise specified elsewhere, all materials cleared and grubbed in accordance with this worksection shall become the property of the Contractor and shall be removed from the site and disposed of legally.

Burning of material

Unless otherwise approved by the Superintendent in writing, disposal of timber and other combustible materials by burning shall not be permitted.

Where the Contractor obtains the prior written approval of the Superintendent, the Contractor shall comply with all Statutory Regulations applicable to burning off during the period of the Contract.

Burning hazards

Any burning off shall be carried out in such a manner that no damage is done to any trees outside the limits of clearing. Smoke resulting from such burning off shall not cause a traffic hazard.

3 MEASUREMENT AND PAYMENT

3.1 MEASUREMENT

Payment shall be made for all the activities associated with completing the work detailed under this Worksection on a schedule of rates basis in accordance with Pay Items 1111.1 ,1111.2 and 1111.3.

A lump sum price for any of these items shall not be accepted.

If any item, for which a quantity of work is listed in the Schedule of Rates, has not been priced by the Contractor, it shall be understood that due allowance has been made in the prices of other items for the cost of the activity which has not been priced.

Erosion and sedimentation control measures are measured and paid in accordance with 1102 *Control of erosion and sedimentation*.

Clearing and grubbing for boundary fencing is measured and paid in accordance with 1195 *Boundary fencing for road reserves*.

3.2 PAY ITEMS

1111.1 Clearing and grubbing

The unit of measurement shall be the hectare of plan area bounded by the limits of clearing specified in **Limits of clearing**.

1111.2 Removal of trees outside limits of clearing

The unit of measurement shall be 'each' tree outside the area bounded by the limits of clearing specified in **Limits of clearing**.

The schedule quantity is a provisional quantity.

1111.3 Wood-chipping

The unit of measurement shall be 'cubic metre' in stockpile.

The schedule quantity is a provisional quantity.