

# Construction environmental management plan (CEMP)

## Updated April 2024<sup>1</sup>

EPA 1095/24: This guideline describes the impacts of construction activities and the information that should be included in a construction environmental management plan (CEMP) to ensure activities will be managed to avoid or mitigate environmental or nuisance impacts.

# Introduction

Construction activities include demolition work, site preparation, building maintenance or repair work, the operation of vehicles entering or leaving the construction site, and activities (at or within the immediate vicinity of a construction site), of persons who perform work at the site, or tasks connected with work at the site<sup>2</sup>.

Activities at construction sites can result in the discharge of polluted water that detrimentally affects local watercourses or the marine environment, emission of noise, dust, or odours that cause nuisance or potential health impacts, the escape of litter from the site, or excavation or importation of unsuitable fill materials. All of these potential off-site impacts should be considered prior to construction occurring and an effective plan should be developed to manage impacts on the natural environment, and to prevent foreseeable nuisance and health impacts on sensitive receivers<sup>3</sup>.

- <sup>3</sup> A sensitive receiver is defined in *Evaluation distances for effective air quality and noise management* (2019) to be: any fixed location (including a house, building, other premises or open area) where:
  - human health may be affected by air emissions from existing or proposed development, and/or
  - property damage or loss of amenity may be caused by air emissions from the existing or proposed development, and/or
  - noise-affected premises (whether existing or future, based on land use zoning) that are in separate occupation from the existing or proposed noise source and used for residential or business purposes or constitute a quiet ambient environment set aside for public recreation and enjoyment, and/or
  - plants, animals or ecosystems that may be affected by air and/or noise emissions.

<sup>&</sup>lt;sup>1</sup> Issued July 2018

<sup>&</sup>lt;sup>2</sup> Construction activities are defined in the <u>Environment Protection (Commercial and Industrial Noise) Policy 2023</u>.



# **Regulation of construction activities**

Regulation of the environmental impacts of construction may be undertaken through *the Local Nuisance and* <u>Litter Control Act 2016</u> (LNLC Act) or the <u>Environment Protection Act 1993</u> (EP Act), depending on the circumstances.

The LNLC Act was enacted to regulate local nuisance and littering. Local nuisance is any adverse effect on the amenity of an area that is caused by noise, vibration, odour, smoke, fumes, aerosols, dust, or dead or alive animals that unreasonably interferes with the enjoyment of the area by persons occupying a place within or lawfully resorting to the area. For the purpose of the LNLC Act, 'litter' includes not only hazardous and general litter, but also stormwater runoff, and vehicle drag-out containing building or construction material. Causing a 'local nuisance' or littering while undertaking construction activities may contravene the LNLC Act.

In accordance with the LNLC Act, a council is the principal authority for dealing with local nuisance and littering in its area. The Act does not apply in relation to an activity licensed under the EP Act. Instead, the EPA is responsible for addressing nuisance associated with licensed activities.

If a council has reason to believe that an offence of environmental nuisance or littering has, or may have, caused material or serious environmental harm within the meaning of the EP Act, it must notify the EPA as soon as practicable, so that the EPA can address such matters.

The EP Act provides the regulatory framework to protect South Australia's environment including land, air and water. It is administered through a suite of legislative and non-legislative policies and regulatory tools that impose mandatory provisions with penalties to address environmental issues. Subordinate legislation includes environment protection policies (*Environment Protection (Air Quality) Policy 2016* (AQ EPP), *Environment Protection (Commercial and Industrial Noise) Policy 2023* (Noise EPP), *Environment Protection (Waste to Resources) Policy 2010* (Waste to Resources EPP) and the *Environment Protection (Water Quality) Policy 2015*. The EP Act and associated environment protection policies contain provisions that may apply to construction activities.

# What is a CEMP

A CEMP describes how activities undertaken during the construction phase of development will be managed to avoid or mitigate environmental or nuisance impacts, and how those environmental management requirements will be implemented.

A CEMP should be prepared when there is a risk that construction activities could cause environmental harm or environmental nuisance. Triggers for preparing a CEMP could also include any of the following (or any other relevant) circumstances applying to the site:

- It is located in the catchment of a water-sensitive region such as a water protection area declared under the EP Act (including River Murray, Mount Lofty Ranges and South East), Adelaide coastal waters, and Lower and Upper Spencer Gulf.
- It is located near surface or underground waters.
- It is located near a sensitive receiver.
- Site contamination may exist.
- Waste soils, construction and demolition waste may be imported or removed.



# When the EPA will seek a CEMP

A development approval issued by a relevant authority (local council, State Commission Assessment Panel, Minister for Planning or Governor) can have conditions relating to the minimisation of environmental harm and local nuisance during the construction phase. A common condition is the requirement to prepare a CEMP.

When assessing a referred development application (DA) or impact assessed development, the EPA may (when it relates to the DA referral trigger) seek a CEMP as part of that assessment, or advise or direct that a condition requiring preparation of a CEMP to the satisfaction of the EPA and/or the relevant authority be attached to the approval.

In order to create a clear distinction between local council and EPA responsibilities in relation to local nuisance issues (given the interaction between the LNLC Act and EP Act), the EPA will only seek a CEMP during the DA assessment process or advise or direct a condition requiring a CEMP when any of the following situations apply:

- The proposal relates to an activity currently licensed under the EP Act and there is concern about construction-phase impacts on the environment and sensitive receivers.
- The proposal is for a retail petrol station that includes the removal of existing underground fuel storage tanks.
- The referral is for impact assessed development being assessed in accordance with the <u>Planning</u> <u>Development and Infrastructure Act 2016</u> that poses a high risk of causing material or serious environmental harm during the construction phase (due to the location, scale and/or nature of the proposal).
- The proposal involves any other activity that the EPA determines has a 'priority risk' when assessed according to standard EPA environmental risk-based analysis procedures.

# **Contents of the CEMP**

A CEMP needs to contain sufficient information to demonstrate that potential impacts on the environment, and public health and amenity have been identified, and suitable measures to mitigate those impacts will be applied prior to and during construction.

## **General project information**

A CEMP should include the following general information about the project:

- a description of the site location and the receiving environment, including the location of sensitive receivers
- a description of the project construction works to be undertaken, including timeframes and construction hours
- identification and analysis of potential environmental impacts, including environmental hazards and risks, proposed mitigation measures and any residual risks
- identification and description of the management measures to be implemented to mitigate linked source-receptor-exposure pathways



- identification of a person or persons with responsibility for implementing the CEMP who:
  - must ensure construction activity resulting in noise with an adverse impact on amenity does not occur or commence except as permitted by the Noise EPP. The responsible person may be the owner, occupier, contractor or head contractor for the site.
  - should have authority to call for immediate cessation of works if an issue arises.
  - should have authority to undertake investigations into the issue that has arisen.
  - should have authority to call for a recommencement of works after investigation and mitigation of impacts.
  - should have responsibility for managing communications and complaints.
  - should have responsibility for notifying the EPA if serious or material environmental harm from pollution is caused or threatened in the course of an activity undertaken by that person, as soon as reasonably practicable after becoming aware of the harm or threatened harm<sup>4</sup>.
- identification of appropriate reporting and verification measures
- description of appropriate contingencies to be implemented if management measures are identified as being ineffective and/or result in environmental nuisance.

The CEMP could also include information on any higher-level environmental management systems, work procedures, document control, corrective action and review procedures.

## **Communication and complaint resolution**

Due to the nature of construction activities there is a potential for nearby residents to be adversely affected. Maintaining open and constructive communications with potentially affected parties can help to reduce conflicts and complaints.

A CEMP should describe the measures to engage and maintain communication with those who may be affected by construction activities and to manage any complaints that are received. Those measures should include:

- · identification of the person with responsibility for managing communications and complaints
- a communications plan that outlines how and when consultation with potentially affected parties will be undertaken, and how potentially affected parties will be informed in advance of works that may have an off-site impact
- maintenance of a complaint register to record the following information:
  - the name and address of any complainant
  - the time and date the complaint was received
  - a description of the complaint
  - the activity or activities and any associated equipment that gave rise to the complaint
  - the action that was taken to resolve the issues that led to the complaint

<sup>&</sup>lt;sup>4</sup> Refer to section 83 of the EP Act for further information



- the date the complaint was resolved and documentation of complainant's level of satisfaction with the actions to resolve the issue
- notifying the relevant authority or, in relation to an EPA licensed activity, the EPA of complaints regarding environmental nuisance (particularly noise and dust) and the actions undertaken to resolve the complaint, and of any non-conformance with the CEMP that results in environmental nuisance.

# Management of the environmental issues

## **Air quality**

Demolition of existing development, broad-scale removal of vegetation cover, road construction, landscaping works, drainage construction and vehicle movements, may leave soil surfaces exposed and vulnerable to the erosive powers of wind.

Creation of dust during construction activities can have an impact on the health and amenity of those living or working near a construction site. Scientific research has drawn strong links between air pollution and adverse health, particularly in susceptible parts of the community, which includes children, the elderly and the sick. Fine particles, known as  $PM_{2.5}$  and  $PM_{10}^5$ , can be carried by wind and have been found to be associated with respiratory and heart disease. While larger dust particles are not normally associated with direct health effects, they can cause irritation or nuisance to people by soiling washing or collecting on surfaces such as roofs and cars, as well as being a respiratory irritant.

#### Addressing air quality in a CEMP

A CEMP should describe the measures to be taken to minimise air quality impacts from construction activities. The measures should include:

- minimising vegetation clearance, clearing in stages, stabilisation of cleared areas by regular light watering or use of matting or coarse material to minimise soil transport by wind
- managing soil stockpiles through stabilisation, light watering or the use of covers (including coarse material and paper mulch)
- limiting the movement of soil and earth and use of high-speed abrasive disc saws and sanders during windy periods
- minimising the lifting height of the loader bucket when transferring soil or rubble from front-end loaders to trucks, and controlling its unloading speed to reduce wind-borne dust
- using a water spray when transferring soil or rubble from earthmoving equipment to trucks
- controlling the speed of dumping from tip trucks
- covering or stabilising materials during transport into and within the construction site
- preventing soil from leaving the site via traffic movement to prevent the creation of dust in dry conditions
- minimising wheel-generated dust by watering roadways or preparing roadways with coarse gravel or other road coverings such as bitumen or concrete.

<sup>&</sup>lt;sup>5</sup> The National Environment Protection (Ambient Air Quality) Measure 2003 defines PM<sub>2.5</sub> as 'particulate matter with an equivalent aerodynamic diameter of 2.5 micrometres or less' and PM<sub>10</sub> as 'particulate matter with an equivalent aerodynamic diameter of 10 micrometres or less'.



Further information on the management of air quality can be found at: <u>https://www.epa.sa.gov.au/environmental\_info/air\_quality</u>

## Noise

Noise is an inherent part of construction activities as a result of demolition work, site preparation, construction of buildings, and the operation of vehicles within, entering or leaving a construction site. This noise may disturb a person's everyday life or working environment, and cause adverse health effects when sleep is disturbed.

Part 6 Division 1 – Construction Noise of the Noise Policy deals with noise arising from construction activities on a site that requires development approval, and it aims to achieve a balance between allowing that work to proceed while minimising its impact on neighbouring properties.

Construction noise also constitutes local nuisance under the LNLC Act if the noise has travelled from the location of the construction activity to neighbouring premises on any Sunday or public holiday, or between 7 pm and 7 am on any other day.

#### Addressing noise in a CEMP – construction within standard hours

In recognition of the inherently noisy and temporary nature of construction activities, the Noise EPP specifies standard construction hours during which the usual fixed noise limits do not apply. The 'standard construction hours' are Monday to Saturday (excluding public holidays) between 7 am and 7 pm. For construction within the standard hours, a CEMP should identify the means by which noise will be managed. The general environmental duty (as described in section 25 of the EP Act) still applies and it is a requirement of the Noise EPP that all reasonable and practicable measures be taken to minimise or avoid off-site noise impacts from the construction activity. A CEMP should therefore demonstrate how this will be achieved throughout the construction phase.

A CEMP should describe the following:

- hours of operation
- the responsible person in accordance with the Noise EPP
- measures to be taken to minimise noise from construction activities resulting in noise with an adverse impact on amenity, including (without limitation)<sup>6</sup>:
  - commencing any particularly noisy part of the activity (such as masonry sawing or jack hammering) after 9 am
  - locating noisy equipment (such as masonry saws or cement mixers) or processes so that their impact on neighbouring premises is minimised (whether by maximising the distance to the premises, using structures or elevations to create barriers or otherwise)
  - shutting or throttling equipment down such as generators, bobcats, cranes and the like whenever not in actual use
  - ensuring that noise reduction devices such as mufflers are fitted and operating effectively

<sup>&</sup>lt;sup>6</sup> For construction activities resulting in an adverse impact on amenity, the Noise Policy describes in clause 23(c) the reasonable and practicable measures that must be undertaken to minimise noise resulting from those activities.



- ensuring that equipment is not operated if maintenance or repairs would eliminate or significantly reduce a characteristic of noise resulting from its operation that is audible at noise-affected premises
- operating equipment and handling materials to minimise impact noise (such as avoiding dropping materials from height)
- using off-site or other alternative processes that eliminate or lessen resulting noise.

#### Addressing noise in a CEMP – construction outside of standard hours

Construction outside of the standard hours outlined earlier may be undertaken provided the activities do not give rise to noise having an adverse impact on amenity. Construction noise is considered to have an adverse impact on amenity if measurements taken at a noise affected premises show:

- the source noise level (continuous) exceeds 45dB(A), or
- the source noise level (maximum) exceeds 60dB(A).

If construction outside of the standard construction hours is proposed, in addition to the information required for work within the standard construction hours, a CEMP should include an acoustic assessment prepared by a suitably qualified and experienced acoustic engineer<sup>7</sup>. The acoustic assessment will need to either demonstrate that noise from the proposed construction activities will not result in an adverse impact on amenity by meeting the noise levels, or provide details of what noise mitigation measures are required in order to meet the above noise levels. Such noise mitigation measures should be documented in a CEMP.

Construction activities having an adverse impact on amenity may still occur outside of the standard construction hours:

- to avoid an unreasonable interruption of vehicle or pedestrian traffic movement, or
- if there are other grounds existing that the EPA determines to be sufficient.

However, the relevant authority should be contacted and formal written approval obtained prior to commencement of construction activity with these type of adverse impacts. If the application relates to an EPA-licensed site, the application should be made to the EPA.

Further information on the management of construction noise, including obtaining approval to undertake construction activities with an adverse impact outside of the standard construction hours, can be found in the EPA information sheet, <u>Construction noise</u> (2023).

## **Site contamination**

Site contamination is an important environmental, health, economic and planning issue and can have implications for land-owners and occupiers, developers, relevant authorities, and local communities. Site contamination is often identified during assessment required as part of the development approval processes associated with a subdivision, development or redevelopment of a parcel of land.

<sup>&</sup>lt;sup>7</sup> For the purposes of preparing an acoustic report in support of a CEMP, a 'suitably qualified and experienced acoustic engineer' is defined as a person having sufficient qualifications and experience to be eligible for full membership of both the Australian Acoustical Society and Engineers Australia.



In the vast majority of cases the process of remediation and/or installation of mitigation measures is likely to take place during the construction phase because of the efficiencies that can be achieved at that stage. This will necessitate preparing a CEMP to address matters of appropriate treatment for any site contamination.

It may be the case that a CEMP will require the development and implementation of other supporting documents such as site management plans or reports which confirm the appropriate completion of required works and the suitability of the site for its intended use. Depending on the nature of issues at the site and the sensitivity of the proposed development, this may require the engagement of a site contamination auditor and the completion of a site contamination audit report.

Any site contamination issues should be addressed by a suitably qualified and experienced site contamination consultant.

Further information on site contamination can be found at: <a href="http://www.epa.sa.gov.au/environmental\_info/site\_contamination">http://www.epa.sa.gov.au/environmental\_info/site\_contamination</a>.

#### Addressing site contamination in the CEMP

Where relevant, a CEMP should identify the means by which site contamination will be managed, and should describe the following:

- assessment of site contamination consistent with the process described in Schedules A and B of the National Environment Protection (Assessment of Site Contamination) Measure 1999 and relevant guidance issued by the EPA
- where required, remediation goals, objectives and endpoints should be identified in accordance with relevant EPA guidance:

... measures to be undertaken when potential site contamination is encountered during construction processes, including notifying the EPA in writing as soon as reasonably practicable after becoming aware of the existence of site contamination at a site or in the vicinity of a site that affects or threatens water occurring naturally under the ground or introduced to an aquifer or other area under the ground<sup>8</sup>.

- the location of any acid sulfate soils and how they will be managed if they are to be disturbed, giving consideration to minimising their disturbance or drainage, preventing or minimising oxidation, containing and treating acid drainage Further information on acid sulfate soils can be found in <u>Site contamination</u> <u>acid sulfate soil materials</u> (2007).
- measures to be undertaken to remove <u>underground storage systems</u>, manage any contaminated soil or groundwater, and to validate excavations prior to backfilling or replacement of underground storage systems.

Australian Standard AS 4976–2008: The removal and disposal of underground petroleum storage *tanks* sets out procedures for the temporary decommissioning of underground petroleum storage tanks in-situ, removal, transport and off-site disposal of tanks, and procedures for the abandonment of tanks in situ where removal is not feasible.

<sup>&</sup>lt;sup>8</sup> Refer to section 83A of the EP Act and EPA Information Sheet <u>Assessment of background concentrations</u> (2018) for further information.



## Waste

#### General waste management

Waste materials that may be generated during demolition and construction include concrete, steel, aluminium, plasterboard, bricks and tiles, plastic and glass.

Effective construction planning can minimise the production of waste, and appropriate storage of wastes – particularly suitable source separation of waste materials – can greatly improve recycling rates and potentially lower disposal fees.

The waste management hierarchy<sup>9</sup> provides a framework to maximise the useful life of materials when waste cannot be avoided. Waste from construction and building sites should be managed in accordance with the waste management hierarchy.

Waste that is produced must be kept on-site and managed to prevent nuisance such as litter, dust and vermin, and to stop leachate from entering stormwater drains.

#### Hazardous waste

Asbestos-containing materials were used extensively in buildings, structures, plant and equipment and may be encountered during demolition activities, along with other hazardous materials.

Asbestos-containing materials need to be handled in accordance with the Safework Australia code of practice <u>How to safely remove asbestos</u> (2018) and <u>Safework SA requirements</u>.

Other hazardous materials need to be transported and disposed of in accordance with EPA requirements.

Further information on asbestos and hazardous waste can be found at: <u>https://www.epa.sa.gov.au/environmental\_info/waste\_recycling/disposing-waste</u>

#### Use of waste-derived fill

Particular waste streams may be suitable for beneficial reuse as fill. For example, waste soil or recovered aggregates could be used for levelling land. However, risks to the environment and human health may arise from the use of inappropriate waste materials or the filling of land in inappropriate locations.

Materials that may be suitable for use as waste-derived fill (WDF) include waste soil, clay, rock, sand or other natural mineralogical matter that contain no other wastes, clean crushed concrete, bricks and ceramics, or mineralogically based homogenous industrial residues, provided any chemical substances present in the waste are less than the concentrations of the substances set out in the table in the definition of waste fill in the *Environment Protection Regulations 2023*.

To ensure that WDF is being used safely and sustainably, proponents are required to address the risk-based considerations and comply with the processes outlined in the <u>Standard for the production and use of waste</u> <u>derived fill</u> (2013). These considerations include particle size distribution and uniformity, chemical

<sup>&</sup>lt;sup>9</sup> Waste management hierarchy, as described in the *Green Industries SA Act 2004*, refers to an order of priority for the management of waste, being: avoidance of the production of waste, minimisation of the production of waste, reuse of waste, recycling of waste, recovery of energy and other resources from waste, treatment of waste to reduce potentially degrading impacts, and disposal of waste in an environmentally sound manner.



composition, volume and origin of the WDF, whether it has been sourced from a site where a potentially contamination activity<sup>10</sup> has or is occurring, and requirements for assessment and reporting of results. The standard also applies to the producer so that any potential WDF from the construction site to be used elsewhere must meet the standard. Tables 2 and 3 of the standard outline the responsibilities of the user and producers of WDF.

#### Addressing waste in a CEMP

A CEMP should identify the means by which general waste and, where relevant, WDF will be managed. It should demonstrate that:

- general waste produced during construction will be managed in accordance with the waste management hierarchy as identified in the Waste to Resources EPP
- the use of WDF will comply with the processes outlined in the <u>Standard for the production and use of</u> waste derived fill.

## Water quality

Construction activities disturb soil, which is easily eroded and moved off the site via stormwater runoff or vehicle drag out, becoming a major source of sediment pollution in watercourses, and ultimately the sea. While the principle pollutant from construction activities is sediment, there are many other pollutants generated, and activities such as concreting, plastering and painting must be managed to prevent impacts to our waterways and oceans.

Certain construction activities, such as dredging or construction of a marina, may be undertaken directly in a watercourse or in marine waters, and will require careful management to minimise environmental impacts. Construction can also disturb acid sulfate soils causing the creation of acidic conditions that can affect surface and groundwater quality.

Dewatering of the site may also be required, particularly if a basement or other below-ground structure is being constructed. Proponents of development where dewatering is required should prepare a management plan in accordance with the EPA guideline, <u>Environmental management of dewatering during construction</u> <u>activities</u> (2021).

The <u>Environment Protection (Water Quality) Policy 2015</u> (Water Quality EPP) specifies that a number of pollutants cannot be discharged into any waters, including the stormwater system, or onto land from where they are reasonably likely to enter waters. To fulfil the obligations of the policy and ensure these pollutants do not move off site, it is strongly recommended that erosion, sediment and drainage control management practices are applied at all building or construction sites.

The <u>Stormwater pollution prevention code of practice for the building and construction industry</u> (1999) identifies strategies for the collection, treatment, storage and disposal of stormwater during construction, while minimising impact on the environment. This code is linked to the Water Quality EPP and is designed to assist in the compliance with the general environmental duty. The requirements outlined in the code are enforceable by the issuing of an environment protection order under section 93 of the EP Act.

<sup>&</sup>lt;sup>10</sup> A potentially contaminating activity is a prescribed activity defined in regulation 48 of the *Environment Protection Regulations 2023.* 



#### Addressing water quality in a CEMP

A CEMP should identify the means by which construction activities will be managed to prevent impacts on water quality. It should include the following<sup>11</sup>,<sup>12</sup>:

- the means by which hard waste, residues and wastes generated by concrete works, brick works and cutting, painting, plastering and the like will be managed to prevent the entry of pollutants into the stormwater system
- how soil erosion will be minimised:
  - avoiding soil disturbance where all activities should be timed and staged to minimise the time and extent to which soil is exposed to water and wind
  - controlling water movement into and around the site where reasonable and practicable measures
    must be taken to ensure that all runoff upstream of the site is diverted around the site. This ensures
    that only the water falling on the site requires management. Water within the site should be diverted
    around areas where soil has been disturbed and stockpiles, and flow velocities should be minimised
  - stabilising all disturbed areas as quickly as possible.
- sediment capture controls and retaining soil and other pollutants on the site these controls must be appropriate to the soil and weather conditions, including being prepared for storms. However, sediment controls should never be the sole means to minimise pollution and are secondary to minimising erosion.
- inspecting and maintaining all controls regularly this is essential to ensure the erosion and sediment controls maintain their functional design
- actions to be undertaken to dewater a site, if necessary, where a basement or other below-ground structure is to be constructed. Dewatering management can be addressed in the CEMP. However, if a more detailed plan is required then it should be prepared separately. Refer to <u>Environmental</u> <u>management of dewatering during construction activities</u> (2021) for more information on dewatering.
- actions to be taken to minimise impacts on waters if construction activities are to be undertaken directly in waters such as a watercourse or marine waters
- how acid sulfate soils will be managed if they are to be disturbed, giving consideration to minimising their disturbance or drainage, preventing or minimising oxidation, containing and treating acid drainage.
   Further information on acid sulfate soils can be found in <u>Site contamination acid sulfate soil materials</u> (2007)

## Monitoring

It may be necessary for monitoring to be undertaken to determine whether construction activities are impacting on the environment.

Preparation of a monitoring plan as part of a CEMP ensures the monitoring is conducted effectively and consistently and will deliver reliable, good quality data. Monitoring, in the broad sense, can also include visual evidence as well as a complaints register.

<sup>&</sup>lt;sup>11</sup> These matters are often incorporated into a soil erosion and drainage management plan, which forms part of a CEMP.

<sup>&</sup>lt;sup>12</sup> Principles of erosion and sediment control are adapted from <u>Best Practice Erosion and Sediment Control</u>, International Erosion Control Association (Australasia), 2008



The monitoring plan in a CEMP should include the following:

- the monitoring objective
- the criteria against which monitoring results will be assessed
- the quantity and nature of emissions monitored
- description of the receiving environment
- a map showing the sampling locations (including control site locations), major infrastructure and sensitive environmental receptors
- the sampling times and/or frequency
- parameters to be measured and analysed, including analytical method
- sampling procedures including sampling methods and equipment, calibration procedures, filtering, decontamination and preservation techniques
- quality assurance systems, including quality control samples (eg blanks and duplicates)
- the method and frequency of reporting (internally, to the relevant authority and the EPA)
- a feedback loop from monitoring to corrective actions so that issues arising from monitoring drive the necessary corrective actions.

Further information on preparation of a monitoring plan can be found in the EPA guideline <u>Regulatory</u> <u>monitoring and testing – monitoring plan requirements</u> (2016).

## Training

To ensure a CEMP is implemented effectively, employees and contractors should be trained in environmental awareness and their responsibilities under a CEMP. This should be described in a CEMP. Environmental training should include:

- a site induction
- the content and requirements of a CEMP, and responsibilities of all employees and contractors to ensure implementation of a CEMP and to consider environmental impacts
- specific training for individuals who have responsibilities for particular environmental issues such as noise or dust reduction
- emergency response training to manage unforeseen environmental incidents
- a means for employees and contractors to demonstrate an understanding of a CEMP and competency in environmental management.

## **Disclaimer**

This publication is a guide only and does not necessarily provide adequate information in relation to every situation. This publication seeks to explain your possible obligations in a helpful and accessible way. In doing so, however, some detail may not be captured. It is important, therefore, that you seek information from the EPA itself regarding your possible obligations and, where appropriate, that you seek your own legal advice.



## **Further information**

#### Legislation

Online legislation is freely available.

#### **General information**

Environment Protection Authority GPO Box 2607 Adelaide SA 5001 Telephone: (08) 8204 2004 Website: <u>https://www.epa.sa.gov.au</u> Email: <u>epainfo@sa.gov.au</u>