connectionsproject

# Landowner Environmental Handbook

August 2018

GOULBURN-MURRAY WATER

# Contents

# 1. Introduction

## 1.1. Use of this handbook

This handbook has been provided by GMWCP to you (landholders) to assist you in managing works on your property.

The handbook provides:

- General environmental guidance for all personnel working on private property.
- Guidance notes for Project Managers.
- This handbook has been prepared with consideration for the *EPA Victoria Environmental Guidelines for Major Construction Sites.*

The Handbook is a guide only and you should seek advice if you are in any way unsure of how to manage and implement farm works. GMWCP makes no guarantees that the information contained in this handbook is current or comprehensive for the situation for your works.

## 1.2. Environmental principles and objectives

### 1.2.1. Principles

The guiding principles of this handbook are:

- Minimal damage to the environment
- To work in a responsible and sustainable manner

### 1.2.2. Objectives

- For farm works to be managed in an environmentally sustainable way.
- For landholders to be aware of measures they can take to reduce harm to the environment in doing construction works.

### 1.2.3. Suggested Environmental Commitments

1. Avoid and/or minimise the loss of native vegetation and threatened flora species.
2. Avoid and/or minimise impacts to threatened fauna species, native fish species and habitat for native fauna.
3. Prevent the discharge of turbid water from construction activities into waterways and local stormwater systems.
4. Protect cultural heritage sites and items, which may be located within and near construction sites.
5. Identify and if present appropriately manage acid sulphate soils so as to prevent environmental impacts.
6. Minimise introduction and spread of pest plants and animals

7. Prevent the spread of animal borne, plant borne or soil borne diseases attributable to the works activities.
8. To minimise the amenity impacts resulting from landholder connection works.

### 1.2.4. Key legislative requirements

Environmental legislative requirements are reflected within this handbook. Specifically:

- Lopping, pruning or removal of native vegetation must be in accordance with planning approvals or exemptions and the Planning and Environment Act 1987.
- Aboriginal Cultural Heritage must not be disturbed without an approved Cultural Heritage Management Plan or Cultural Heritage Permit.
- Works must be done in accordance with any planning permit / Whole Farm Plan conditions and the Planning and Environment Act 1987.

### 1.2.5. Awareness and communication

- You should familiarise yourself with this handbook and use it as a guide for managing works.
- This handbook may also be useful for any contractors you may have doing works on your property.

# 2. GUIDANCE

## 2.1. Planning & general site management

- **Approvals:** Before on-site works commence, confirm that all relevant specific site requirements have been identified. Statutory approvals should be identified and received before works start.
- **Conditions of Approvals:** All works should be conducted in accordance with conditions stipulated in your approvals. Ensure your contractor has read, understands and is aware of these conditions.

## 2.2. Environmental Incidents

- In an emergency contact 000 or 112 (if by mobile).
- For poisons information contact 13 11 26.
- Report all environmental incidents within a Goulburn Murray Water irrigation channel or drain to Goulburn-Murray Water on 1800 064 184
- Environmental Incidents include:
  - Fire/explosion
  - Fish deaths and Fauna mortalities
  - Chemical or oil spills
  - Uncontrolled sediment discharge
  - Identification of Aboriginal Place

## 2.3. Use of vehicles, mobile plant & other equipment

- Maintain vehicles and equipment. Do pre-start checks on all vehicles before work.
- Stay on designated access tracks.
- Don't speed – excessive speed can be dangerous and produce dust.
- In dry condition, utilise a water cart to minimise dust generation.
- Secure or cover your load to prevent loss of materials or spills.
- Where possible refuel at least 50m away from waterways / drains / irrigation channel or environmentally sensitive areas. Undertake refuelling in a bunded area to avoid spills onto unsealed ground or into irrigation channels, waterways and drains.

## 2.4. Greenhouse Gas Emissions

Every litre of petrol saved reduces greenhouse gas emissions by 2.3 kilograms. Every litre of diesel saved reduces greenhouse gas emissions by 2.7 kilograms.

Follow these simple tips for fuel efficient driving:

- Switch off the engine – don't leave the vehicle idling
- Choose the right gear
- Service the vehicle regularly
- Use the correct tyre pressure

## 2.5. Emissions, noise and vibration

- Let neighbouring landowners know about work hours prior to starting on site.
- If stock located in adjacent properties, notify landowners to relocate the stock as they may react to loud noise and/or flashing lights.
- Where sites are located within 200m of a neighbour's farm house, restrict operating hours to between 7am and 6pm weekdays and 7am to 1pm Saturday. Minimise vehicle movements outside of these hours, including delivery, loading and unloading operations or alternatively discuss work times with your neighbour and agree to acceptable working times.
- Noise from vehicles and powered machinery and equipment on-site should not exceed the manufacturer's specifications, based on the installation of a silencer. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipment.

## 2.6. Chemicals, fuels and oils

- Use in accordance with product labels, material safety data sheets (MSDS) and Safe Work Method Statement. MSDS's can be obtained from the product manufacturers website and will contain information on how to manage and handle the product.
- Know what is on site. Only keep what you need and store safely (refer to current MSDS). Avoid storage of incompatible chemicals together.
- Keep MSDS on site.
- Store chemical, fuels and oils within a bunded area away from traffic areas, drains, irrigation channel or waterways or areas where they can collect and mix with rainwater.

- Bunding and containment of chemicals and hazardous substances should be in accordance with the EPA Bunding Guidelines Publication 347.1 October 2015. The bund must be impervious to the chemicals stored in it, have the capacity to contain 100% of the largest tank, plus 10% of the capacity of the second largest tank.
- Cover bunded areas where possible. If not, regularly remove rainwater build up, however if contaminated by chemical (eg. oil on surface) dispose of via an appropriate licensed contractor.
- Establish spill containment and clean up measures for the site to avoid or minimise potential spills into water or onto unsealed ground. Examples include bunding, double skinned tanks, spill response materials.
- When using chemical products such as paints, epoxy or sand blasting, use a structure that reduces the dispersion of chemicals or metals to the environment.
- Follow the 4 'C' principle when spills occur (only if safe to do so and using appropriate protective equipment):
  - 'Cease' the spill at source as quickly as possible.
  - 'Contain' the spill using available containment equipment.
  - 'Clean-up' using appropriate spill containment material.
  - 'Contact' your supervisor.
- Spill kits should include materials suitable to manage the type of chemicals, fuels or oils that are stored at the site.

## 2.7. Fire

- During the Fire Danger Period, grass along access tracks and channel banks that are accessed by vehicles during construction are to be slashed to a height of 100 mm to minimize the risk of fire.
- Contractors should obtain "hot work" permits where necessary.

## 2.8. Managing materials

### 2.8.1. Materials & Stockpiles

- Only store the materials you need.
- Secure lightweight material.
- Keep site tidy, clean and free from litter.
- Take all waste from site and dispose of appropriately.
- Stockpile topsoil and reuse on site.
- Do not stockpile materials along the road reserve.
- Keep any stockpiled topsoil or spoils:
  - Separated.
  - Away from waterways, native vegetation or protected areas.
  - Gently sloped (<2:1horizontal to vertical).
  - Protected from wind and rain.
- Minimise the transfer of materials between sites (eg. soils).

### 2.8.2. Borrow Pits

- Soil and sand can be sourced from borrow pits on your property. Where required the borrow pit should be constructed in accordance with the Whole Farm Plan. If the borrow pit diverts water from regulated or unregulated streams, the borrow pit should also be constructed in accordance with the requirements of the farmer-held Take and Use Licence and related Works Licence.
- Remove topsoil and stockpile on site to minimise the spread of weeds and disease. Do not transport off site.

## 2.9. Waste

### 2.9.1. General Waste

- Implement the “3 Rs”, Reduce – Reuse – Recycle.
- Remove all waste from site.
- Recycle construction waste such as concrete, steel and timber.
- Burning of waste (incl weeds and grasses) is not permitted.

### 2.9.2. Prescribed Waste

- If asbestos is encountered, stop work immediately and contact the environmental health officer at your local council for further information.
- Identify other potential prescribed wastes (used oil or chemicals), store separately from other waste types and dispose of via an Environment Protection Authority (EPA) licensed / approved contractor at an EPA licensed facility. Pink and green copies of the EPA Transport Certificate should be obtained when removing prescribed waste. The pink copy should be sent to the EPA within 7 days. The green copy (along with the purple on return from the disposal facility) should be kept for your records.
- If you come across any unknown chemicals or waste, or are unsure of the disposal method for waste contact the EPA.
- Refer to EPA Victoria’s website for details of prescribed waste types (publication 448.3), licensed transporters and disposal facilities (www.epa.vic.gov.au/waste/iwdb/default.asp).

### 2.9.3. Weeds & Disease

Reduce the risk of spreading weeds and diseases by:

- Ensure that all earthmoving plant and equipment are cleaned of all soil, vegetation or other organic matter before arriving at or leaving your property.
- Where noxious weeds are identified within your property, prior to leaving the construction site, all construction equipment is to be cleaned of soil, vegetation or other organic matter.
- Import only weed and disease free soil, sand, gravel and stone onto your property. If using gravel, make sure it is free of die-back infected gravel.
- Keeping to designated access tracks where possible
- Keeping soil disturbance to a minimum.

Diseases that may occur within the Goulburn-Murray Irrigation District with potential to spread via soil and vegetation, include:

- Anthrax – is primarily a disease of domesticated and wild plant eating animals. The animal tends to contract the disease by ingesting contaminated soil attached to grass roots whilst grazing. It is unlikely that the disease transmits through water when an infected animal falls in a waterway.
- Bovine Johne's disease – is caused by bacteria and affects cattle. The bacteria can survive 12 or more months in a favourable environment, such as swampy or wetter areas of a farm.
- Phytophthora (Dieback Gravel) - An introduced soil-borne pathogen that can destroy vegetation. The use of Phytophthora affected gravel is prohibited in the construction of roads, bridges and reservoirs.
- Phylloxera – is an aphid that lives on the roots of grapevines and is spread by soil movement. The effects of phylloxera aphids feeding on roots, cause progressive decline of infested vines growing in clay or loam soils.

### 2.9.4. Examples of weeds within the Goulburn-Murray Irrigation District

<table>
<tr><td> 

African Boxthorn</td><td> 
Ivy Leaf Sida</td></tr>
<tr><td> 
Blackberry</td><td> 
St John' s Wort</td></tr>
<tr><td> 
Gorse / Furze</td><td> 
Hardhead Thistle</td></tr>
<tr><td> 
Patterson Curse</td><td> 
Prairie ground Cherry</td></tr>
<tr><td> 
Silverleaf nightshade</td><td>(reference: www.dse.vic.gov.au)</td></tr>
</table>

- For more information on weeds in your region contact your Catchment Management Authority (CMA) or Department of Environment and Primary Industries (DEPI).

## 2.10. Water quality & sediment control

***Access tracks***

- Avoid constructing access tracks with steep slopes.
- Slope tracks away from waterways and adequately drain.

***Exposed surfaces***

- Stage works to limit the time an area is left exposed.
- Protect areas of high erosion to minimise sediment run-off (eg. sediment retention such as straw bales, silt barriers).

***Erosion and Sediment Control***

- Implement erosion and sediment control measures in accordance with the EPA Publication No. 275 Construction Techniques for Sediment Pollution Control (May 1991).

***Concrete and vehicle washout***

- Concrete wash out should be done within a bund and away from waterways, irrigation channel and drains. Allow concrete to dry and dispose of appropriately.
- Only reuse concrete in works where there is minimum contact with water e.g. access tracks, infilling of banks.

***Dewatering / rewatering of channels or drains***

- If the velocity of discharge is high, reduce by using beaching, rocks, logs, straw bales etc.
- Dewater to the upstream side of the coffer dam within the irrigation channel.
- When dewatering avoid discharging into or runoff to natural waterways.
- When rewatering a worked section of channel or drain, allow the sediment to settle before releasing downstream.

***Acid Sulphate Soils***

- Acid Sulphate soils are soils, sediments or rocks that contain elevated levels of metal sulfides that may generate sulfuric acid when exposed to oxygen through excavation. Runoff and leachate from acid sulphate soils may lead to fish deaths, impacts on water quality and farming activities.

After dewatering or excavation, inspect for acid sulphate soils, they are identified by:

- Mid to dark grey to dark greenish-grey coloured soils or sediments;
- Bright yellow, orange, or red coloured precipitates on exposed sediments.
- Offensive “rotten egg gas” odour.
- If you believe there is acid sulphate soil, do not disturb the soil and contact the EPA.

If acid sulphate soils are disturbed during construction:

1. Cease work in the immediate vicinity
2. Cover with soil and water to reduce oxygen availability
3. Contain any surface runoff; and
4. Contact the EPA

***Flooding and Drainage***

- If temporary drainage works are required, these works will be designed to isolate construction runoff from catchment runoff and avoid disturbing existing flooding and drainage systems where practical
- Temporary works should be removed following the completion of construction and existing flooding and drainage systems reinstated, where the modified flooding and drainage systems is not part of the final design.

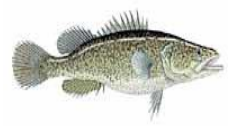
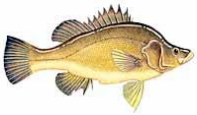
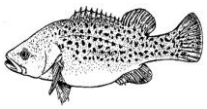
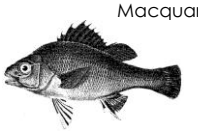
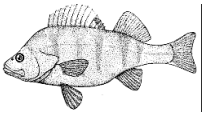
***Approvals***

- If construction activities disturb an existing flooding and drainage systems ensure that the correct permit has been obtained.

## 2.11. Aquatic species

- Surveillance is to be undertaken during channel dewatering, and any identified native fish, tortoises, frogs and crustaceans should be relocated. If native fish, tortoises, frogs or crustaceans are relocated then the landholder will require a Wildlife Act Authorisation from DEPI.
- Dispose of dead fish appropriately. European carp and other non-natives are not to be returned to the water. Options for disposal of non-native fish include:
    - Collection for reuse. Live carp can be collected by commercial enterprises such as Charlie Carp.
    - Local landfills can be contacted to accept dead fish.
    - Burial. If not practical to remove, burial on site should be on high ground, away from the channel or other waterways (> 200 metres if possible (EPA specifications)) and at least 2 metres above groundwater.

### 2.11.1. Examples of native fish

<table>
<tr><td>Murray Cod<br>  </td><td>Golden Perch<br>  <br>(Yellow Belly)</td><td>Silver Perch<br>  </td></tr>
<tr><td>Trout Cod<br>  </td><td>Macquarie perch<br>  </td><td>Reference:<br>www.depi.vic.gov.au)</td></tr>
<tr><td colspan="3">Examples of non native (exotic) fish</td></tr>
<tr><td>European Carp<br>  </td><td>Redfin<br>  </td><td>Reference:<br>www.depi.vic.gov.au</td></tr>
</table>

## 2.12. Fauna

- Avoid interfering with all native wildlife, as it is protected by legislation. If construction work appears to pose a risk of injury, mortality or stress, or the animal does not move off of its own accord, cease construction works and allow time for the animal to move away.
- As part of the morning start up inspect the construction site and any plant or equipment left overnight for fauna.
- If during construction the Growling Grass Frog (pictured below) is encountered, construction is to cease and the Department of Environment and Primary Industries contacted. Construction shall not recommence until the Growling Grass Frog can be safely relocated to a new habitat.
- If a snake is identified, works will cease until the snake has departed the site and not been seen in the vicinity of the site.
- Call Wildlife Victoria on 1300 094 535 for assistance with treatment or removal of injured wildlife from the site.

**Growling Grass Frog**

## 2.13. Native Vegetation

- Only remove/destroy or lop the minimum amount of native vegetation necessary to carry out works. All native vegetation is to be removed or lopped in accordance with the approvals, permits or local planning exemptions.
- All vegetation should be inspected and any resident wildlife appropriately removed or ushered away prior to the removal or lopping of vegetation.
- Native vegetation or habitat requiring protection should be avoided and clearly marked or fenced off. Fencing should consist of plastic flagging or wire mesh placed outside the drip line (area under the canopy) or alternatively the tree can be permanently protected with a rural style fence.

## 2.14. Heritage

- If during excavation or construction works an Aboriginal place or European heritage artefact is identified, stop all work in the immediate vicinity and refer to your approvals guidelines document provided.
- Aboriginal Places requiring protection should be avoided and clearly marked or fenced off.

### 2.14.1. Examples of cultural heritage sites

A description of the types of Aboriginal places expected to occur within the works area include:

- **Scarred Tree:** Aboriginal people frequently removed bark from trees for a variety of purposes (containers, shelters, canoes). Bark removal 'scars', which vary in size, are found in a wide range of environments. They are common along major rivers, lakes and flood plains, particularly in stands of mature box and red gum. This category also includes tree scarring that resulted from other Aboriginal practices (i.e. cuts to the tree centre to extract resources such as possums).
- **Artefact Scatter:** A surface scatter usually comprises an area containing stone artefacts but can also contain other material such as hearths, bone (human and nonhuman) and ochre. Surface scatters represent places where Aboriginal people have camped, processed food, and/or used and maintained stone tools.
- **Mound:** Aboriginal mounds are raised circular or oval earthen features thought to be the product of Aboriginal people repeatedly living and/or cooking at the same location over a long period of time. Mounds often contain burnt stone, clay balls, charcoal, animal bones, stone tools, shells and occasionally Aboriginal burials.
- **Aboriginal Burial / Human Remains:** Aboriginal burials, comprising of human remains, occur in a range of environments and landforms in Victoria. They are particularly common in sand sheets and lunettes adjacent to rivers and lakes in Northern Victoria. Aboriginal burials occasionally occur in mounds and shell middens.
- **Fresh Water Shell Midden:** Fresh water shell middens are accumulations of shell fish, collected, cooked and consumed by Aboriginal people. Freshwater mussel and river mussel are the most frequent components of these shell middens. This place type often occurs as a thin layer of shell exposed in cross-section of a river or creek bank, but can also occur as a scatter of shell on the ground surface.
- **Post-contact Aboriginal Place:** Aboriginal post-contact places are locations dating to the period after European settlement that hold cultural associations, and significance to, Aboriginal people. Post-contact places are identified through oral history and historical records, and reflect Aboriginal historical associations and places, such as Aboriginal missions, camps, and the location of massacres.
- **Intangible Aboriginal Place:** Some Aboriginal places have social and spiritual significance to Aboriginal people. These places do not necessarily have tangible remains. They can encompass sacred places associated with Aboriginal traditional practices and spiritual beliefs as well as locations important to Aboriginal people for their natural resources.

(Source: GMWCP Cultural Heritage Report Ochre Imprints)

| | | |
|---|---|---|
|  |  |  |
| **Aboriginal Scar Tree** | **Group of artefacts** | **Aboriginal Middens. Middens are deposits of food refuse and are often shellfish remains.** |
| (reference: www.aborginalaffairs.vic.gov.au) | | |

# 3. NOTES & CONTACTS