

# Guide to State Development Assessment Provisions

**State code 16: Native vegetation clearing  
(Material Change of Use or Reconfiguring a Lot - clearing  
limited to existing Exempt Clearing Work)**

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# Part 1: About this guide

The State Development Assessment Provisions (SDAP) provide assessment benchmarks for development applications involving the State Assessment and Referral Agency (SARA).


This guide has been developed to help prospective applicants and the broader community understand how a development application involving native vegetation clearing should address the requirements of the SDAP: State code 16 (the code).

This guide is not a statutory document and is not intended to be exhaustive. It provides supplementary information only and is designed to be read in conjunction with the code.

The SDAP, including the code, is available online at [www.qld.gov.au](http://www.qld.gov.au)—search ‘the [State Development Assessment Provisions](#)’ and then select ‘State code 16’.

 *It is recommended that you familiarise yourself with all local, state and federal laws that apply to developments involving vegetation clearing to ensure you are aware of any permits or approvals that are required under other legislation.*


*More complex development proposals may benefit from a free pre-lodgement service provided by SARA before lodging a development application. This will identify any potential issues or requirements for additional information.*

 *For more detailed information about the role of SARA and seeking pre-lodgement advice, visit <https://planning.statedevelopment.qld.gov.au/planning-framework/state-assessment-and-referral-agency>*

## Vegetation management framework

The *Vegetation Management Act 1999* (VMA), in conjunction with other legislation such as the *Planning Act 2016* and the *Environmental Offsets Act 2014*, regulates the clearing of native vegetation in mapped regional ecosystems. A development approval is required for clearing native vegetation that is not Exempt Clearing Work, or clearing carried out under an Accepted Development Vegetation Clearing Code or Area Management Plan.

The contents of the code and this guide are consistent with, and are to be read and applied in accordance with, the purposes of the [VMA](#) and the [State Policy for Vegetation Management](#), Department of Natural Resources Mines and Energy, June 2019.

 *For detailed on the vegetation management framework, including Exempt Clearing Work and Accepted Development Vegetation Clearing Codes, visit [www.qld.gov.au](http://www.qld.gov.au) and search ‘vegetation management’. For further information on the vegetation management framework, phone **135 VEG (135 834)** or email [vegetation@resources.qld.gov.au](mailto:vegetation@resources.qld.gov.au).*

## Vegetation management mapping

The code is used to assess developments that involve clearing, or could result in future clearing, of native vegetation in regulated regional ecosystems or areas shown on the Regulated Vegetation Management Map and associated supporting maps current as at the time of lodging the development application<sup>1</sup>.

To assist in planning your development and preparing your development application, it is recommended that you obtain a Vegetation Management Report (also known as a “Property Report”<sup>2</sup>). To obtain a Property Report, use the online request form at [www.qld.gov.au](http://www.qld.gov.au) (search for ‘vegetation management maps’). Alternatively, the layers can be viewed in or downloaded from <https://qldglobe.information.qld.gov.au>

The Property Report provides a suite of maps relevant to assessments under the code, including:

- Regulated Vegetation Management Map
- Vegetation Management Supporting Map which includes:
  - Regional ecosystem mapping<sup>3</sup>
  - Essential Habitat Map<sup>4</sup>
  - Vegetation Management Wetlands Map
  - Vegetation Management Watercourse and Drainage Feature Map



*You will need a lot number and plan number to request a Property Report. These numbers can be obtained through QLD Globe by using the Parcel Label layer.*

The **Regulated Vegetation Management Map** show the different vegetation categories that are present on your land. This information will help you determine the type of approval you need for vegetation clearing. Therefore, it is useful to understand the types of vegetation in each category:

- Category A area—vegetation in an area that has been secured for a particular purpose or an area subject to particular requirements, for example, subject to a compliance notice, secured as an offset area or secured as a Declared Area (Voluntary)
- Category B area—remnant regional ecosystem
- Category C area—high-value regrowth vegetation
- Category R area—regrowth watercourse area
- Category X area—vegetation that is generally exempt from requirements under vegetation management framework dependent on the land tenure.

<sup>1</sup> Unless the *Planning Act 2016* provides otherwise.

<sup>2</sup> The Property Report may also include other related maps or information outside the vegetation management framework that may be of assistance e.g. protected plants flora survey trigger map under the *Nature Conservation Act 1992*. This information is supplementary information only and is not to be taken as advice on other laws that may apply to your proposed development. It is recommended that you familiarise yourself with all local, state and federal Acts and Regulations that apply to your proposed development.

<sup>3</sup> Referred to in the Queensland Spatial Catalogue and Queensland Globe as ‘Vegetation management regional ecosystem map’.

<sup>4</sup> Referred to in the Queensland Spatial Catalogue as ‘Vegetation management essential habitat map’.

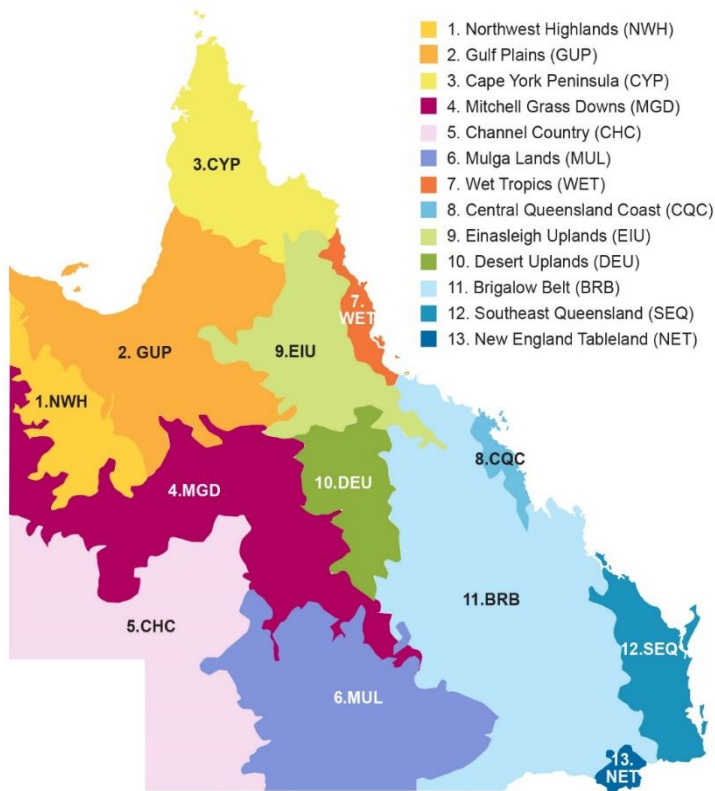
The **Vegetation Management Supporting Map** includes regional ecosystem mapping that is colour-coded in accordance with the class of regional ecosystems prescribed under the vegetation management framework:

- Pink—Endangered regional ecosystem
- Orange—Of Concern regional ecosystem
- Green—Least Concern regional ecosystem.

Regional ecosystems are further categorised into **regional ecosystem structure categories** to indicate the expected density or composition of vegetation in its natural state. The five groups of vegetation structure categories are:

- dense
- mid-dense
- sparse
- very sparse
- grassland.

Queensland has been divided into 13 bioregions, each of which represents a broad landscape pattern that is the result of the interplay between factors including geology, climate and biota. Within each bioregion, there are a number of regional ecosystems that make up the diversity of landscapes across the region. As each bioregion is different in nature, the vegetation management requirements under the framework differ.



**Figure 1: Queensland bioregions**

Each identified area on regional ecosystem mapping is called a polygon. Each polygon is labelled with a **regional ecosystem number** (a three-number code) identifying the regional ecosystem:

- The first number indicates the bioregion in which the regional ecosystem is situated.
- The second number refers to the land zone in which the ecosystem occurs.
- The third number refers to the specific ecosystem and denotes vegetation type.

#### Example

In the regional ecosystem code **6.3.21**:

- 6** is the code for the Mulga Lands bioregion
- 3** indicates alluvial systems such as creeks, rivers and floodplains
- 21** indicates low woodlands of mulga on low alluvial sand dunes.

Most regional ecosystem maps show polygons with more than one regional ecosystem number. The order in which the regional ecosystems are listed reflects the relative size and extent of these different regional ecosystems on the ground. If you have areas mapped as more than one regional ecosystem, you may need to determine precisely where on the ground each regional ecosystem is located.

#### Example

A mixed polygon labelled **6.5.1/6.5.2, 70/30** contains approximately 70 per cent of regional ecosystem 6.5.1 and 30 per cent of regional ecosystem 6.5.2.



*A full description of each regional ecosystem is available on the Regional Ecosystem Description Database (REDD). Access or download the database at [www.qld.gov.au](http://www.qld.gov.au) (search for 'regional ecosystem description database').*

The **Essential Habitat Map** under the vegetation management framework shows the habitat of Endangered, Vulnerable or Near-Threatened wildlife (protected wildlife) prescribed under the *Nature Conservation Act 1992*. The mapping relies on information sourced by a number of different government and non-government agencies and experts. Essential habitat is mapped over areas of vegetation that are likely to contain either:

- three or more essential habitat factors<sup>5</sup>  
or
- the relevant species at any stage of its life cycle.

#### What if I think the vegetation on ground is different to the mapping?

If you think the Regulated Vegetation Management Map or regional ecosystem mapping for the development area is different from what is on ground, you may apply for a Property Map of Assessable Vegetation (PMAV). A PMAV is a property-scale map that shows the boundaries of vegetation categories on the property. An application for a PMAV must include sufficient information to demonstrate the proposed changes to the mapping should be made. Once the PMAV is made, it replaces the

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<sup>5</sup> Biological and non-biological requirements of a species that are necessary or desirable for the wildlife at any stage of its life cycle, including vegetation community, altitude, soils, position in landscape, or regional ecosystem. Guide to State Development Assessment Provisions – State code 16: Native vegetation clearing, Department of Resources

Regulated Vegetation Management Map for determining the location and extent of the areas of vegetation regulated under the vegetation management framework on your property.

If applicable, it is recommended that you apply for and receive the PMAV before lodging your development application.

PMAVs can be used to:

- confirm the vegetation category areas as currently mapped; or
- amend the mapping (e.g. to refine a regional ecosystem or regional ecosystem boundary).



*For more detailed information about PMAVs and applying for a PMAV, visit [www.qld.gov.au](http://www.qld.gov.au) and search 'Property Map of Assessable Vegetation'*

## Glossary of terms and common abbreviations used in this document

Terms used in this guide have the same meaning as defined in the *Vegetation Management Act 1999* and the Glossary of Terms within the code.

Some common abbreviations used within the guide include the following:

AO = Acceptable outcome

Code = State Development Assessment Provisions, State code 16: Native Vegetation Clearing

MCU = Material Change of Use

PO = Performance outcome

PMAV = Property Map of Assessable Vegetation

RaL = Reconfiguring a Lot

REDD = Regional Ecosystem Description Database

SARA = State Assessment Referral Agency

SRI = Significant Residual Impact

SDAP = State Development Assessment Provisions

VMA = *Vegetation Management Act 1999*

## Key steps in the development assessment process

For an application proposing to undertake assessable development that requires assessment under the SDAP: State code 16, key steps in the process are as follows:

### 1. Determine location and extent of development footprint

It is important to ensure that you have determined all development and clearing areas to be assessed as part of the development application. This may include adding areas that could subsequently become Exempt Clearing Work as a result of the development approval—for example, adding areas to the development footprint for the firebreak exemption around infrastructure. See Appendix 1 'Avoid and Minimise' for further guidance on determining the development and clearing footprint including areas that will become exempt as a result of a MCU or RaL development application.



Details of the location and extent of the development and clearing footprint should be determined by providing:

- a. digital data in a format such as shapefile or .kml; or
- b. a map showing:
  - i. the boundary of the area on an image base; and
  - ii. 5 or more points visible in the image base that correspond to identifiable fixed features; and
  - iii. a description of the feature that each point represents; and
  - iv. the coordinates and zone references for each point, defined by reference to the geodetic reference framework prescribed for the [Survey and Mapping Infrastructure Act 2003, section 6\(4\)](#); or
- c. a description of the boundary of the area defined by reference to the geodetic reference framework prescribed for the [Survey and Mapping Infrastructure Act 2003, section 6\(4\)](#).

To facilitate prompt assessment, digital data is preferred.

## 2. Check mapping to determine the assessable clearing footprint for the application

Check the regulated maps and supporting maps to determine the assessable clearing areas for the development footprint. See guidance above 'Vegetation Management mapping'. This may include removing parts of the development footprint where the clearing is currently exempt under the VMA framework (e.g. clearing category X areas on freehold land) or accepted development (e.g. clearing under an Accepted Development Vegetation Clearing Code).

## 3. Seek pre-lodgement advice (optional)

You can arrange a pre-lodgement meeting with SARA before lodging the application. Understanding the precise location and extent of the development and clearing footprint to be assessed under a development application is vital to addressing the code. As such, it is recommended that you seek pre-lodgement advice from SARA if you have any uncertainty around the required development and clearing footprint to be assessed.



*A pre-lodgement meeting is strongly recommended to assist with understanding the requirements for technical assessment. For more details on seeking pre-lodgement advice, visit <https://planning.statedevelopment.qld.gov.au/planning-framework/state-assessment-and-referral-agency>.*

## 4. Lodge Relevant Purpose determination application (if applicable)

When applying for a MCU and / or Operational Works development approval you must first obtain a Relevant Purpose determination from the Department of Resources before lodging a development application. This Relevant Purpose determination will confirm whether the proposal will result in the clearing of regulated vegetation and whether the clearing is for a relevant purpose permitted under section 22A of the VMA.

Clearing that is not for a relevant purpose is prohibited development under the *Planning Act 2016*, and a development application cannot be accepted to the extent it involves prohibited development.

For example, clearing in any category C areas or category R areas on the Regulated Vegetation Management Map is not a relevant purpose under the VMA. Accordingly, clearing of vegetation

in these areas cannot be approved under a development approval, and is prohibited development under the *Planning Act 2016* unless the clearing can be undertaken as Exempt Clearing Work or in accordance with an Accepted Development Vegetation Clearing Code.



*Contact the Department of Resources, Veg Hub on **135 VEG (135 834)** to discuss the purpose of your clearing and whether a Relevant Purpose determination is required.*



*For further information and to apply for a Relevant Purpose determination visit [www.qld.gov.au](http://www.qld.gov.au) and search 'Relevant Purpose determination'.*

## 5. Lodge Development Approval application

Once the Relevant Purpose determination is approved, the development application can then be completed addressing all relevant assessment benchmarks under the *Planning Act 2016* framework. For vegetation management, this means assessing the proposed development against SDAP: State code 16 (the code). A response template for the assessment benchmarks for the code is available online at [www.qld.gov.au](http://www.qld.gov.au) (search 'State Development Assessment Provisions' and then select 'State code 16 response template').

A Development Approval application can be lodged with the relevant assessment manager. The relevant assessment manager is either local government or SARA.

If the assessment manager is SARA, you can apply online via [MyDAS2](http://MyDAS2) available at [www.qld.gov.au](http://www.qld.gov.au) (search 'Online planning services' and then select 'MyDAS2').

If the assessment manager is local government, local government will confirm whether the application will need to be referred to SARA (for one or more state interests).

## 6. Technical advice provided

Once a development application is lodged and accepted by the Assessment Manager or Referral Agency, the Department of Resources provides technical agency advice for proposals involving the clearing of native vegetation, and works closely with the Assessment Manager / Referral Agency on whether an application complies with the code, including any potential offset requirements under the Queensland environmental offsets framework<sup>6</sup>.

## 7. Decision Notice issued

If the proposal adequately addresses all relevant state codes, SARA either: issues a Decision Notice (with or without conditions) as Assessment Manager; or provides local government as the Assessment Manager, with a Referral Agency Response (recommending conditions be imposed where required to meet the assessment benchmarks under the relevant SDAP state codes).

**Note:** FastTrack5 referral and assessment process is also available for Operational Work development applications for Managing Thickened Vegetation. The FastTrack5 process allows for a reduced application fee, reduced assessment and decision-making time frames by SARA, and will not be subject to an information request. Standard conditions will generally be applied.



*For further information on the FastTrack5 assessment process, visit [www.qld.gov.au](http://www.qld.gov.au) and search 'FastTrack5'.*

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<sup>6</sup> If there is insufficient information to assess the application, you may be requested to provide further information.

# Part 2: Assessment against the Performance Outcomes of the code

## Application of code

The complete version of SDAP (sections 1 to 4) provides guidance on the application and interpretation of the state codes, how they are used in assessment and how multiple state codes or matters of state interest are managed etc.

The Purpose Statement of the code provides the overall intent of the code, for example, environmental values / outcomes the code seeks to manage and / or protect. Development will comply with the code if it can be shown to meet the code's Purpose Statement.

Performance outcomes (POs) set the benchmarks for achieving the Purpose Statement of the code. Generally, your application must meet all of the POs relevant for your application. If the application does not meet one or more of these POs, those aspects of the application will then be assessed against the Purpose Statement of the code<sup>7</sup>.

Some POs may provide for an Acceptable Outcome (AO). AOs identify one way a PO can be met. An application that complies with all applicable AOs for a corresponding PO is considered to satisfy that PO.

In some cases there will be two corresponding POs for a particular environmental value / outcome whereby the first PO will provide for the assessment benchmark and the corresponding second PO will provide for rehabilitation and / or provision of an environmental offset. For example, PO5 and PO6 for wetlands. These corresponding POs are to be assessed in conjunction with each other. The assessment must address the first PO (eg PO5). If the proposal meets the first PO (eg PO5), then the second PO (eg PO6) is automatically met. If you have adequately demonstrated that the proposal cannot meet the first PO (eg PO5), only then can you address the second PO (eg PO6) and propose rehabilitation and / or an environmental offset (where relevant).

Where a development involves multiple development applications, thresholds considered under the code may be assessed having regard to **cumulative impacts** for any development approval applying to the premises<sup>8</sup>.

## Table 16.1: Performance Outcomes relevant for each development type and clearing purpose

The code groups together all the POs for each application type and clearing purpose into numbered tables. This guide likewise follows the same order as the code, providing guidance per table (i.e. per clearing purpose). Additional guidance for some aspects may be provided within an appendix<sup>9</sup>.

It is only necessary to provide a response to the POs relevant for the application type and clearing purpose/s. Table 16.1 of the code specifies which tables of POs are relevant for each application type and clearing purpose. Tables that are not relevant to your application type and clearing purpose can be left blank or deleted. For example, a development application for operational works that involves

<sup>7</sup> Refer to the complete version of SDAP (sections 1 to 4) for further information on assessments against the purpose statement.

<sup>8</sup> See section 22(3)(d) of the Planning Regulation 2017.

<sup>9</sup> A reference to an appendix is a reference to an appendix in this guide.

managing thickened vegetation, only Table 16.2 and Table 16.15 are relevant and therefore the remaining tables can be left blank or deleted.

## Table 16.2: General

Table 16.2 of the code provides for the POs addressing general requirements applying to all development application types except an application for a MCU and / or RaL where there is no clearing as a result of the development (see Table 16.1 of the code). An application for a MCU and / or RaL where there is no clearing as a result of the development need only address the POs in Table 16.9.

Given there are no AOs for the POs within Table 16.2 of the code, the application will need to address each PO directly.

### Performance outcome 1

See Appendix 12 'Better Environmental Outcomes' for guidance on identifying Notices of Compliance, meeting this PO and providing a Better Environmental Outcome.

To meet this PO the application will need to satisfy all of the following:

1. Identify the location and extent of the development footprint including all areas of clearing to be assessed under the development application.
2. Demonstrate how the development meets one of the following:
  - a. No Notices Requiring Compliance apply to the proposed development or clearing footprint; or
  - b. One or more Notices Requiring Compliance apply to the proposed development or clearing footprint however:
    - i. the proposed development and clearing is consistent with the notice; or
    - ii. where the proposed development and clearing is not consistent with the notice, a Better Environmental Outcome is proposed to be achieved in accordance with the requirements and criteria in the code and Appendix 12 of this guide.

### Performance outcome 2

See Appendix 12 'Better Environmental Outcomes' for guidance on identifying Particular Regulated Areas, meeting this PO and providing a Better Environmental Outcome.

To meet this PO the application will need to satisfy all of the following:

1. Identify the location and extent of the development footprint including all areas of clearing to be assessed under the development application.
2. Demonstrate how the development meets one of the following:
  - a. No Particular Regulated Areas apply to the proposed development or clearing footprint; or
  - b. One or more Particular Regulated Areas apply to the proposed development or clearing footprint however:
    - i. the proposed development and clearing is consistent with the vegetation management requirements for the Particular Regulated Area; or
    - ii. where the proposed development and clearing is not consistent with the vegetation management requirements for the Particular Regulated Area, a Better Environmental Outcome is proposed to be achieved in accordance with the requirements and criteria in the code and Appendix 12 of this guide.

### Performance outcome 3

See Appendix 13 'Significant Residual Impacts (SRIs) and Environmental Offsets' for guidance on environmental offsets.

An area of land is a legally secured offset area (as defined under the *Environmental Offsets Act 2014*) if:

1. the area is:
  - a. an Environmental Offset Protection Area; or
  - b. an area declared as an area of high nature conservation value under section 19F of the VMA (Declared Area (Voluntary)); or
  - c. another area prescribed under a regulation; and
2. under the *Environmental Offsets Act 2014* or another Act, the area is subject to a delivery or management plan or agreement (however described in this Act or the other Act) to achieve a conservation outcome for a prescribed environmental matter.



*To identify any areas that are Environmental Offset Protection Areas or another area prescribed under regulation contact the Department of Environment and Science by calling 13 QGOV (13 74 68) or email [offset@des.qld.gov.au](mailto:offset@des.qld.gov.au)*

*To identify Declared Areas (Voluntary) undertake a current title search. Title searches can be purchased by contacting Titles Queensland online at [www.titlesqld.com.au](http://www.titlesqld.com.au) or by calling (07) 3497 4379.*

*Further information on Environmental Offsets under the environmental offsets framework is available online at [www.qld.gov.au](http://www.qld.gov.au) or by contacting the Department of Environment and Science by calling 13 QGOV (13 74 68) or email [offset@des.qld.gov.au](mailto:offset@des.qld.gov.au)*

To meet this PO the application will need to satisfy all of the following:

1. Identify the location and extent of the development footprint including all areas of clearing to be assessed under the development application.
2. Demonstrate how the development will meet one of the following:
  - a. No legally secured offset area/s apply to the development or clearing footprint; or
  - b. One or more legally secured offset areas apply to the development or clearing footprint however:
    - i. the proposed development and clearing is consistent with the offset delivery plan or an agreement for the offset area; or
    - ii. where the proposed development and clearing is not consistent with the offset delivery plan or an agreement for the offset area, an Environmental Offset will be provided in accordance with the *Environmental Offsets Act 2014*.

## **Table 16.10: Material change of use and / or reconfiguring a lot for which clearing is limited to clearing that could be done as exempt clearing work for the purpose of the development prior to the material change of use or reconfiguring a lot application being approved**

This table can only be used to address the code in circumstances where the development involves a MCU or RaL, and the full extent of the proposed clearing could be undertaken as Exempt Clearing Work under Schedule 21 of the Planning Regulation 2017 prior to the application being approved.

### **Clearing avoids and minimises impacts**

#### **Performance outcome 94**

See Appendix 1 'Avoid and Minimise' for guidance on determining the location and extent of the development and clearing footprint; 'avoid and minimise' requirements; and meeting this PO.

As there are no prescribed Aos, the application will need to address the PO directly.

### **Clearing that could already be done under an exemption**

As there are no prescribed Aos, the application will need to address the PO directly.

#### **Performance outcome 95**

To meet this PO the application will need to satisfy all of the following:

1. Identify the location and extent of the development footprint including all areas of clearing to be assessed under the development application.
2. Provide details of the location and extent of clearing for each exemption (Exempt Clearing Work under schedule 21 of the Planning Regulation 2017) and how / why the exemption applies in the current circumstances (i.e. how the exemption applies prior to the MCU and / or RaL application being approved).
3. Demonstrate how clearing of vegetation does not occur unless it is clearing that could be done as Exempt Clearing Work for the purpose of the development prior to the MCU or RaL application being approved.

# Appendix 1: Avoid and minimise

(PO4, PO19, PO33, PO49, PO64, PO80, PO94, PO96, PO121)

The avoid and minimise hierarchy reflects a key feature within the Queensland State Policy for Vegetation Management to advance the purposes of the VMA.

To meet avoid and minimise requirements, the application must demonstrate that clearing, and the adverse impacts of clearing, will only occur where it has first been reasonably avoided, and then reasonably minimised.

**'Clearing'** under the VMA means to remove, cut down, ringbark, push over, poison or destroy in any way including by burning, flooding or draining, but does not include destroying standing vegetation by stock, or lopping a tree.

Under the code, **'adverse impacts of clearing'** includes but is not limited to:

- the loss of vegetation;
- the loss of biodiversity;
- land degradation;
- loss of connectivity;
- altered ecological processes; and
- contributions to greenhouse gas emissions.

Under the code, for the purpose of a MCU or RaL development application, any reference to "clearing" is taken to include "clearing as a result of a material change of use"<sup>10</sup> and "clearing as a result of reconfiguring a lot"<sup>11</sup> respectively.

**"Clearing as a result of a material change of use"** means both of the following:

1. Clearing of vegetation that will result from the change in use, consisting of any of the following:
  - a. clearing to construct built infrastructure – including buildings, stormwater management systems, water supply and sewerage systems – that are proposed as part of the material change of use application;
  - b. clearing for roads, vehicle parking, vehicle and pedestrian access, utilities corridors, services, fences, fire breaks and fire management lines;
  - c. clearing that may not be necessary for developing built infrastructure but is associated with the use applied for.
2. Clearing of vegetation that will become exempt clearing work<sup>12</sup> if the development application is approved. This includes any of the following examples:
  - a. clearing for routine management<sup>13</sup> and essential management<sup>14</sup> purposes associated with the approved development including clearing to maintain proposed infrastructure, facilities, roads,

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<sup>10</sup> See definitions in the code for 'clearing' and 'clearing as a result of a material change of use'.

<sup>11</sup> See definitions in the code for 'clearing' and 'clearing as a result of reconfiguring a lot'.

<sup>12</sup> See schedule 21 of the Planning Regulations 2017.

<sup>13</sup> See definition of 'routine management' in schedule 24 of the Planning Regulation 2017.

<sup>14</sup> See definition of 'essential management' in schedule 24 of the Planning Regulation 2017.



access routes, utilities, services and fences, and clearing to maintain the safety of persons and property that will be associated with the development;

- b. clearing for necessary fire breaks<sup>15</sup>, fire management lines<sup>16</sup> and associated with the development. This will be assessed as follows:
  - i. all built infrastructure other than underground services, roads and fences will be assessed as requiring clearing for fire breaks and safety buffers with a width of 20 metres or 1.5 times the height of the tallest adjacent tree to the infrastructure, whichever is the greater. The extent of clearing assessed will include any vegetation that may be required to be cleared for fire breaks distances and safety buffers on adjoining land;



*See Appendix 15 'Measuring tree height and measuring slope' for guidance on measuring tree height.*

- ii. all proposed allotment boundaries will be assessed as requiring clearing for fire management lines with a width of 10 metres constructed on either side of the allotment boundary unless written evidence from the relevant Area Commander of the Queensland Fire and Emergency Service which confirms an alternative fire management line width is required or acceptable;
- iii. in the case of evidence being presented which demonstrates constraints on clearing for fire management lines as being reasonably imposed in accordance with written evidence from the relevant Area Commander or equivalent officer of the Queensland Fire and Emergency Service, the development may be conditioned so that the full extent of exempt clearing work prescribed for essential management under schedule 21 of the Planning Regulation 2017 cannot be carried out by current or future landholders.

**“Clearing as a result of reconfiguring a lot”** means both of the following:

1. Clearing of vegetation that will result from reconfiguring a lot, consisting of any of the following:
  - a. clearing for boundary fence lines for each proposed allotment (whether or not the clearing is proposed as part of the application);
  - b. clearing to construct built infrastructure, including stormwater management systems, water supply and sewerage systems, roads, access routes or utilities corridors that are proposed as part of the reconfiguring a lot application or that will be required as a condition of approval by the assessment manager;
  - c. clearing for excavation and filling, for example, where the lots are to be levelled.
2. Clearing of vegetation that will become exempt clearing work<sup>17</sup> if the development application is approved. This includes any of the following examples:

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<sup>15</sup> Under the code 'firebreak' means an area that has been cleared and maintained in a low fuel state to either stop or steady wildfire, or back burn against.

<sup>16</sup> Under the code, 'fire management line' means a pathway, track or road, including existing property tracks, or fence line clearings, which can be used to access water for fire-fighting, divide the property into sub-units to allow a fuel reduction burning program to be carried out, or divide the property into sub-units to allow for back burning in the event of a wildfire.

<sup>17</sup> See schedule 21 of the Planning Regulations 2017.

- a. clearing for a single residence and reasonably associated buildings and structures for each allotment to be created as a result of the reconfiguring a lot, where no such dwelling house already exists on the proposed allotment;
- b. all lots will be assessed as including clearing of two hectares for the purpose stated in 2a, or for lots smaller than two hectares the whole area of the lot, unless the application demonstrates that a greater or smaller area will be required and achieved – for example, building envelopes binding on title;
- c. clearing for routine management<sup>18</sup> and essential management<sup>19</sup> purposes associated with the approved development including clearing to maintain proposed infrastructure, facilities, roads, access routes, utilities, services and fences, and clearing to maintain the safety of persons and property that will be associated with the development;
- d. clearing for necessary fire breaks<sup>20</sup>, fire management lines<sup>21</sup> and safety buffers associated with the development. This will be assessed as follows:
  - i. all built infrastructure other than underground services, roads and fences will be assessed as requiring clearing for firebreaks and safety buffers with a width of 20 metres or 1.5 times the height of the tallest adjacent tree to the infrastructure, whichever is the greater. The extent of clearing assessed will include any vegetation that may be required to be cleared for fire breaks and safety buffers on adjoining land;



*See Appendix 15 'Measuring tree height and measuring slope' for guidance on measuring tree height.*

- ii. all proposed allotment boundaries will be assessed as requiring clearing for fire management lines with a width of 10 metres constructed on either side of the allotment boundary unless written evidence from the relevant Area Commander of the Queensland Fire and Emergency Service which confirms an alternative fire management line width is required or acceptable;
- iii. in the case of evidence being presented which demonstrates constraints on clearing for fire management lines as being reasonably imposed in accordance with written evidence from the relevant Area Commander of the Queensland Fire and Emergency Service, the development may be conditioned so that the full extent of exempt clearing work prescribed for essential management under schedule 21 of the Planning Regulation 2017 cannot be carried out by current or future landholders.

## Addressing performance outcomes (POs)

There are no acceptable outcomes prescribed for these POs. The application will need to address the PO directly. The application should include all of the following:

<sup>18</sup> See definition of 'routine management' in schedule 24 of the Planning Regulation 2017.

<sup>19</sup> See definition of 'essential management' in schedule 24 of the Planning Regulation 2017.

<sup>20</sup> Under the code 'firebreak' means an area that has been cleared and maintained in a low fuel state to either stop or steady wildfire, or back burn against.

<sup>21</sup> Under the code, 'fire management line' means a pathway, track or road, including existing property tracks, or fence line clearings, which can be used to access water for fire-fighting, divide the property into sub-units to allow a fuel reduction burning program to be carried out, or divide the property into sub-units to allow for back burning in the event of a wildfire.

1. Identify the location and extent of the development footprint including all areas of clearing to be assessed under the development application. See guidance in Part 1 of this guide 'Key steps in Development Assessment process: Step 1- Determine location and extent of development footprint'.

For a development application that includes a MCU, the extent of the development and clearing footprint should include "clearing as a result of a material change of use". See guidance in this Appendix 1 above.

For a development application that includes RaL, the extent of the development and clearing footprint should include "clearing as a result of reconfiguring a lot". See guidance in this Appendix 1 above.

2. Identify all potential adverse impacts of clearing.
3. Demonstrate both of the following:
  - a. If and how clearing, and the adverse impacts of clearing, can be reasonably avoided.
  - b. Where clearing cannot be reasonably avoided, how clearing and the adverse impacts of clearing will be reasonably minimised.
4. Provide all of the following supporting information:
  - a. Any considerations in deciding the location of the development, including assessment of alternative sites, to minimise the clearing footprint.
  - b. Identify constraints and limitations on alternative areas. For example: land features (topography, slope, land degradation, soil attributes), land use requirements, construction standards, proximity to existing infrastructure / facilities / services, access constraints.
  - c. Where it is not reasonable to undertake the clearing entirely in category X areas or existing cleared areas, demonstrate how the following 'avoid and minimise' principles have been applied for the location and extent of clearing:
    - i. First – locate as much of the clearing in category X areas or existing cleared areas as reasonably possible.
    - ii. Second – locate as much of the remaining clearing in a category C area or category R area where reasonably possible.
    - iii. Third – where necessary to clear in a category B area, locate the clearing within least concern regional ecosystems where reasonably possible.
    - iv. Fourth – take all possible steps to avoid, or if avoidance is not possible, minimise to the greatest extent possible, clearing in the following areas:
      - Within 100 metres of the defining bank of a natural wetland.
      - Within 10 metres of the defining bank of a watercourse or drainage feature for a stream order 1 or 2 watercourse or drainage feature.
      - Within 25 metres of the defining bank of a watercourse or drainage feature for a stream order 3 or 4 watercourse or drainage feature.
      - Within 50 metres of the defining bank of a watercourse or drainage feature for a stream order 5 or greater watercourse or drainage feature.
      - Essential habitat.

The 'avoid and minimise' assessments will be considered at an appropriate scale dependant on the nature and size of the proposed development. However generally, the scale of most 'avoid and minimise' assessments may be considered from a property / lot perspective.

**Rehabilitation** - having minimised the area of clearing, the adverse impacts of clearing may be further minimised by rehabilitating cleared areas that are only temporarily required for the establishment / construction phase of the proposed development. Whilst rehabilitation may not necessarily be required to meet "avoid and minimise" PO requirements, there may still be a requirement under further POs in the code to rehabilitate or provide an environmental offset in order to meet assessment benchmarks of the code<sup>22</sup>. For further information on rehabilitation requirements see Appendix 11 'Rehabilitation'.

**Wind farms** - for wind farm developments, applications proposing to later micro-site areas following further detailed technical analysis will not satisfy avoid and minimise principles. Applications must demonstrate how the proposed clearing areas and the adverse impacts of clearing have been avoided and minimised notwithstanding any future intentions for micro-siting. Accordingly, any proposed clearing study corridor will be assessed in its entirety for the clearing of native vegetation. Applications for a proposed wind farm development must also include an analysis of the study corridor to identify:

1. the location and extent of the proposed:
  - a. study corridor;
  - b. necessary areas of clearing within the study corridor which will require technical investigation to determine the final location and extent of clearing;
  - c. necessary areas of clearing within the study corridor where the final location and extent of clearing is known; and
2. why it is necessary to locate the study corridor in the proposed location.

## Information resources to assist in assessment

The following resources may be appropriate:

- Imagery: to demonstrate the presence of vegetation (free online resources include [Queensland Globe](#), [QImagery](#)). Access the imagery at [www.qld.gov.au](http://www.qld.gov.au) (search for 'Queensland Globe' and 'QImagery').
- Regulated Vegetation Management Map and supporting maps. See Part 1 "Vegetation Management mapping" for guidance to access maps and data.

## Need more help?

- Seeking pre-lodgement advice with the SARA before lodging a development application is strongly recommended. This will identify any potential issues or additional information requirements.



*For more detailed information about the role of SARA and seeking pre-lodgement advice, visit <https://planning.statedevelopment.qld.gov.au/planning-framework/state-assessment-and-referral-agency>*

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<sup>22</sup> For example, where a proposed development involves clearing for areas temporarily required to enable construction of infrastructure, in order to demonstrate clearing conserves the regional ecosystem.

- For assistance with vegetation management queries, including assistance with obtaining accessing information resources such Queensland Globe, please contact the Veg Hub on phone 135 834 or email [vegetation@resources.qld.gov.au](mailto:vegetation@resources.qld.gov.au)

# Appendix 12: Better Environmental Outcomes

(PO1, PO2)

Where a development proposes to develop an area that is a Particular Regulated Area and / or an area subject to a Notice Requiring Compliance, PO1 and PO2 of the code requires a Better Environmental Outcome be provided in exchange for the impacted area where the proposed clearing is not consistent with any Notice Requiring Compliance or any vegetation management requirements for Particular Regulated Areas.

A “Better Environmental Outcome” means an environmental outcome provided on land in exchange for an area to be developed which is a Particular Regulated Area, or is subject to a Notice Requiring Compliance, and is legally secured using a Declared Area (Voluntary)<sup>23</sup> before:

1. the commencement of works; and
2. prior to any amendment, partial discharge or discharge of any Notice Requiring Compliance or instrument securing a Particular Regulated Area.

An area subject to a Notice Requiring Compliance is an area subject to one or more of the following:

- a Restoration Notice under the VMA;
- a Stop Work Notice under the VMA;
- a Land Act Notice under the *Land Act 1994*;
- a Trespass Notice under the *Land Act 1994* where the trespass related act is the clearing of vegetation; or
- an Enforcement Notice under the *Planning Act 2016*.

A Particular Regulated Area is an area that is one or more of the following:

- an Exchange Area under the VMA;
- an unlawfully cleared area under the VMA;
- a Declared Area (Voluntary) under section 19F of the VMA, other than to legally secure an environmental offset; and
- on a PMAV, shown to be a category A area, where the chief executive of the VMA reasonably believed that a vegetation clearing offence had been or was being committed.

Vegetation management requirements for Particular Regulated Areas means any conditions, restrictions, management requirements or outcomes identified in a particular regulated area which must be undertaken or complied with to achieve compliance with the particular regulated area. Sometimes these requirements will be evident, for example requirements or outcomes in a management plan. Other times the purpose of the Particular Regulated Area will need to be considered. For example, where the chief executive of the VMA made an area a category A area on a PMAV. In these circumstances, regulation of the area under the VMA framework is intended to restrict clearing in the area under the VMA framework for the purposes of the Act (i.e. to conserve remnant vegetation, prevent loss of biodiversity, maintain ecological processes etc.). A Better Environmental Outcome may be

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<sup>23</sup> See section 19F of the *Vegetation Management Act 1999*.

appropriate in these circumstances where the proposed development is inconsistent with the intended purpose to afford greater protection to the environmental values (i.e. category A areas being areas subjected to greater regulation to conserve the environmental values and / or allow natural regeneration of the environmental values).

Some clearing purposes that are intended to improve the quality of the regional ecosystem, such as weed management and managing thickened vegetation, are more likely to be consistent with a Notice Requiring Compliance or vegetation management requirements for Particular Regulated Areas. Other clearing purposes intended to permanently remove vegetation, such as clearing for infrastructure, will likely be inconsistent requiring a Better Environmental Outcome be provided.

A Better Environmental Outcome is an environmental outcome provided on land in exchange for the development of an area that is a Particular Regulated Area, or an area subject to a Notice Requiring Compliance (impact area), and:

1. is located in a category X area;
2. contains a predominate vegetative layer which is at least two meters in height;
3. achieves the requirements for one of the applicable Better Environmental Outcome options below (see Table 1: 'Requirements and Options for Better Environmental Outcomes' below);
4. is legally secured using a Declared Area (Voluntary) before: the commencement of works; and prior to any amendment, partial discharge or discharge of any Notice Requiring Compliance or instrument securing a Particular Regulated Area;
5. is located within the same bioregion as the impacted area, or where it is not reasonably possible, located in an adjacent bioregion;
6. is configured in a way that maintains ecosystem functioning and remains in the landscape despite threatening processes;
7. is managed under a comprehensive management plan back to remnant vegetation (a category B area on the Regulated Vegetation Management Map) within a period of 20 years; and
8. is shown as a category A area on the Regulated Vegetation Management Map until the area becomes remnant vegetation and is mapped as a category B area on the Regulated Vegetation Management Map.



*For information on how to legally secure a Declared Area (Voluntary) visit the 'Development Approvals' webpage at [www.qld.gov.au](http://www.qld.gov.au) (search 'vegetation management').*

Table 1: Requirements and Options for Better Environmental Outcomes		Size
Where the impact area does not include a Restoration Notice, Enforcement Notice or Compliance Notice:		
<p>Option 1:</p> <p>The area to be used as the Better Environmental Outcome contains at least one of the following:</p> <ul style="list-style-type: none"> <li>the same pre-clear regional ecosystem/s as the impact area;</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>a higher regional ecosystem status (e.g. <b>Endangered</b> or <b>Of Concern</b>) than the values of the impact area.</li> </ul>	Equal to double the impact area, or 1 hectare, whichever is the greater.	
<p>Option 2:</p> <p>The area to be used as the Better Environmental Outcome contains at least one of the following:</p> <ul style="list-style-type: none"> <li>within 50 metres of the defining bank of a watercourse on the Vegetation Management Watercourse and Drainage Feature Map.</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>within 50 metres of the defining bank of a wetland</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>on the Vegetation Management Wetland Map.</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>in a location that creates a corridor between regional ecosystems that are mapped as either a category A area and/or a category B area on the Regulated Vegetation Management Map, which are each at least 4 hectares in size.</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>an area that adjoins either an area mapped as a category A area and/or a category B area on the Regulated Vegetation Management Map which is at least 4 hectares in size.</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>Another area of environmental significance to flora or fauna under other State or Commonwealth legislation.</li> </ul>	Equal to four times the impact area, or 1 hectare, whichever is the greater.	
Where the impact area includes a Restoration Notice, Enforcement Notice or Compliance Notice:		
<p>The area to be used as the Better Environmental Outcome contains all of the following:</p> <ul style="list-style-type: none"> <li>an area that is the same broad vegetation group and regional ecosystem status as the impact area.</li> <li>where the impact area is associated with a watercourse or wetland, associated with a watercourse or wetland.</li> <li>an area that is of suitable quality and can achieve a gain in habitat quality sufficient to compensate the impact area as assessed in accordance with the <b>Guide to determining terrestrial habitat quality, Methods for assessing habitat quality under the Queensland Environmental Offsets Policy, 1.3 February 2020.</b></li> </ul>	Equal to four times the impact area, or 1 hectare, whichever is the greater.	

## Addressing Performance Outcomes (POs)

There are no acceptable outcomes prescribed for the PO1 and PO2. The application will need to address each PO directly. The application should include all of the following:

1. Identify the location and extent of the development footprint including all areas of clearing to be assessed under the development application.



2. Determine if the development or clearing footprint for the proposed development is a Particular Regulated Area or an area subject to a Notice Requiring Compliance.



*Category A areas on the Regulated Vegetation Management Map or a PMAV may be indicative of some Particular Regulated Areas or some Notices Requiring Compliance.*

3. Obtain details of any relevant Particular Regulated Areas and / or Notices Requiring Compliance.



*For information on any notice on title you can undertake a current title search. Title searches can be purchased by contacting Titles Queensland online at [www.titlesqld.com.au](http://www.titlesqld.com.au) or by calling (07) 3497 4379.*

*To confirm if any Particular Regulated Areas or Notices Requiring Compliance apply to a lot call the Department of Resources, Veg Hub on **135 VEG (135 834)**.*

4. Establish whether the proposed development is consistent with Notice Requiring Compliance and / or consistent with the vegetation management requirements for the Particular Regulated Area. That is, will the requirements for any Notice Requiring Compliance and / or vegetation management requirements for any Particular Regulated Area still be met / achieved notwithstanding the proposed development?
5. If the proposed development and clearing is not consistent with all relevant Notices Requiring Compliance and all vegetation management requirements for Particular Regulated Areas, the application needs to demonstrate how a Better Environmental Outcome can be achieved to meet the PO. Where a Better Environmental Outcome is required, the application must provide details of the Better Environmental Outcome proposed (that complies with the requirements and criteria in the code and this guide), and to demonstrate how the Better Environmental Outcome will be managed and achieved under a Better Environmental Outcome Management Plan. The Better Environmental Outcome Management Plan should include, but not be limited to, all of the following:
  - a. Property owner's details.
  - b. Description of the area/s the subject of the Better Environmental Outcome, including a map showing the location and extent.
  - c. Description of the works / management actions that will be undertaken, including the methods, timing, frequency, intended benefits etc.
  - d. The environmental values (identified as POs in the code) that will be protected / achieved.
  - e. The management outcomes proposed to protect / achieve the environmental values.
  - f. The works / management actions proposed to achieve the management outcomes. This should include detail on where, how and when the works / management actions will be undertaken.
  - g. Details demonstrating how the works / management actions will not increase land degradation.
  - h. Details of who is responsible for all works / management actions, and the estimated length of time the area/s will be managed.
  - i. Monitoring and auditing processes including adaptive management approaches to rectify any negative results from the monitoring and auditing processes.

- j. Record keeping process to retain appropriate records for the progress and effectiveness of all works / management actions, and monitoring and auditing processes. These records are not required to be submitted, however they must be made available to the Department of Resources upon request.

The level of detail required in a management plan will depend on the nature and scale of the activity being undertaken.

## Information resources to assist in assessment

The following resources may be appropriate:

- Regulated Vegetation Management Map and any PMAV that applies to the area the subject of the development and clearing footprint (in particular, any category A areas). For more information on mapping, refer to the earlier section in this guide titled “Vegetation Management mapping”.
- Undertake a current title search: Title searches can be purchased by contacting Titles Queensland online at [www.titlesqld.com.au](http://www.titlesqld.com.au) or by calling (07) 3497 4379.

## Need more help?

- Seeking pre-lodgement advice with the SARA before lodging a development application is strongly recommended. This will identify any potential issues or additional information requirements.



*For more detailed information about the role of SARA and seeking pre-lodgement advice, visit <https://planning.statedevelopment.qld.gov.au/planning-framework/state-assessment-and-referral-agency>*

- For assistance with vegetation management queries, including assistance with obtaining accessing information, please contact the Veg Hub on phone 135 VEG (135 834) or email [vegetation@resources.qld.gov.au](mailto:vegetation@resources.qld.gov.au)

# Appendix 13: Significant Residual Impacts (SRIs) and Environmental Offsets

The *Environmental Offsets Act 2014* framework provides for Environmental Offsets to compensate unavoidable impacts on prescribed environmental matters on one site, by securing land at another site, and managing that land over a period of time, to replace those prescribed environmental matters which were lost.

The *Planning Act 2016* framework interacts with the environmental offsets framework. The code (Purpose Statement and POs) regulates these prescribed environmental matters known as Matters of State Environmental Significance (MSES). In some circumstances, where a development proposes a SRI on a MSES, the code may allow the provision of an Environmental Offset to meet the PO. For the Vegetation Management framework (under the code), the MSES are as follows:

- Endangered or Of Concern regional ecosystems shown on the Vegetation Management Supporting Map.
- A wetland shown on the Vegetation Management Wetlands Map.
- An essential habitat area shown on the Essential Habitat Map for individual plant and animal species<sup>24</sup>.
- A watercourse as shown on the Vegetation Management Watercourse and Drainage Feature Map<sup>25</sup>.
- A connectivity area required for ecosystem functioning.

See Part 1 above 'Vegetation Management mapping' for guidance on how to access maps and data, and apply the vegetation management maps.

The Department of Environment and Science publishes an information sheet providing a helpful reference table that details: all MSES as defined in Schedule 2 of the Environmental Offsets Regulation 2014; the Act(s) or other statutory instrument(s) under which these matters are regulated; resources that assist in identifying their location; and comments to assist with assessment. This *Information Sheet: Resources for Matters of State Environmental Significance* is available online at: <https://www.qld.gov.au/environment/management/environmental/offsets/resources>

Where an Environmental Offset is proposed to meet a PO, the application should also provide all of the following information for each matter<sup>26</sup>:

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<sup>24</sup> Where more than one species exists in an area mapped as essential habitat, offset obligations will be assessed and determined for the impact extent for each individual species separately regardless of any overlap in area. Co-location opportunities for land-based offset delivery may still be available if permitted under the environmental offsets framework.

<sup>25</sup> Although the code provides defined area and width restrictions in AOs to meet the POs for watercourse and drainage features, the extent of impact to define the MSES relies on the relevant distance prescribed by the Queensland Environmental Offsets Policy. Care should be taken to refer to the MSES as defined in the Environmental Offsets Regulation when identifying this MSES and the extent of the impact.

<sup>26</sup> Where more than one MSES exists in an area, offset obligations will be assessed and determined for the impact extent for each MSES separately regardless of any overlap in area. Co-location opportunities for land-based offset delivery may still be available if permitted under the environmental offsets framework.

1. Identify the location and extent of the development footprint including all areas of clearing to be assessed under the development application.
2. Demonstrate how the impact to the MSES from the proposed development (i.e. clearing and any potential future clearing as a result of the development approval) has first been reasonably avoided under the environmental offsets framework. Avoiding impacts to an MSES may be achieved through planning and site selection. For example, changing the route of an access road.
3. Demonstrate how the impact to the MSES from the proposed development (i.e. clearing and any potential future clearing as a result of the development approval) has then been reasonably mitigated under the environmental offsets framework. If avoidance cannot be reasonably achieved, the application must demonstrate that impacts have been carefully managed and minimised (mitigated). Mitigation measures are actions that lessen the adverse impacts from clearing on the MSES. For example, taking measures to manage and minimise land degradation as a result of the clearing.



*For further information and guidance on the environmental offsets 'avoid and mitigate' hierarchy see the Environmental Offsets Policy and Environmental Offsets General Guide available online at [www.qld.gov.au](http://www.qld.gov.au) search 'Environmental Offsets'.*

4. Details of how the resulting unavoidable impact for the MSES is a SRI in accordance with the *Significant Residual Impact Guideline, Department State Development, Infrastructure and Planning, 2014*.



*The Significant Residual Impact Guideline is available online at: <https://dsdmipprd.blob.core.windows.net/general/dsdip-significant-residual-impact-guideline.pdf>*

5. Whether the SRI is an acceptable impact under the environmental offsets framework.



*Environmental Offset legislation and related materials (including the Environmental Offsets Policy and Environmental Offsets General Guide) are available online at [www.qld.gov.au](http://www.qld.gov.au) search 'Environmental Offsets'.*

6. If the development is a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (Cmth) (EPBC Act):
  - a. the status of an application under the EPBC Act (including any assessment officer contact details within that department);
  - b. a description of the matters to be, or that have been, assessed under the EPBC Act;
  - c. the description of impacts to be, or that have been, assessed under the EPBC Act; and
  - d. any offset requirements imposed under an EPBC Act approval decision.
7. How the impact on the MSES and the significance of the impact can likely be addressed through a suitable Environmental Offset. Where land-based offset is proposed, details to demonstrate there are sufficient available and suitable offset areas in the landscape.

8. Details of the proposed offset that achieves the required conservation outcome for the impacted matter and is compliant with the environmental offsets framework.

Where the proposed development includes an SRI for more than one prescribed environmental matter of MSES, in the event the offset/s are to be delivered by way of a financial settlement offset, it is important to establish whether the matter requires a separate Distinct Matter Area. The Environmental Offsets Policy provides principles for when separate Distinct Matter Areas are required. For example, a separate Distinct Matter Area is required for:

- each regional ecosystem;
- when considering offsets for protected wildlife species, each separate species functional group;
- when considering offsets for protected wildlife species, each protected wildlife species that have very specific habitat requirements (such as rocks for rock wallabies or caves for certain bat species); and
- wetlands.

Accordingly, where it is proposed that a Distinct Matter Area include more than one protected wildlife species, the application must also demonstrate why these species should be considered under the singular Distinct Matter Area in accordance with the Environmental Offsets Policy.

In some circumstances the environmental offsets framework avoids duplication of offset requirements across the various levels of government i.e. the Commonwealth, state and local governments. For more information about the relationship between Commonwealth, state and local government offsets, refer to the [Queensland Environmental Offsets Policy](#).

There are three offset delivery options under the environmental offsets framework:

- Proponent-driven offsets i.e. land-based offsets or a Direct Benefit Management Plan;
- Financial settlement offset; or
- A combination of both - a proponent-driven offset and financial settlement offset.

The Queensland Environmental Offsets Policy provides a single, consistent, whole-of-government policy for the assessment of offset proposals to satisfy offset conditions. When a land-based offset is proposed, the *Guide for Determining Terrestrial Habitat Quality, version 1.3, February 2020* provides a methodology for determining the habitat quality of proposed offsets sites. When a financial settlement offset is proposed, the Financial Settlement Offset Calculator can be used to calculate the offset.



*Further information on the environmental offsets framework (including offset delivery policies, guides and calculators, and advanced offsets and environmental offset providers) is available online at [www.qld.gov.au](http://www.qld.gov.au) search 'Environmental Offsets', or by contacting the Department of Environment and Science on 13 QGOV (13 74 68) or email [offset@des.qld.gov.au](mailto:offset@des.qld.gov.au)*

*All forms, templates, guidelines and other resources for Environmental Offsets are available online at:*

<https://www.qld.gov.au/environment/management/environmental/offsets/resources>

## Information resources to assist in assessment

The following resources may be appropriate:

- Environmental Offset legislation and related materials (including the Environmental Offsets Policy and Environmental Offsets General Guide) are available online at [www.qld.gov.au](http://www.qld.gov.au) search 'Environmental Offsets'.
- All forms, templates, guidelines and other resources for Environmental Offsets are available online at: <https://www.qld.gov.au/environment/management/environmental/offsets/resources>
- Significant Residual Impact Guideline, Department State Development, Infrastructure and Planning, 2014. The Significant Residual Impact Guideline is available online at: <https://dsdmipprd.blob.core.windows.net/general/dsdip-significant-residual-impact-guideline.pdf>
- To identify any existing legally secured offset areas:
  - Undertake a current title search. Title searches can be purchased by contacting Titles Queensland online at [www.titlesqld.com.au](http://www.titlesqld.com.au) or by calling (07) 3497 4379; and
  - Contact the Department of Environment and Science on 13 QGOV (13 74 68) or email [offset@des.qld.gov.au](mailto:offset@des.qld.gov.au)
- It may be appropriate to hire an environmental or planning consultant to assist in preparing this assessment. Further information on finding and choosing the right consultant is available online at [www.qld.gov.au](http://www.qld.gov.au) search 'Finding an environmental consultant'.

## Need more help?

- Seeking pre-lodgement advice with the SARA before lodging a development application is strongly recommended. This will identify any potential issues or additional information requirements. This is particularly important for those applications that are likely to require rehabilitation or environmental offsets to meet the Pos.



*For more detailed information about the role of SARA and seeking pre-lodgement advice, visit*

<https://planning.statedevelopment.qld.gov.au/planning-framework/state-assessment-and-referral-agency>

- If it is likely that the proposal is a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999*, early advice should be sought from the relevant Commonwealth agency.
- Further information on the environmental offsets framework (including offset delivery policies, guides and calculators, and advanced offsets and environmental offset providers) is available online at [www.qld.gov.au](http://www.qld.gov.au) search 'Environmental Offsets', or by contacting the Department of Environment and Science on 13 QGOV (13 74 68) or email [offset@des.qld.gov.au](mailto:offset@des.qld.gov.au)
- For assistance with vegetation management queries, including assistance with obtaining accessing information resources such Queensland Globe, please contact the Veg Hub on phone 135 VEG (135 834) or email [vegetation@resources.qld.gov.au](mailto:vegetation@resources.qld.gov.au).

# Appendix 15: Measuring tree height and measuring slope

## Measuring tree height

There are several methods you can use to measure the height of trees.

### Using specialist tools

The clinometer is a tool commonly used by foresters to measure tree heights and slope angles. If you have a clinometer, please follow the manufacturer's instructions for use.

There are also many videos online that show how to make and use a simple clinometer, using a protractor, some string and a small weight.

The heights of the crown can also be measured using a laser instrument called a hypsometer. If the top of the tree is not directly above the base of the trunk, it is important to also measure the point directly below the highest point of the tree canopy to get an accurate crown height.

### Pencil (or stick) method

This is a very simple method requiring only a pencil (or small straight stick) and a tape measure. Take a pencil (or small stick) and move several metres or more away from the tree (refer to Figure 6).

Outstretch your arm and hold the pencil so that you can measure the height of the tree on the pencil (e.g. line up the top of the pencil with the top of the tree and slide your thumb along the stick to correspond with the base of the tree). You may also need to move closer or further away from the tree to allow a length of the pencil to align with the height of the tree.

Keeping your thumb in the same position and lined up with the base of the tree (and your arm still outstretched), turn the pencil at the base of the tree by 90°. Note the location on the ground that lines up with the top of the pencil. Mark or note this point on the ground and then measure the distance from this point to the base of the tree. This is the height of the tree.

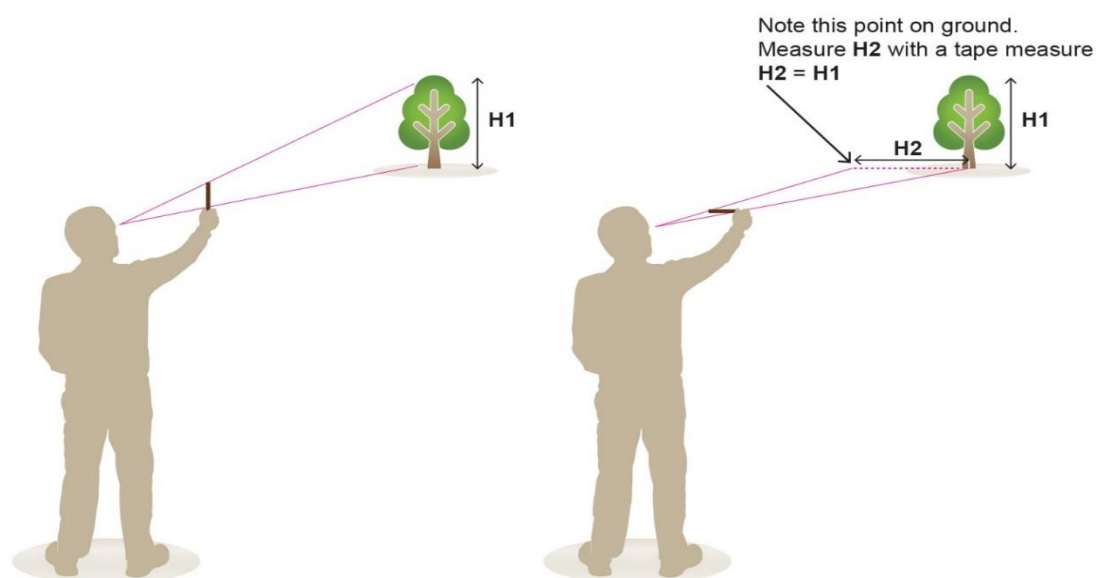
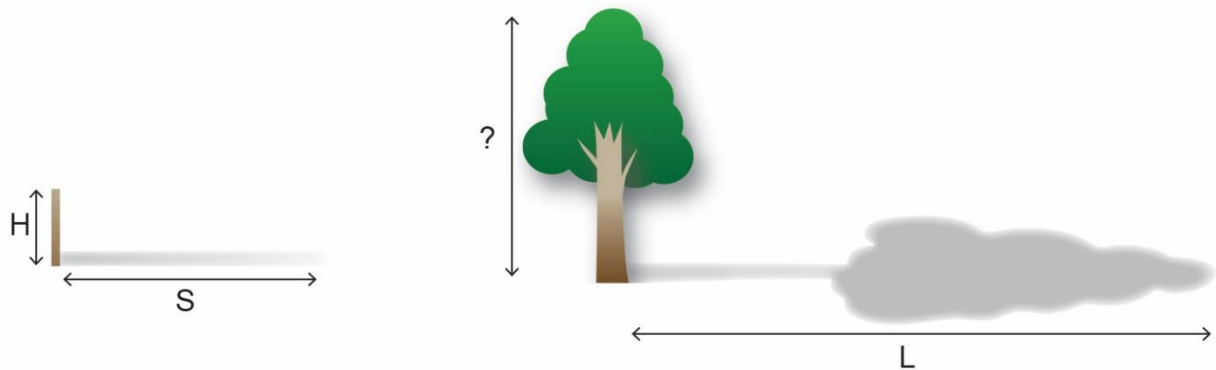


Figure 6: The pencil method

### Stick and shadow method

For this method you will need to see the tree's shadow on the ground. You will also need a tape measure, a calculator and a stake of any height to hammer into the ground. Refer to Figure 7.



**Figure 7: Stick and shadow method**

1. Hammer a stake vertically into the ground so you can see its shadow. Record the height of the stake above ground ( $H$ ) and the length of the stake's shadow ( $S$ ) from the base of the stake.
2. Measure the length of the tree's shadow from the centre of the base of the tree ( $L$ ).
3. Ensure that both shadow measurements are taken within a few minutes of each other, using the same units (e.g. metres).
4. The tree's height may be estimated using simple proportions:

$$\text{Height of tree} = \frac{\text{Height of stake above ground (H)}}{\text{Length of stake's shadow (S)}} \times \text{Length of tree shadow (L)}$$



## Stick method 2

You can measure the height of trees by projecting a right-angled triangle (one that includes a  $90^\circ$  angle) using your arm, a stick and your line of sight (refer to Figure 8).

1. Find a straight stick or length of dowel about 750 mm long. Holding the stick upright in your outstretched hand and in front and level with your eye, measure the horizontal distance from your eye to the stick. Mark the same distance on the stick.
2. Grasp the stick at the mark and hold it out in front of you with your arm fully extended and at eye level. The stick must be held vertically pointing upwards. (The distance from your eye to the base of the stick should equal the length of the stick above your hand.)

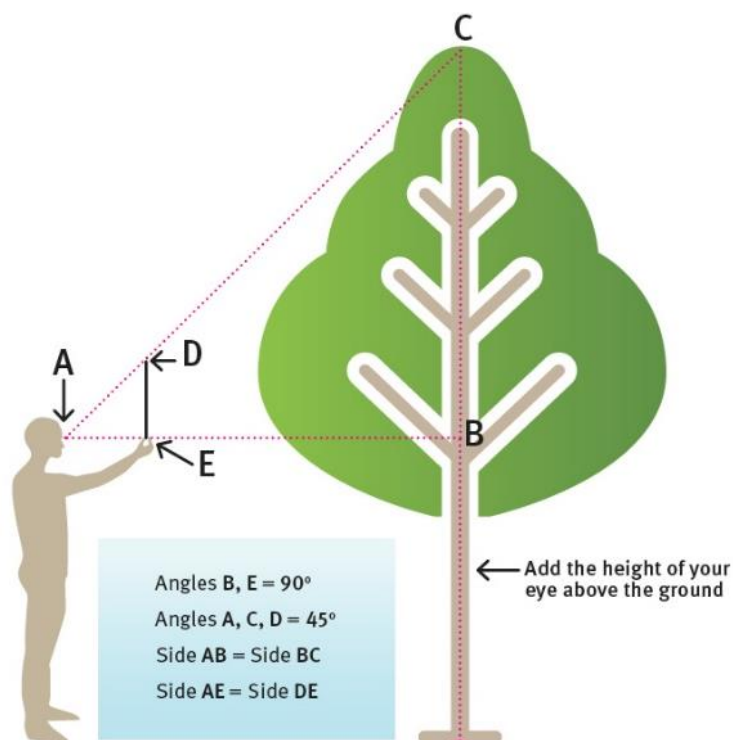


Figure 8: Diagrammatic representation of stick method 2

3. Walk toward or away from the tree until the tip of the stick is visually lined up with the top of the tree. It's often easiest to walk along the contour so the mark on the stick remains lined up with a point on the tree the same height as your eye. When sighting the top and bottom of the stick, move your eyes rather than your head.
4. The height of the tree will be the distance from your eye to the tree trunk (measure this distance with a measuring tape) plus the height of your eye above the ground.

$$\text{Height of tree} = \text{distance A to B} - \text{eye height}$$

5. If no long-distance measuring device is available, calibrate your step (the walking distance between your two feet) or pace (walking distance for two steps) over a known distance (e.g. 20 metres). Then measure the distance from A to B in paces or steps and convert to metres.

## Smartphone apps

Various smartphone apps are available that claim to help measure tree height. Care should be taken if using these because:

- the accuracy may depend on the quality of your phone (and may require some manual calibration)
- some apps still require subsequent trigonometric calculations
- the reliability and accuracy of the app may not be proven.

If such apps are used, it is recommended to first verify the results with other methods before using the apps operationally.

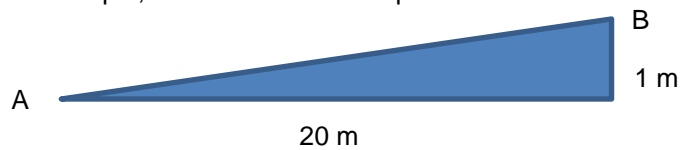
## Measuring slope

### Definition

For the purposes of the code, slope is measured in percentages, and is defined as the change in vertical height relative to the change in horizontal distance multiplied by 100.

$$\text{Slope (\%)} = \frac{\text{Vertical distance}}{\text{Horizontal distance}} \times 100$$

For example, for this illustrated slope from A to B:



$$\text{Slope (\%)} = \frac{1}{20} \times 100 = 5\%$$

The location of points A and B should be selected so the line between them is representative of the slope in question. For example, don't choose high or low spots in the landscape for these points.

### Using a clinometer

The Suunto clinometer (clino) is a tool commonly used by foresters to measure tree heights and slope angles. There are many types of clinometers that are relatively inexpensive. If you can have access to one, ensure it has a scale to measure percentage slope.

Using a clinometer is one of the most accurate methods of measuring slope—differences in vertical height and horizontal distances may be measured accurately in order to calculate the slope. The exact measuring method will depend on the equipment used; please follow the manufacturer's instructions.



Figure 9: Surveyor's level

### Homemade clinometer

You can also make your own clinometer using a large protractor with a hole drilled (as shown in Figure 10), string and a small weight.

Attach the string through the drilled hole and tie the small weight to the other end of the string. When the flat edge of the protractor is held horizontally, the string should hang down vertically and indicate 90° on the protractor.

To measure a slope, look along the flat edge of the protractor and line it up with a point in the distance (up or down slope) that is the same height above the ground as your eye. The aim is for the flat edge of the protractor to be parallel to the slope you are measuring.

Using the location of the string against the protractor's scale, read off the angle observed—that is, the angle between the 90° line on the protractor and the location of the string.

This angle is in degrees and needs to be converted to a percentage. To do this, use a scientific calculator to find the 'tan' of this number and then multiply by 100. For example, if you measured 3°, then:

$$\tan (3^{\circ}) \times 100 = 5.2\% \text{ slope}$$

### Using a line level

You will need string, two stakes, a line level and a measuring tape.

Hammer one stake into the ground on the upper side of the slope. Tie a long piece of string (e.g. 10 metres) to the base of the stake and lay the string out directly down the slope.

Walk down to near the end of the string. Hammer the second stake vertically into the ground and pull the string tight to the base of the second stake. Ensure both stakes are in locations that are representative of the overall slope. Raise the string up the second stake until it is perfectly horizontal, as indicated by using the line level along the top of the string.

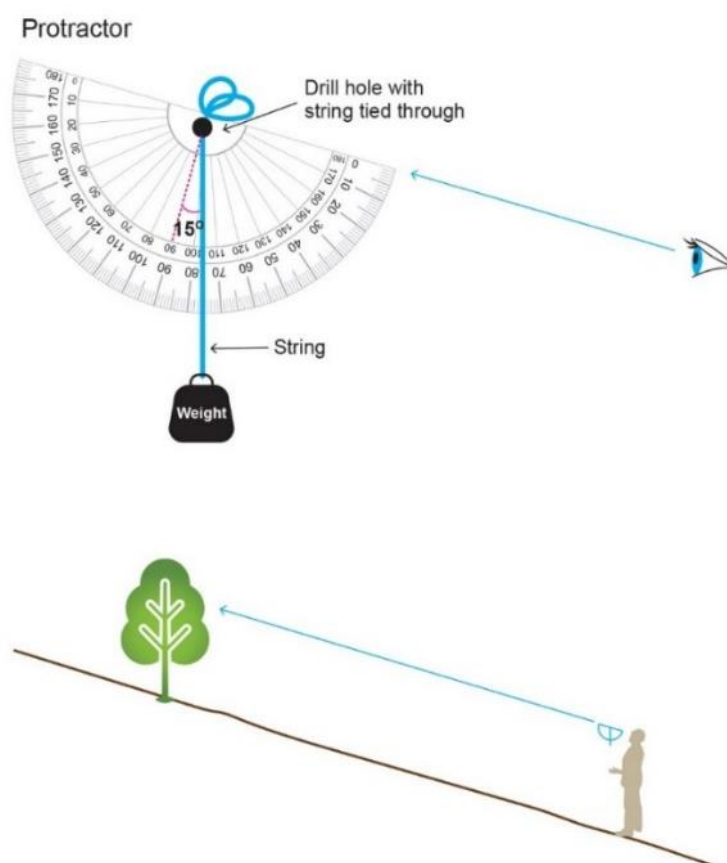
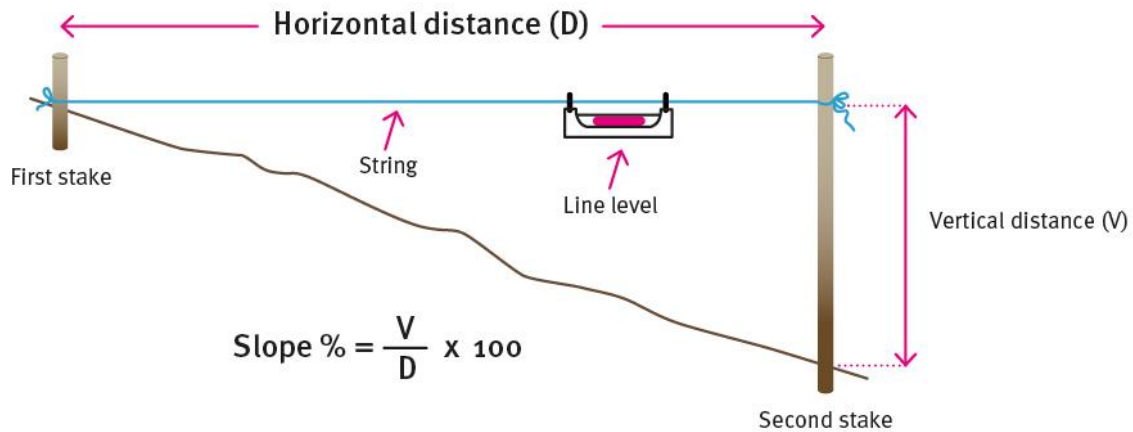


Figure 10: Home-made clinometer and its use in the field



**Figure 11: Using a line level to measure slope**

Measure the second stake between the string and the ground. This is the vertical distance for the slope calculation. Keep the string tight and measure the length of string between each stake. This is the horizontal distance for the slope calculation.

Use these two distances to calculate slope as shown in Figure 11.

### Topographic map

Topographic maps show contour lines that join points of equal elevation. Contour lines that are spaced evenly apart indicate a fairly uniform slope. If ground observations confirm a uniform slope, you can calculate the slope by determining vertical height from adjacent contour lines and the horizontal distance from the scale bar of the map.

For example, if the contour interval is 10 metres, this is the vertical height for the slope calculation. If the horizontal distance between the contour lines is 400 metres (using the scale bar on the map), the slope will be  $(10 \div 400) \times 100 = 2.5\%$ .

Care should be taken to ensure you locate yourself accurately on the map and that the land between the contour lines is of uniform slope. If not, other more reliable methods should be used.

### Smartphone apps

Various smartphone apps are available that claim to measure slope. Care should be taken if using these because the:

- accuracy may depend on the quality of your phone's components
- reliability and accuracy of the app may not be proven.

If such apps are used, it is recommended to first verify their results with other methods before using the apps operationally.