



# Model Erosion and Sediment Control Plans For Rural Development

## Introduction

The landscape of northern Australia is ancient and highly weathered. An intensive seasonal climate brings heavy rainfall, large areas of waterlogging and extended dry periods. The combination of fragile soils and climatic factors exacerbate the impacts of soil and vegetation disturbance, even on relatively small areas.

To protect the productivity and sustainability of land use in the Northern Territory, land development needs to be managed to control soil loss. Erosion and Sediment Control Plans (ESCPs) are an essential tool for this purpose.

## Description

This Fact Sheet presents a model example of the type of map-based ESCP used when clearing native vegetation for rural land development.

**Note:** removal of more than 1.0 ha of native vegetation requires a Development Permit for land clearing. Further information is available at [www.lrm.nt.gov.au/land-clearing](http://www.lrm.nt.gov.au/land-clearing), including the Department of Land Resource Management (DLRM) **Land Clearing Guidelines (2010)**.

This Fact Sheet should be used in conjunction with DLRM Fact Sheet **Erosion and Sediment Control Plans For Rural Development** for additional information on ESCP content and structure.

The Model ESCP includes:

- an ESCP **Overview** Map,
- an ESCP map for **Improved Pasture** development and
- an ESCP map for **Orchard** development.

These maps are also available in A3 format at <http://www.lrm.nt.gov.au/soil/management/factsheets>.

This example does not have an accompanying report document, although additional text or diagrams can be used when preparing an ESCP, including drawings of erosion control structures.

## Content

ESCP plans should display proposed clearing / development areas and relevant site information such as sensitive areas (e.g. riparian zones or sinkholes), as well as an appropriate set of erosion and sediment control measures for the proposed development.

## Proposed works should address:

**Drainage control** – managing volumes and velocity of storm water runoff, to prevent formation of concentrated flows that encourage rill and gully erosion. This can be achieved with structures such as graded banks for broad land surfaces, and diversion banks for tracks, fire breaks and service corridors. See:

*Erosion and Sediment Control Guidelines Technical Note No. 8 **Diversion Banks***

*Erosion and Sediment Control Guidelines Technical Note No.17 **Graded Banks***

**Erosion control** – protecting exposed soil surfaces to prevent or reduce erosion caused by raindrop impact and storm water surface flows. This can be provided by grasses and other ground covers. Wet season cover or green manure crops are essential for horticultural land use.

**Sediment control** – trapping and retaining sediment / topsoil and preventing it from being lost off site or accumulating in local waterways. Buffer zones with good ground cover and grass filter strips can be used for this purpose.

## Layout

The recommended format for ESCP maps is A3. Maps should include a title and legend, with a map scale bar and north arrow. Also include contours and/or arrows to indicate direction of fall (drainage) across the development site. Include a coordinate grid or otherwise geo-reference key points.

Proposed works can be indicated with symbols on the map, with an accompanying legend. A side bar or insert can be used for **Construction Notes**, which outline works and timing. Note key contact personnel and include the NT Portion or Lot number in map titles. See examples attached.

## Contact Details

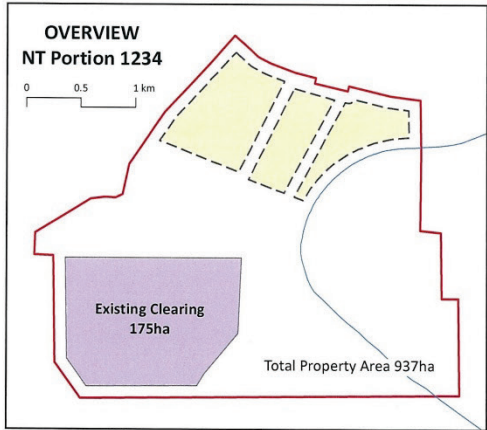
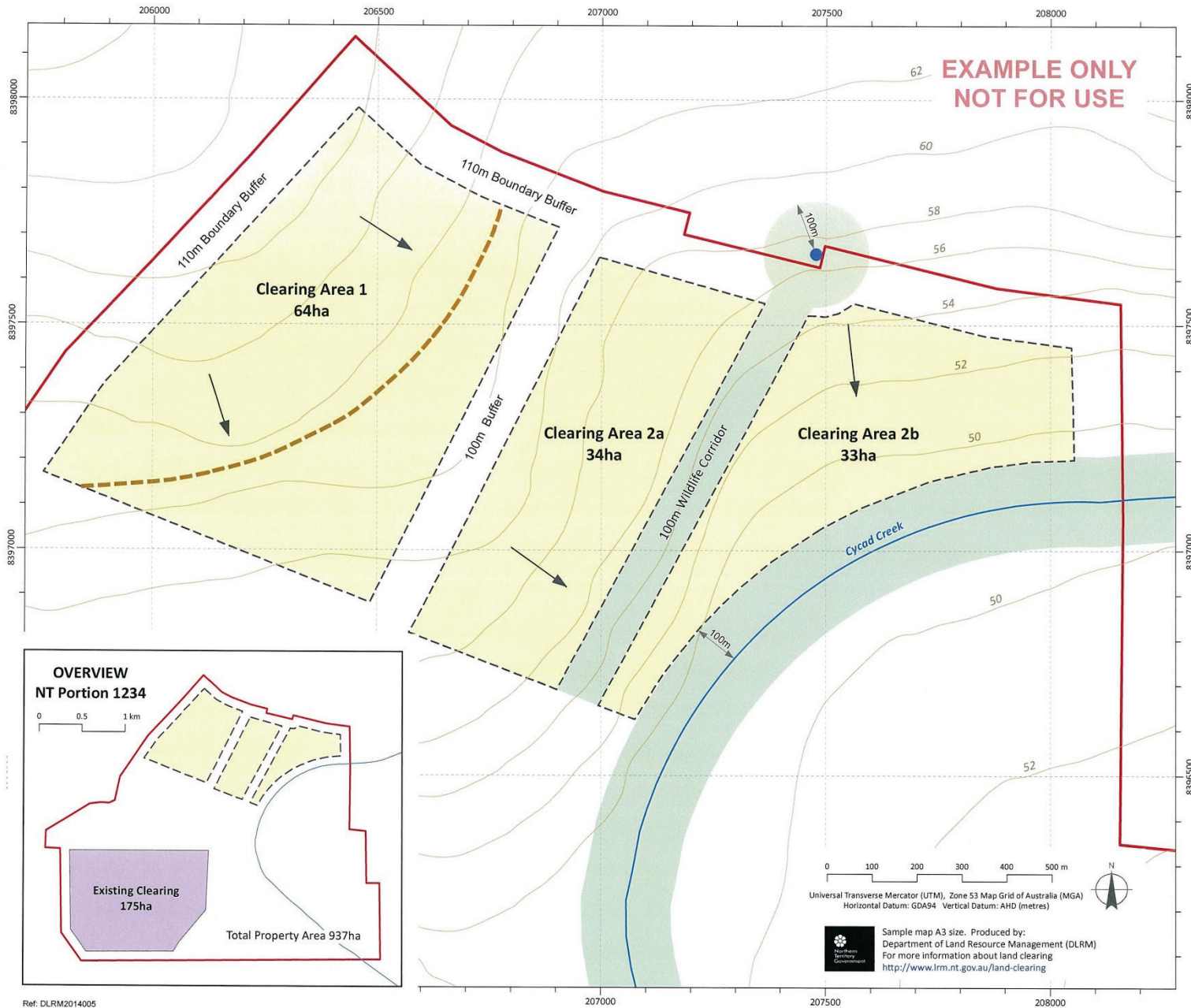
For further information contact the DLRM Land Management Unit in your region. Additional Fact Sheets, Technical Notes and Erosion and Sediment Control Guidelines are available at: [www.lrm.nt.gov.au/soil/management](http://www.lrm.nt.gov.au/soil/management).

### Land Management Unit - Rangelands Division

**Darwin:** Phone (08) 8999 4572

**Katherine:** Phone (08) 8999 4454

**Alice Springs:** Phone (08) 8951 9208



**Construction Notes**

- Permitted clearing area digital line-work to be obtained from DLRM
- Contractor to inspect and flag all constraints and clearing areas prior to commencement of works
- Clearing Area 1: 64ha
- Clearing Area 2: 67ha
- Existing clearing on property: 175ha
- Total clearing property: 306ha (32.55% of total property area)
- All boundary buffers 110m wide
- Wildlife corridor 100m wide
- Buffer along creek 100m from the edge of the primary bank
- 100m buffer from the edge of sinkhole
- 100m buffer between proposed clearing areas
- Slope in clearing areas maximum 2%
- Graded bank to be surveyed and constructed in Clearing Area 1
- All ripping, mounding and ploughing to be done across the slope
- Improved pasture species to be planted: Sabi, Buffel, Jarra and Cavalcade

**Contacts**

Site Manager: John Smith ph: 0400 000 000  
 Contractor: Smith Dozers ph: 0411 111 111  
 Property Owners: Gillard & Co ph: 0422 222 222  
 DLRM: ph: (08) 8973 8838

**Legend**

- Sinkhole
- Cycad Creek
- Direction of Slope
- Contours (2m interval)
- Graded bank
- ▭ Property Boundary
- ▭ Vegetation Buffer 100m
- - - Clearing - Proposed
- ▭ Clearing - Existing

**Data Source**

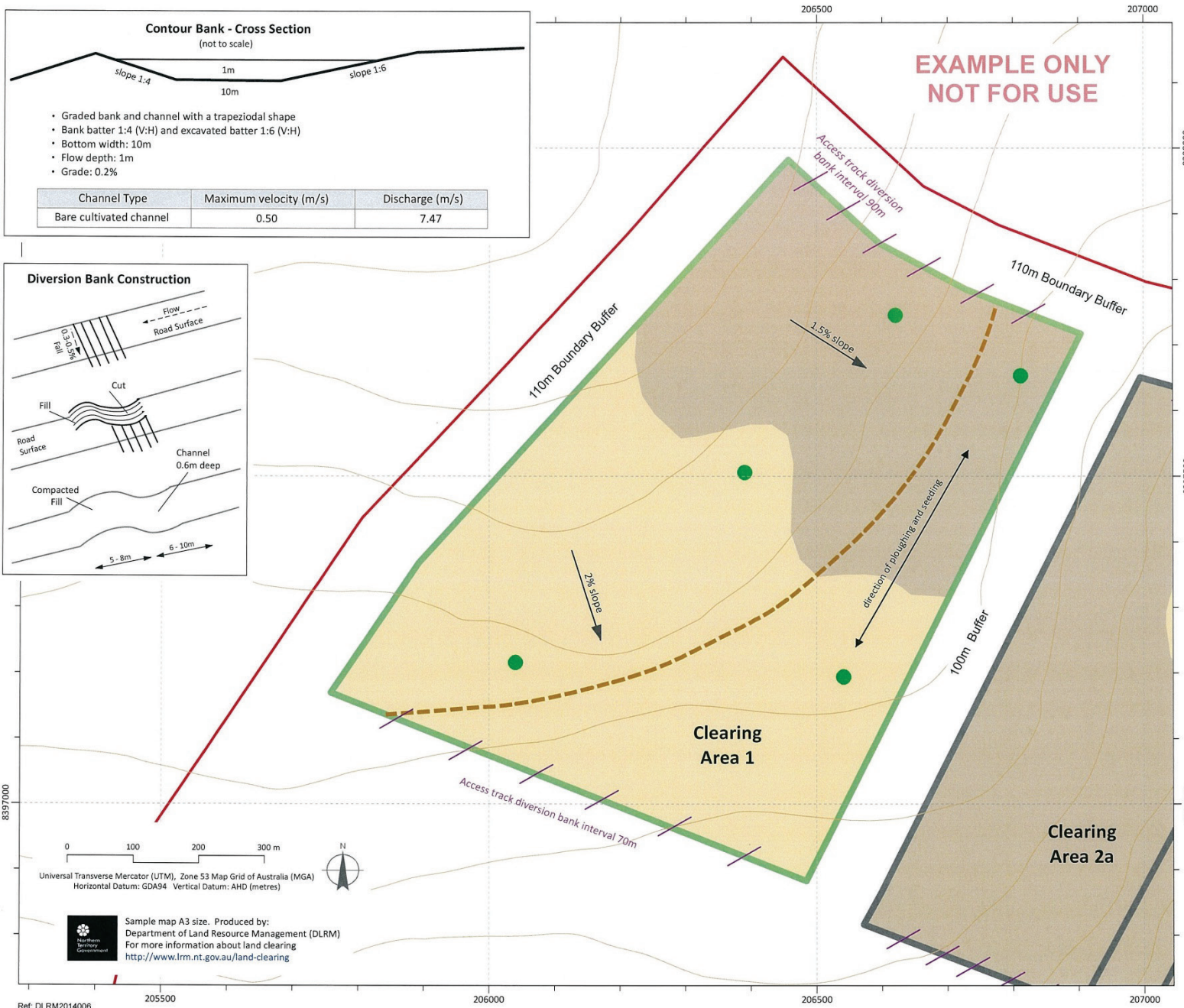
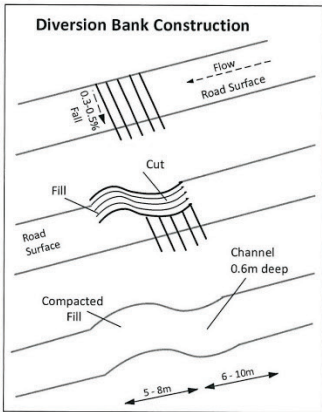
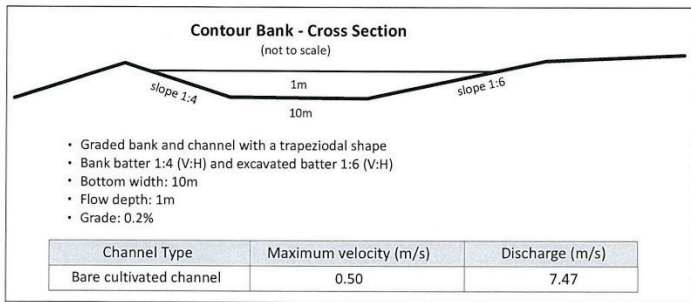
Boundary/Contours:  
 Dept Lands Planning Environment  
 © Northern Territory of Australia  
 Background Image: Google Earth - date

**Erosion and Sediment Control Plan**

Date: 26/09/2014  
 Drawing No: ESCP-001

**NT Portion 1234**  
**101 Territory Rd, Katherine**  
**Proposed Clearing Areas**  
**Overview**





#### Construction Notes

- Permitted clearing area digital line work to be obtained from DLRM
- Contractor to inspect & flag clearing area prior to commencement of works
- Five shade clumps (approx. 10m diameter) to be flagged and retained
- Early Nov 2014 – clear paddock & leave felled veg in situ until Sep 2015
- Clearing method – chain using two bulldozers equipped with GPS
- Early Sep 2015 – windrow felled veg at right angles to contour & burn (Permit to Burn to be obtained from Bushfires NT)
- Early Sep 2015 – survey & construct one trafficable graded bank at fall of 0.2%, per DLRM Technical Note No.17
- Early Oct 2015 – construct diversion banks on boundary per DLRM Technical Note No. 8
- Late Oct 2015 – fence paddock
- Early Nov 2015 – chisel plough across contour and direct seed improved pasture (Sabi, Jarra & Cavalcade)
- No stock introduced until pasture established (12 – 24 months after planting).

#### Contacts

Site Manager: John Smith ph: 0400 000 000  
 Contractor: Smith Dozers ph: 0411 111 111  
 Property Owners: Gillard & Co ph: 0422 222 222  
 DLRM: ph: (08) 8999 4454

#### Legend

- Shade Clumps
- Diversion Banks
- Direction of Slope
- Contours (2m interval)
- Graded Bank
- Deep Red Kandasol soils
- Sandy Brown Kandasol soils
- Property Boundary
- Access Track
- Firebreak

#### Data Source

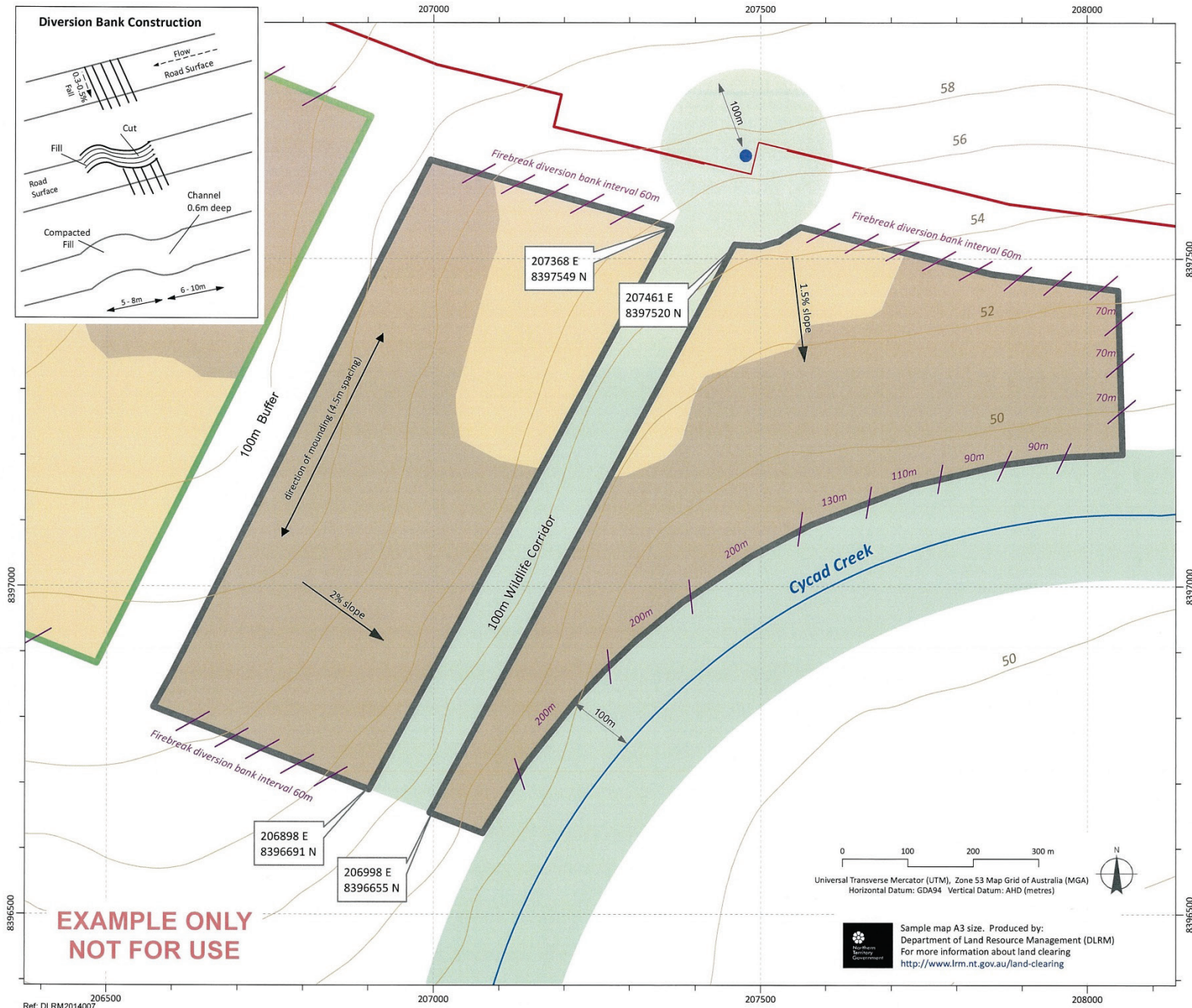
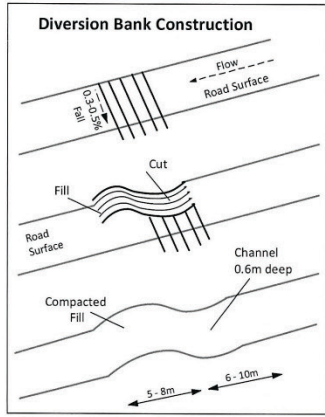
Boundary/Contours:  
 Dept Lands Planning Environment  
 © Northern Territory of Australia  
 Background Image: Google Earth - date

Erosion and Sediment Control Plan  
 Date: 26/09/2014  
 Drawing No: ESCP-002

NT Portion 1234  
 101 Territory Rd, Katherine  
**Clearing Area 1**  
**Improved Pasture Paddock**







**EXAMPLE ONLY  
NOT FOR USE**

- ### Construction Notes
- Permitted clearing area digital linework to be obtained from DLRM
  - Contractor to inspect & flag clearing area prior to commencement of works
  - 100m buffer along creek on western boundary to be confirmed prior to commencement of works
  - 100m buffer from edge of sinkhole on northern property boundary to be confirmed prior to commencement of works
  - Early Nov 2014 – clear paddock & leave felled veg in situ until Sep 2015
  - Clearing method – chain using two bulldozers equipped with GPS
  - Early Sep 2015 – windrow felled veg at right angles to contour & burn (Permit to Burn to be obtained from Bushfires NT)
  - Early Sep 2015 – construct diversion banks on boundaries
  - Early Nov 2015 – prepare soil using offset disc plough to rip & mound across slope at 4.5m spacing
  - Early Nov 2015 – lay irrigation, plant mango trees & seed inter-row spacings with Jarra grass
  - 100m wide wildlife corridor to be permanently retained & regularly maintained
  - Firebreaks, maintained using slasher.

### Contacts

Site Manager: John Smith ph: 0400 000 000  
 Contractor: Smith Dozers ph: 0411 111 111  
 Property Owners: Gillard & Co ph: 0422 222 222  
 DLRM: ph: (08) 8999 4454

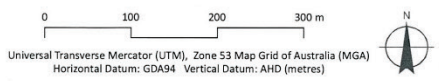
- ### Legend
- Sinkhole
  - Diversion Banks
  - ➔ Direction of Slope
  - Contours (2m interval)
  - Deep Red Kandasol soils
  - Sandy Brown Kandasol soils
  - Buffer 100m
  - ▭ Property Boundary
  - ▭ Access Track
  - ▭ Firebreak

### Data Source

Boundary/Contours:  
 Dept Lands Planning Environment  
 © Northern Territory of Australia  
 Background Image: Google Earth - date

**Erosion and Sediment Control Plan**  
 Date: 26/09/2014  
 Drawing No: ESCP-003

**NT Portion 1234**  
 101 Territory Rd, Katherine  
**Clearing Area 2**  
**Mango Orchard**



Sample map A3 size. Produced by:  
 Department of Land Resource Management (DLRM)  
 For more information about land clearing  
<http://www.lrm.nt.gov.au/land-clearing>