



FAQs—Code of Practice for Industrial, Retail and Commercial Stormwater Management

About this code

Why do we need a Code of Practice for Industrial, Retail and Commercial Stormwater Management?

In October 2003, the *Environment Protection (Water Quality) Policy 2003* (Water Quality Policy) came into force, defining broad water quality objectives and providing clear direction concerning environmental responsibilities for all levels of industry and the community.

This new code of practice provides specific details on how every business can meet the stormwater management aspects of the Water Quality Policy. This has been done by creating a set of generic rules that apply to all businesses, which have been classified as either mandatory ('**must**') or advisory ('**should**').

By complying with this code, you will be helping to clean up your local stormwater and keep our creeks and beaches healthy, while complying with the Water Quality Policy and thus avoiding fines or environment protection orders.

Who does this code of practice apply to?

The 'Code of Practice for Industrial, Retail and Commercial Stormwater Management' applies to every business in South Australia in relation to how we manage the rain that falls on us—its use and abuse.

Traditionally, stormwater management has focussed on businesses in urban areas, but this code covers all businesses including commercial buildings, shopping centres, mobile business operators, home-based businesses, and rural industries such as grain farmers, orchardists and vignerons.

This code applies to businesses holding EPA environmental authorisations (including licences), except where the authorisation has specific stormwater related conditions. This code does not apply to normal residential homes, but does apply to homes which are registered business addresses (i.e. a business is conducted from that property).

Is this the only code of practice?

No There are a number of codes of practice, most of which are linked to the Water Quality Policy; they include codes for the:

- Building and Construction Industry—Stormwater Pollution Prevention
- Local, State and Federal Governments—Stormwater Pollution Prevention
- Milking Shed Effluent
- Vessels on Inland Waters
- Aquifer Storage and Recovery

Codes of practice are created to provide specific direction and detail for specific activities or industry sectors to help them to comply with the Water Quality Policy.

How do I apply the rules of the code to my business?

Once you know **what** parts of the code apply to your business, the specific details of **how** you achieve it are normally outlined in the EPA's guidelines

There are a large number of guidelines available on the EPA web site to assist businesses with the options that are available to them, covering most topics within the code. The guidelines have been designed to provide general advice and are therefore not mandatory.

Can I be fined for not complying with this code of practice?

You cannot be directly fined for failing to comply with a code of practice, but you can be issued with an environment protection order (EPO) which directs you to comply with the code of practice within a specific period of time.

Failure to comply with the EPO will result in a \$300 fine or legal proceedings filed against you by the EPA in the Environment, Resources and Development (ERD) Court.

You can be fined and/or prosecuted for direct breaches of the Water Quality Policy.

Who will enforce the code of practice?

Persons authorised under the Environment Protection Act may enforce the code of practice, including staff from the EPA, local councils and other regional government authorities.

I don't have the time to hear about all the legislation and the principles behind the code! What do I need to do?

This is the first code to include a summary in the front of the document, which can be used as a 'checklist'. If you comply with all the items in the checklist, then you will comply with the code and with the stormwater aspects of the Water Quality Policy. It must be noted that the description of the items in the checklist are in an abbreviated form and you may need to refer to the body of the text for clarification.

Stormwater

What is stormwater and how is it different from sewage?

The **sewer system** typically collects wastewater from toilets, bathrooms, kitchens and other activities within the home, as well as wastewater generated in factories and businesses. At a sewage treatment plant, this wastewater has contaminants removed and disinfected before it is released to the environment. Commercial and industrial properties must obtain a discharge permit from SA Water to protect the sewer pipe system and to safeguard the biological processes at the treatment plant.

Stormwater is rainfall runoff from roofs, car parks, roads, ovals and paddocks—in fact any outside areas. It flows into street gutters, roadside drains, underground concrete pipes, open channels and creeks, and it ends up in the sea. Stormwater undergoes very little treatment to remove any contaminants before it enters the sea.

Is stormwater important?

The quality and quantity of the stormwater has a huge influence on the ecosystems of the creeks and rivers it flows into. Poor stormwater management can cause the loss of various species of plants and animals as well as erosion and flooding problems.

Much of South Australia's water supply for agriculture and urban uses comes from farm dams, rivers, wetlands and reservoirs such as those in the Mount Lofty Ranges, all of which depend on good quality stormwater. The management of stormwater also influences the water balance in the soil and the movement of water into underground water supplies.

Stormwater as a resource

There has been increased concern that South Australia is facing water supply shortages due to increasing population and the declining quality and quantities of water in the River Murray and the Mount Lofty Ranges.

In the past, stormwater has been regarded as an engineering problem, particularly in the built-up areas of Adelaide, due to the risk of heavy rain causing flooding. Water authorities are now closely examining all the possibilities to capture and reuse stormwater.

This code of practice seeks to minimise the pollution of stormwater so that its potential for reuse can be maximised.

You say that I have to identify the stormwater drains, how do I do that?

This can be done by either:

- creating a map of the property with the stormwater outlets clearly marked on it. The map is to be displayed in a prominent location.
- erecting permanent signs next to the stormwater exist points (e.g. side entry pits, open channels and grates),
or
painting a stormwater sign on the surface around the stormwater exit points. Contact your local council or your local catchment board for standardised wording and symbols for stormwater drains.

What's in the code?

The code says that all liquids have to be bunded—what does that mean?

To bund all liquids means to place the container of liquid into a designated area which does not allow the liquid to escape into the nearby environment, particularly the stormwater system. More details are available in the EPA Guideline *Bunding and Spill Management*.

There are some exceptions where bunding is not required:

- tanks for water supplies (borewater, rainwater, distilled and de-ionised water)
- water contained in earth structures (wetlands, stormwater detention ponds and wastewater storages ponds)
- containers of liquids normally regarded as of a type and volume used in a 'normal' domestic situation—for example, 1 litre of liquid detergent
- underground tanks and tanks attached to vehicles (such as radiators and fuel tanks)
- special cases where it can be clearly demonstrated that the risk to the environment is extremely low, or that other safety measures have been implemented where bunding would be prohibitively expensive or impractical.

If fuels are to be stored in the bunded area, there are extra requirements under regulations controlled by DAIS (Bund volume to be 25% of the total volume within the bund).

What does it mean to produce and implement a spill management and contingency plan?

A contingency plan is a summary of all the things that could go wrong and what actions need to be taken by specific persons to minimise environmental harm. This includes the loss of water or power supplies to a process; pipes or tanks rupturing; containers of raw material or product being dropped or spilt; and emergencies such as fire.

A spill management plan is a strategy of what to do if a liquid is spilt, with the appropriate capture and clean-up equipment readily available. The plan should be based on the relevant material safety data sheets (MSDS) and should include emergency phone numbers.

In an emergency, everyone needs to know where to look for the contingency plan instructions, know what their role is and have access to the equipment, including the spill clean-up kits.

It is important that staff and contractors are fully trained in the use of these systems and that abbreviated versions of the contingency and the spill management plans are displayed in prominent positions for easy access by staff.

It is your legal responsibility under the Environment Protection Act to take all reasonable and practical steps to prevent pollution. The implementation of an environmental management system in your business will allow you to identify accidental risks and prevent accidents occurring. By going through the steps of creating a contingency plan and a spill management plan, you demonstrate to the

EPA (and to the courts, if necessary) that you have carried out your legal duty under the Act.

There's a clean-up kit at work, is that sufficient?

It may be, if it has been identified as the only thing needed in your contingency plan and that the signage around the spill kit is sufficient. You must ensure that the spill kit is kept up to date by regularly checking that the kit is complete (including restocking clean-up materials that have been consumed at the last spill and checking that clean-up equipment is in place).

The spill kit needs to be kept in an accessible position and staff should avoid placing goods or vehicles close to the kits.

It is important that the management of each site regularly undertakes a risk audit of the property to ensure that the contingency plan has been updated to account for any process changes.

Is the loss of materials an issue—it is only a small amount?

The losses of small amounts of materials, whether building wastes, grass cuttings, fertiliser, pesticides, grain or mulch, all add to the problem of pollution in our waterways. These materials break down when they get into water, causing oxygen to be removed from the water, producing anaerobic conditions (rotten egg smell) and killing fish. Even when inert materials like soil and concrete cutting wastes are washed into the stormwater system, it causes the water to become cloudy and muddy, which can affect both the plant and animal life downstream.

What does it mean to 'clean and maintain work areas where chemicals are used or stored' and to 'keep hard surfaces regularly swept'?

Clean work areas increase the chance of recovering any spilt material. Good cleaning practices will also protect your staff from OHS&W issues and assist with work efficiencies.

If large amounts of pollutants are collected on hard paved surfaces, it is likely that any stormwater treatment devices will become overloaded. It is essential that property owners and operators schedule the cleaning of the hard paved areas (concrete, bitumen and paving brick surfaces). This is particularly relevant to properties where bulk solids are being handled, such as garden supplies, transfer stations and grain depots.

The frequency of cleaning depends on issues such as the type of process chemicals in use, their toxicity, accessibility and the complexity of the cleaning process.

What is a litter management system and do I need one?

As a business owner, you have a responsibility to manage the litter on your property, including paper, plastic, fast food wrappers, cigarette butts, leaves and twigs. A litter management system is a site-specific method of managing the litter on your property.

For small shop owners, a litter management system could be as simple as having a staff member designated to sweep up the litter daily as a part of their normal duties. Businesses with larger areas may have a procedure in place to use a portable vacuum unit to keep their property clean. In some areas, like large shopping centre car parks, litter traps may have to be installed and maintained. In the end, you must be able to demonstrate to an EPA-authorized officer that you have a system in place to manage litter.

What sort of stormwater treatment system do I need to have for the hard paved area on my property?

A treatment system for stormwater is any process or device that will remove pollutants and can use either natural or man-made processes. These include:

- sediment traps/pits/sumps
- gross pollutant traps
- oil-absorbent products (socks, pillows and booms)
- grassed areas with porous bases
- swales
- sand and rock filter beds
- sediment ponds
- wetlands.

It is important to know that the majority of the pollutants on hard surfaces are washed off in the early part of the rain event, commonly called the 'first flush' effect. This means that you don't have to treat all the rainfall run-off from your site.

Depending on the pollutants on your hard paved areas (both visible and microscopic), the type of treatment will vary. For the majority of cases in urban areas—for example, a standard car park—the pollutants will be air-borne vehicle emissions (hydrocarbons and heavy metals), engine oil drips, soil, leaves and vegetation. These pollutants can be removed by the use of commercially available oil-absorbent materials and sediment traps, or by allowing the first portion of the runoff to soak into a garden bed, grassed area or a rock-filled trench.

Do car yards need to have treatment from their hard paved areas?

Yes. There are a number of alternatives for a treatment system; here is one simple way.

Many car yards already have strips of irrigated lawn or garden bed along the front boundary. Unfortunately, most of these are raised above the surrounding hard paved area, using a concrete kerb. If the lawn strips and garden beds were recessed slightly below ground level, it would allow the stormwater to soak in, as well as any water from washing cars, with the added bonuses of saving water and removing a tripping hazard.

What are disturbed soils?

Disturbed soils are areas of bare earth or poorly vegetated areas, occurring as a result of earthworks, overgrazing or overuse by traffic. This does not include naturally occurring bare earth areas such as the desert and coastal sand dunes.

Disturbed soils and poorly vegetated areas have the potential to cause significant local erosion, particularly where the stormwater enters local stormwater systems and creeks. Soil carried downstream from eroded areas causes damage to local creek environments by smothering the plants with sediments and blocking out the light to animals living on the creek bed.

How do I manage disturbed soils or a poorly vegetated area?

The management of these areas requires a two-pronged approach: the remediation of the area (revegetation), and the installation of devices to prevent sediment being transported off-site by stormwater. The revegetation of an area requires careful planning: determining the most appropriate plants to use, timing the planting, controlling weeds and vermin, and arranging supplementary watering. This may require input from a natural resource specialist.

In the meantime, action needs to be taken on the eroded areas to prevent further erosion by using contour ploughing, sedimentation ponds, sediment fencing or rock and gravel linings.

Is it OK to put the water from the testing of my fire sprinkler system into the street or stormwater drain?

No. The water from these systems often contains sulphides (smells like rotten eggs) and dissolved iron (rust), which can affect the animals and plant life in the creeks downstream.

The water from the testing of fire sprinkler systems is classed as a listed pollutant under schedule 4 of the Water Quality Policy, and a fine can be issued to persons putting it into the stormwater system.

The water from my air conditioner runs onto the ground and out into the street—is that legal?

No. The water from evaporative air conditioners can be saltier than mains water and can be detrimental to fresh water plants and animals in our waterways. As the water from all air conditioners is classed as a listed pollutant under schedule 4 of the Water Quality Policy, a fine can be issued to persons putting it into the stormwater system.

The best way to deal with air conditioning wastewater is to direct it onto an area of garden as a method of saving water (ensure that you use salt tolerant plants). Alternatively, it can be piped into the sewer system or the wastewater treatment (septic tanks).

What does the code mean when it talks about sub-surface water?

Sub-surface water is water which has gathered in an area below normal ground level and is often of an unknown quality. This includes water in basements, service pits (e.g. Telstra cable pits), excavation trenches (including well point de-watering), building excavations and quarry/mine de-watering.

What do I do with sub-surface water?

It is best if the water can be returned to the soil it came from through re-injection, a soakage trench or on-site irrigation, providing it has not collected any extra contaminants. If this is impractical, the water can be discharged into the stormwater—providing that the water is better quality than the water in the water body downstream (if this is unknown, schedule 2 of the Water Quality Policy can be used as a guide).

Alternatively, disposal to a municipal wastewater treatment system (e.g. sewer or STEDS) can be considered. It must be noted that approval from the operators of these systems may be needed and that certain discharge standards need to be met.

The final option is to have the water removed by a licensed liquid waste contractor.

In some cases, where the ground water has a salinity similar to that of seawater, disposal directly to the marine environment may be possible if it can be demonstrated that the water has less pollutants than the receiving waters.

Why do I have to worry about cigarette butts?

Most of the 1,500,000 cigarettes butts produced each day in Adelaide end up on the sidewalk, in the car park or the gutter, and ultimately in the stormwater drain as the biggest single source of litter. They cause environment problems as the butts do not decompose readily and the toxins that harm humans are leached out in water.

Businesses should do their part by providing strategically placed bins for cigarette butts and having a program in place to have them regularly emptied.

I'm planning to build a new building and to modify an old one, what do I have to consider in terms of stormwater?

You should consider installing rainwater tanks wherever possible and have them plumbed into your building to save water.

When modifying and resurfacing open areas, you need to consider the use of porous paving which allows the stormwater to soak into the soil below, thereby reducing the pollutants entering the stormwater drains. The installation of stormwater detention tanks, swales or stormwater treatment devices should also be considered. In some cases, gravel or recycled bitumen or asphalt can be used as a suitable porous surface that reduces stormwater runoff and is a cost effective alternative.

New car parks should include some of the ideas above, with the runoff directed into garden beds and vegetated areas where possible.

Where can I get more information about how to do the right thing by the environment?

Information sheets and codes of practice are available for business and industry from:

Environment Protection Authority

Telephone: (61 8) 8204 2004

Freecall: 1800 623 445 (SA non-metropolitan callers)

Fax: (61 8) 8204 9393

E mail: epainfo@epa.sa.gov.au

www.environment.sa.gov.au/epa/

Other sources

Stormwater Pollution Prevention Projects

www.catchments.net

Local councils

www.lga.sa.gov.au

Housing Industry Association

www.buildingonline.com.au/

(08) 8346 5091

KESAB environmental solutions

www.kesab.asn.au

(08) 8234 7255

Master Builders Association

www.mbasa.com.au/

(08) 82117466

Savewater

www.savewater.com.au

WaterCare

www.watercare.net

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