EPA VICTORIA

Potentially contaminated land – A guide for business

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EPA acknowledges Aboriginal people as the first peoples and Traditional custodians of the land and water on which we live, work and depend.
We pay respect to Aboriginal Elders, past and present.
As Victoria's environmental regulator, we pay respect to how Country has been protected and cared for by Aboriginal people over many tens of thousands of years.
We acknowledge the unique spiritual and cultural significance of land, water and all that is in the environment to Traditional Owners, and recognise their continuing connection to, and aspirations for Country.

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1. About this guide

The *Environment Protection Act 2017* (EP Act) and Environment Protection Regulations 2021 (EP Regulations) introduce new obligations that relate to managing potential risks contaminated land pose to human health and the environment.

This guide will help you understand if your land is potentially contaminated and what you may need to do to manage the risks from contamination to prevent harm to human health and the environment. It provides support for those who uncover or otherwise become aware of contamination of the land that they manage or control.

1.1 Who this guidance is for

This guidance is for businesses/persons that manage or are in control of land that is potentially contaminated, particularly due to historical activities. It provides information about:

- Identifying potential contamination
- What to do next if you suspect your land is contaminated
- Your duties and obligations.

Persons in **management or control** of land include those who hold a legal interest in the land, such as:

- an owner, occupier or lessee
- a committee of management (or similar).

It may also include persons who hold right of way, use, access or entry onto land (when exercising those rights).

It may also be useful if you are thinking about buying or leasing land for your business that may be contaminated from past land use. It does not provide information about assessment to support change of land use[1].

For those seeking to understand their obligations where contamination has occurred as a result of your own recent activities, please refer to EPA's guidance on the duty on *Responding to harm caused by pollution* (publication 1991).

[1] Please refer to guidance under the Victorian Planning Provisions and the Planning and Environment Act 1987 for further information.

Important information

This guidance provides information about potentially contaminated land or the potential for land to be contaminated to help you understand your obligations under the *Environment Protection Act 2017* (EP Act). The EP Act, along with the Environment Protection Regulations 2021 (EP Regulations) introduce new obligations that relate to managing potential risks contaminated land pose to human health and the environment:

- A duty to manage[2] contamination risks
- A duty to notify[3] EPA in certain circumstances.

We describe land as 'potential' or 'potentially' contaminated to recognise that historical land use and visible indicators of contaminating activities – for example, old infrastructure – may be used to infer the presence of contamination.

The definition of 'contaminated land' under the EP Act 2017 is broader than just identifying past land use. It also requires you to think about environmental aspects of the land, and the potential impacts of contaminated land on human health and the environment. Although less common, contamination may be present on any land, not just land with a particular past use.

The Victorian Planning Provisions (VPPs) which form part of Planning Schemes under the *Planning and Environment Act 1987* also uses the expression 'potentially contaminated land'. Under the VPPs, 'potentially contaminated land' is defined specifically to mean land upon which certain past land uses (such as mining and industrial) and activities (such as storage of chemicals) have occurred. Where land has been used for such purposes, additional requirements may apply before a planning decision can be made.

Guidance that supports the planning scheme approach to considering contamination risks in planning decisions may be of assistance in meeting the contaminated land obligations under the EP Act 2017. However, although land may not meet the definition of being potentially contaminated under the planning framework, to meet your obligations under the EP Act you will still need to consider other indicators and information (described in this guidance) to establish if there is the potential for contamination.

Important information

You can find a detailed explanation of the contaminated land duties and EPA's expectations in *Contaminated land policy* (publication 1915).

[2] Part 3.5, Division 2, s.39 Duty to manage contaminated land
[3] Part 3.5, Division 2, s.40 Duty to notify of contaminated land

1.2 What is contamination?

Land is contaminated if waste or a chemical substance is present on or under the surface of the land at a concentration above background levels[4] and creates a risk of harm to human health or the environment. This includes contamination to groundwater.

It can sometimes be hard to know if land is contaminated without testing the soil or groundwater. Testing may not always be necessary, though, as you may be able to identify, or 'infer', the potential for contamination based on the historical use of the land or land nearby.

Under Victoria's land use planning scheme, the expression 'potentially contaminated land' is used to describe land that has been used for industry, mining, or storing chemicals, gas, wastes or liquid fuel. Please refer to section 2 of this guide, 'Identifying potential contamination' for more information about types of activities that can result in contaminated land and groundwater.

For more information on the meaning of contamination, including the types of technical standards EPA uses to confirm land is contaminated, please see *Contaminated land: Understanding Section 35 of the Environment Protection Act 2017* (EPA publication 1940).

1.3 Why it's important to identify potential contamination

Victoria's industrial and manufacturing history has resulted in a legacy of contaminated land in many parts of the state. Where land is potentially contaminated it is important to make sure that it is managed in a way that minimises the potential risks of harm to human health and the environment.

Contaminated land has the potential to harm both people and the environment in different ways. This will depend on:

- The type and location of the contamination
  - What the contaminants are (for example, asbestos, arsenic, lead).
  - Where the land is (for example, a factory where land is not often disturbed or somewhere where the soil is regularly disturbed).
- The concentration of contaminants
  - What are the levels of the contaminants in the ground or groundwater?
- The exposure mechanism
  - How would people or the environment come into contact with the contamination (for example, ingestion or inhalation)?
- The level of exposure
  - How much of the contaminant would people or the environment be exposed to?
  - Some examples of how contamination could harm human health and the environment are provided in Appendix 1.

[4] Background levels of a substance are considered those that occur naturally in the vicinity of the land, unless EPA has determined a different level. See *Contaminated land: Understanding Section 35 of the Environment Protection Act 2017* (EPA publication 1940).

2. Identifying potential contamination

This section will help you to identify potential contamination and will discuss the different, easily accessible sources of information that will help you with this.

If you are in management or control of land, you will need to consider if that land, including groundwater, has the potential to be contaminated. If you find that it has been contaminated, you need to consider and proportionately investigate any potential risks of harm the contamination may pose to people and the environment. You have an obligation to manage those risks.

To help you identify if you have a risk that needs to be managed, it is important to understand the potential for your land to be contaminated. You should think about, look for, and seek to understand:

- the historical activities that have occurred on your land and the nature of these
- any visual indicators or odours that can indicate potential contamination.

It would be reasonable to assume land is not contaminated where:

- you have considered all the facts and information available and have no knowledge about contamination being present or likely being present, for example:
  - in reports
  - site assessments, or
  - disclosed as part of a sale of land
- your site walkover and review of historical land uses on your land does not indicate potential contamination
- consideration of your site's location and proximity to polluting activities does not indicate potential for contamination;, and
- there is no other information that you would reasonably be expected to know about.

2.1 Activities that can cause contamination

Many activities have the potential to cause land or groundwater to become contaminated.

Past industrial, agricultural and commercial activities that involve the storage and/or movement of liquids, chemicals and/or wastes, for example, can cause land and groundwater to become contaminated. It becomes contaminated when spills and leaks occur, and this material remains in the soil and/or groundwater.

Therefore, commercial, mining, industrial and old agricultural sites are the most common sites where you will find contamination. Listed over the page are some of the activities that occur on such sites. If your land has historically been used for any of these activities or uses, there is the potential for contamination.

Activities and land uses with the potential to cause contamination include land used for (but not limited to):

- Abattoir
- Abrasive blasting
- Acid and Alkali plant and formulation
- Airports and airstrips
- Asbestos production/storage/disposal
- Asphalt manufacturing
- Automotive repair/engine works
- Battery manufacturing/recycling
- Bitumen manufacturing
- Boat and ship building/maintenance
- Boiler or kiln use
- Brake lining manufacturers
- Breweries/distilleries
- Brickworks
- Chemical manufacturing/storage/blending/use
- Cement manufacture
- Cemeteries
- Ceramic works
- Coke works
- Commercial engine and machinery repair
- Commercial laboratory sites
- Compost manufacturing
- Concrete batching
- Council works depot
- Defence works
- Drum or tank re-conditioning and recycling
- Dry cleaning
- Electrical components manufacture
- Electrical substation/transformers
- Electricity generation/power station
- Electroplating
- Explosives industry
- Fibreglass reinforced plastic manufacture
- Glass manufacture
- Iron and steel works
- Landfill sites/waste depots
- Lime works
- Materials recycling and transfer stations
- Manufacturing
- Market gardens
- Metal coating
- Metal finishing and treatments
- Metal smelting/refining/finishing
- Mining, quarrying and extractive industries
- Motor vehicle manufacture and workshops
- Oil or gas production/refining
- Pest control depots
- Pharmaceutical manufacture and formulation, including illegal laboratories
- Port activities
- Printing and photography shops
- Pulp or paper works
- Radioactive material use
- Railway yards
- Shooting ranges and gun clubs
- Scrap metal recovery
- Service stations/fuel storage
- Sewage treatment plant
- Stock dipping sites
- Spray painting
- Tannery (and associated trades)
- Textile operations
- Timber preserving/treatment
- Tyre manufacturing
- Underground storage tanks
- Utility depots

Activities and land uses with the potential to cause contamination include land used for (but not limited to):	
• Firefighting or firefighting training • Filling (imported soil) • Foundry operations • Fuel storage • Gasworks	• Waste treatment/incineration/disposal • Wool scouring • Other industrial activities (such as warehousing of chemicals that may be spilt during loading or unloading)

Using this list as a guide, you can think about, or may already know, whether one or more of these activities may have been undertaken on the land or adjacent to the land you are now managing or in control of.

2.2 Indicators of contamination

As well as understanding which activities and historical land uses can cause land to become contaminated, you should also look out for certain features or signs that indicate potential contamination. For example, this could include infrastructure on or around the land, unusual odours, or other signs of contamination detailed below.

2.2.1 Infrastructure

Using the appropriate safety measures, conduct a site walkover inspection and look out for infrastructure that is associated with potentially contaminating activities.

Carefully and safely check for the presence of any of the following:

- above ground storage tanks
- evidence that underground storage tanks might be on site, such as
  - fuel bowsers
  - tank dip/fill points
  - tank vent pipes
- old drums/chemical storage containers
- extensive pipework and old items of plant
- settling ponds
- waste pits
- triple interceptor traps
- vehicle hoists
- electrical transformers
- sheep and cattle dips
- dilapidated buildings or areas where structures that may have contained asbestos have been demolished
- groundwater monitoring wells (see Figure 1).

Figure 1: While not necessarily an indicator of contamination, the presence of groundwater wells generally indicates that groundwater has been assessed. An access cover (on left) and a standpipe (on right).

2.2.2 Other signs of contamination

As well as infrastructure, you should look for the following indicators that your land or groundwater may be contaminated:

- areas of scalded/bare earth
- piles of soil
- partially excavated areas
- staining or unusual colours on soil or paved surfaces
- unusual colours, oil or a 'sheen' on surface water
- odours (for example, resembling petrol, solvents, decomposing rubbish or 'rotten egg') coming from soil or water
- soil that appears 'out of place' or different to naturally occurring soil (evidence of imported fill)
- ash and cinders, particularly where treated timber has been burned
- rubbish
- demolition rubble in soil (for example, fragments of concrete, brick, glass or ceramic)
- fragments of fibre cement sheeting in soil or on the soil surface
- stressed or dying vegetation
- dead fish, plants or other organisms in surface water.

Figure 2: Some examples of contamination. Dead fish in surface water (on left) and oil or a 'on surface water (on right).

You may need to engage a consultant if any of these features or indicators listed above are present. Discuss with the consultant to understand if a detailed site investigation is required.

2.3 How to identify contamination of groundwater

It is harder to identify if groundwater is potentially contaminated as it occurs beneath the ground (see Figure 3).

Understanding how groundwater can become contaminated can help you understand if there is the potential for groundwater contamination on your land.

Contaminants can reach groundwater from:

- activities on the land surface, such as releases or spills of stored industrial wastes
- leakage from underground sources, such as septic systems, waste disposal sites and/or storage tanks
- underground structures beneath the water table, such as storage tanks, injection wells or groundwater monitoring wells
- contaminated stormwater or irrigation water

Considering this, as well as the likely activities that would have previously occurred on the land or nearby land, and any features identified in your site walkover will help you understand if the groundwater may be potentially contaminated.

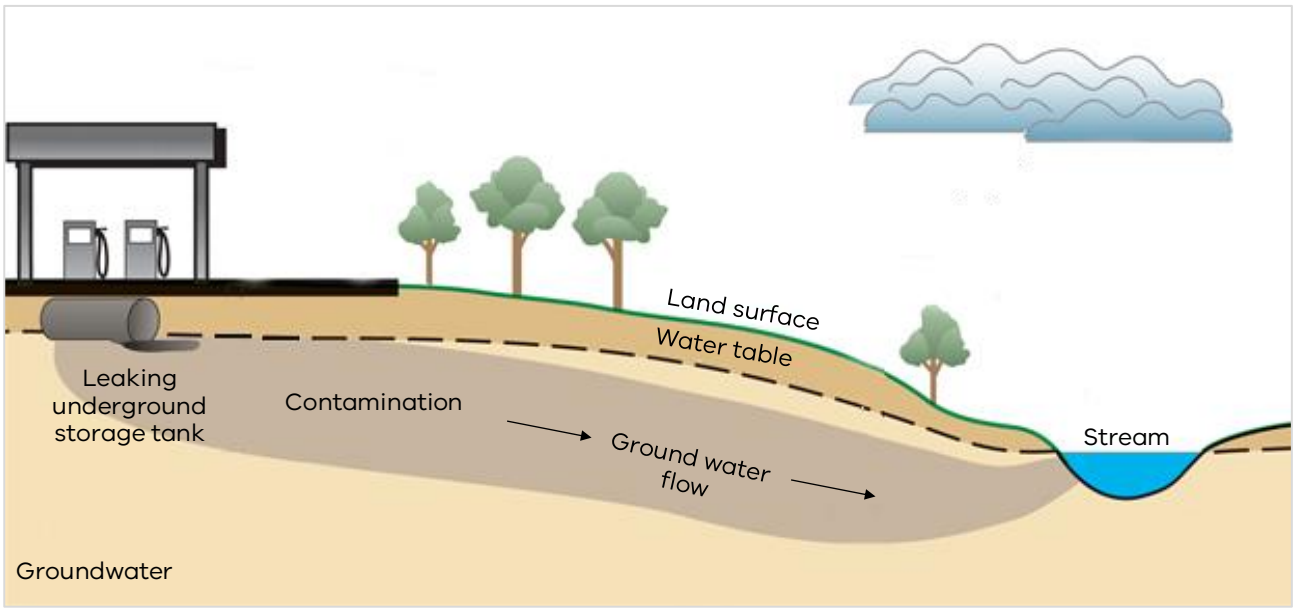


Figure 3: Contaminated groundwater can flow to nearby surface water receptors, it can be difficult to identify without an investigation.

2.4 Sources of information to help you identify potentially contaminated land

As highlighted in section 2.1, you can find out about the potential for contamination on your land by researching its past use.

The Victoria Unearthed website helps you find out more about land, groundwater and potential contamination. It brings together information from sources that include environmental audits and environmental audit overlays, groundwater pollution identified through environmental audits, landfill registers and business directories or listings.

Other land use information sources include:

- Landata aerial photos – these images show changing land uses over decades, typically from 1940 to 1950s.
- Sands and McDougall business directories – 1860-1974 from State Library of Victoria.
- EPA Priority Sites Register – a listing of sites for which EPA has issued remedial notices relating to land and groundwater contamination.

3. Assessing land contamination

To understand what, if any, action you need to take in relation to potentially contaminated land, you need to assess the facts and evidence available. If your site history and walkover indicate that there is the potential for contamination, further enquiry is likely needed to help you understand what you need to do next.

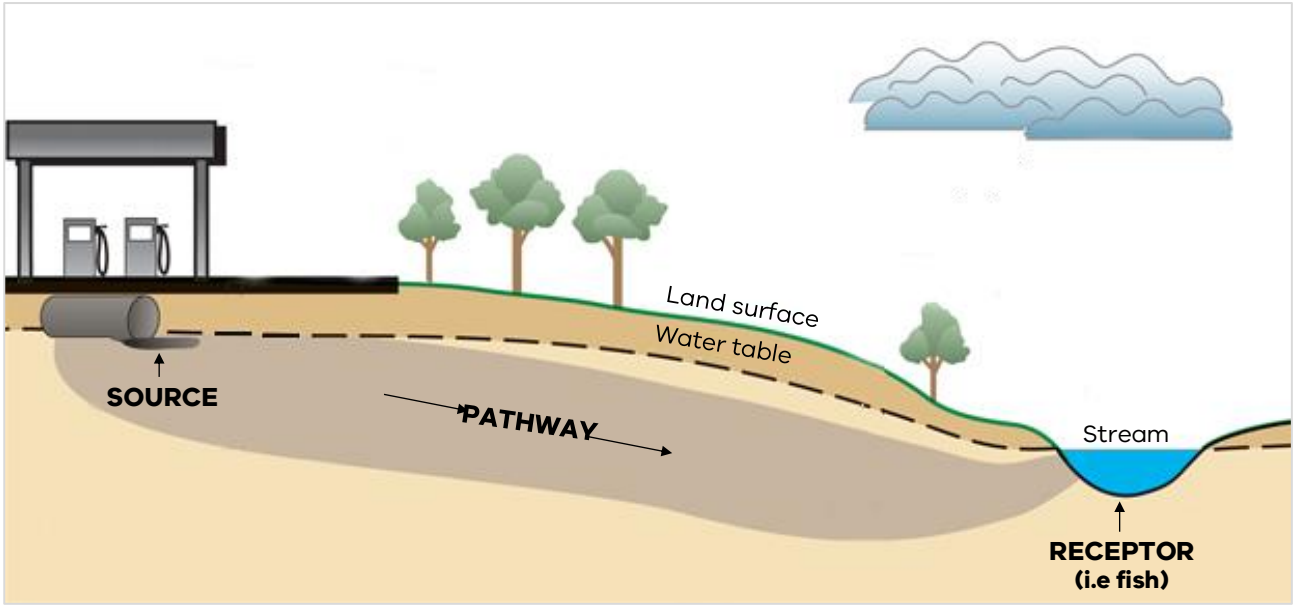
Where you have identified the potential for contamination, it is important to think about the risk of harm to human health and the environment in the context of:

- what the land is currently used for
- the land use or functioning of the adjoining land.

To understand how the contamination can create risk of harm it is also helpful to think about the contaminant's **source**, **pathway** and **receptor** (Figure 4). That is, for land to be impacted by contamination there must be:

- a **source** of contamination (for example, a substance in the land or groundwater)
- a **pathway** for the contamination to reach the receptor (for example, direct skin exposure/drinking of contaminated water), and
- a **receptor** that can be harmed (for example, a person's health or fish in a waterway).

Table 1 in Appendix 1 provides some further examples of the links between source, pathway and receptor.



Source		Pathway		Receptor
Where contamination comes from	➡	How humans and the environment come into contact with contamination	➡	Humans and parts of the environment, including animals and vegetation

Figure 4: Model to demonstrate what a source, pathway and receptor is.

Figure 5: Conceptual site model shows how contamination can travel through ground, water and air (pathways) to cause harm to human health and the environment (receptor).

3.1 What to do if there is potential for contamination

The actions you will need to take will depend on the type and extent of the indications of potential contamination. These actions, including the level of assessment needed, are expected to be proportionate to the evidence available to you.

As the evidence for potential contamination increases and becomes more suggestive that a risk of harm exists, it's expected that your enquiries into the contamination should become more extensive. It will also be important to put in place initial safety measures to protect human health and the environment while you seek to understand the nature and extent of the contamination, as well as the risk of harm it poses.

3.1.1 When to engage a consultant

Identifying and assessing contaminated land can be complicated. You may need to seek advice from a specialist and engage a consultant to confirm the nature and extent of contamination and potential risk to human health and the environment.

The consultant can confirm if you have contamination, conduct a site assessment and provide advice on management options.

Further information

For more detailed guidance on how to assess and control risks of harm from contaminated land refer to '*Assessing and controlling contaminated land risks: a guide to meeting the duty to manage for those in management or control of land*' (EPA Publication 1977)

3.2 What to do if you come across an unexpected find

Contamination can be 'hidden' below the surface and records can be incomplete. Even when it is reasonable to assume land is not contaminated, you cannot rule out encountering an 'unexpected find' that suggests contamination is present. This may be the case if, for example, you are undertaking land-disturbing activities such as demolition or excavation.

As soon as you encounter an unexpected find that suggests the presence of contamination, consider the following steps as outlined to prevent harm to human health and the environment.

1. Stop works in the area.
2. Isolate the area with temporary fencing.
3. Implement temporary control measures to manage the risks to people and the environment. Temporary control methods that you can use include:
   - Install systems to prevent contaminated soil from eroding through water and wind.
   - Put up notices to prevent people from entering the contaminated area.
   - Stockpile stained and odorous soil separately to other soil.
   - Install temporary fencing and warning signs around the potentially contaminated stockpile and excavated area. This will prevent workers on site from coming into contact with it.
   - Cover the potentially contaminated stockpile and excavated area with plastic sheeting. This will prevent contaminated dust being generated, and soil erosion when it rains.
   - Erect a silt fence around the potentially contaminated stockpile. This will prevent soil run-off entering stormwater drains when it rains or when the stockpile gets wet.

Once temporary control measures have been put in place to manage the risk, you may need to seek professional advice and engage a consultant to understand if and what further action may be required.

You should also consult WorkSafe Victoria's guidance about working on contaminated sites, for additional information.

If you have any concerns about the risks, such as the presence of fumes you should contact EPA on 1300 372 842 (1300 EPA VIC).

4. Duties and obligations

This section describes the key duties and legal obligations associated with contaminated land. An important part of the duties is how they guide proportionate, risk-based and evidence-based responses to potential and known contamination. They are designed to help you manage risk in a balanced way. The contaminated land duties are the:

- duty to manage
- duty to notify.

The scale and expectation of what you need to do will depend on the nature, extent and ultimately the potential risk of harm the contamination poses to human health and the environment. Figure 6 shows how the level of expected action in relation to your duties changes in line with the knowledge of contamination. That is:

1. Potential contamination will require assessment.
2. Known contamination will need to be managed.
3. Notifiable contamination must be reported to EPA.

Ultimately the action you take must minimise the risk of harm to human health and the environment from the contaminated land so far as reasonably practicable. This means the measures you are expected to take must be proportionate to the risk of harm posed to human health and the environment.

The contaminated land duties work alongside the general environmental duty (GED). The GED applies where a person engages in an activity that involves soil or groundwater that may be contaminated, it requires the person to minimise risks in conducting that activity. This obligation applies in addition to the contaminated land duties described below.

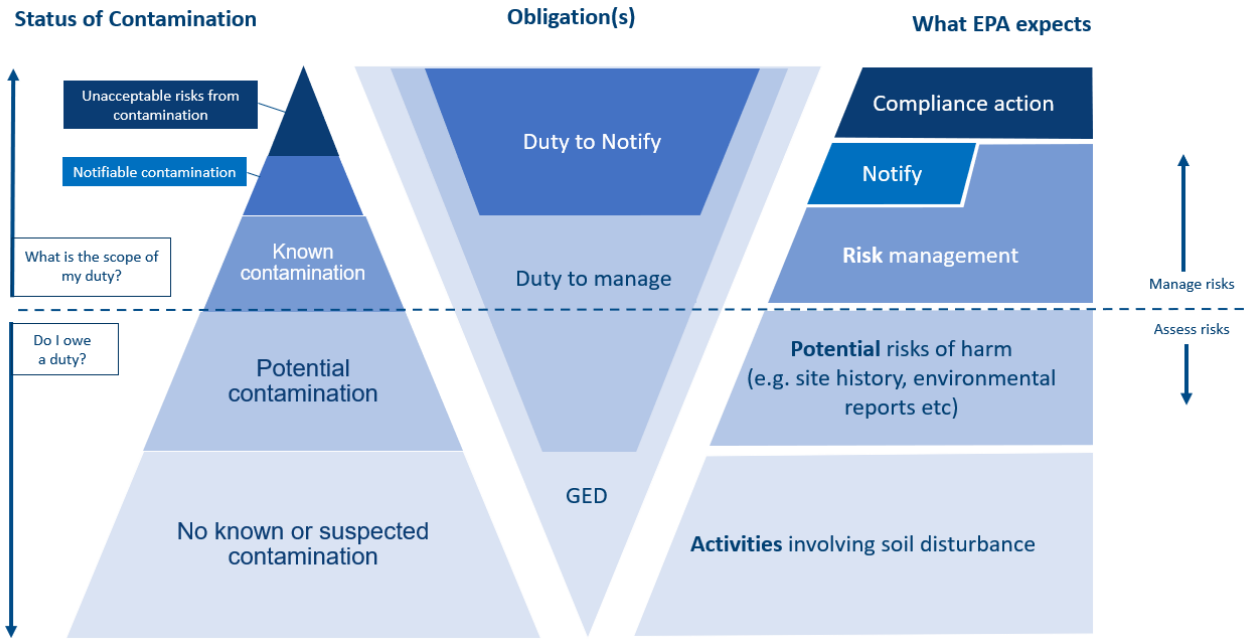


Figure 6: Summary diagram of the correlation between the status of contamination at your site, the legal obligation and the actions you need to take to satisfy those obligations.

Further information

For more information on your duties and obligations, see *Contaminated land policy* (publication 1915).

For more information on what is reasonably practicable, see *Reasonably Practicable* (publication 1856).

4.1 Duty to manage contaminated land

The **duty to manage** contaminated land applies to persons in management or control of land. It applies even if you did not cause the contamination. This duty requires:

> *A person in management or control of contaminated land must minimise risks of harm to human health and the environment from the contaminated land so far as reasonably practicable.*

The duty to manage contaminated land deals with what is known about that contamination and when it is reasonable to expect a person in management or control of the land to have that knowledge. Action under the duty to manage is only expected when you know or should reasonably be expected to know that the land you control or manage is potentially contaminated.

Once an investigation has been conducted and the assessment confirms that contamination is present, the person in management or control of the contaminated land must take action to eliminate or minimise the risk of harm to human health and the environment so far as reasonably practicable. This is limited to consideration of the current land use and affected offsite land.

The management action you will need to take is expected to be proportionate and will be determined by:

- the nature of the contamination
- its capacity to cause harm
- the degree of harm that could result.

Examples of steps that you can take to demonstrate compliance with this duty include:

- identifying the presence of any contamination a person knows or ought to know about (see *Industry guidance: supporting you to comply with the general environmental duty* (publication 1741.1) for information about what you are expected to know)
- investigating and assessing the contamination
- providing and maintaining measures to minimise risk of harm to human health and the environment from contamination, including clean-up to make the site suitable for its current use
- providing information to others who may be affected by the contamination, such as potential purchasers and tenants, or anyone who is likely to become a person in management or control of the land (see section 4.1.1 for more details).

If there is the potential for contamination to be present on the land you manage or have control of, this does not automatically mean you will require a detailed site investigation to satisfy the duty to manage.

First, you need to decide if there is enough evidence to confirm the presence of contamination. This can often be satisfied with a review of available information, such as identifying past-use activities on the land, and possibly some targeted soil sampling and analysis.

Further information

For more information about the duty to manage and key concepts of this duty, please see '*Assessing and controlling contaminated land risks: a guide to meeting the duty to manage for those in management or control of land*' (publication 1977)

4.1.1 Providing information to affected people

If you manage or control the contaminated land, you must let other people who may be affected by it know. This might include, for example, workers on your site, nearby businesses, or residents living near your site.

You may need to share the following information with people you believe could be affected by the contamination, and where you cannot otherwise minimise risk:

- information that identifies the contamination
- the results of the investigation and assessment of the contamination
- the risks of harm to human health and the environment from contamination.

You also need to provide adequate information to any person who may in the future be responsible for managing or controlling the contaminated land, such as a real estate agent or conveyancer, so that they can comply with the duty to manage it. This includes providing information that identifies contamination, results of any investigations and assessments, and the risk of harm to human health and the environment.

4.1.2 Managing contamination

Managing contaminated land can be varied and complex. In some circumstances just knowing about and investigating the contamination will be enough and no further action will be necessary. At other times, informing potentially affected parties such as persons in management or control of adjoining land to help them minimise risks will be enough.

Sometimes engineering controls and/or remediation may be required. In some circumstances, you may be required to notify EPA about the contamination and your management response.

It may also help to engage a consultant to recommend the most appropriate management controls for your site.

The recommendation will be informed by factors like the nature and extent of contamination present, the time available for clean-up to occur and the cost of clean-up works.

Action will be needed when a site environment and human health risk assessment concludes that the contamination poses an unacceptable risk to human health or the environment.

In some circumstances, EPA may require you to engage an EPA appointed environmental auditor to assess if the land is suitable for its intended use. For more information about the environmental audit system, go to the information on the EPA website on Environmental Auditing.

Further information

For more information about the duty to manage contaminated land please refer to '*Assessing and controlling contaminated land risks: a guide to meeting the duty to manage for those in management or control of land*' (publication 1977)

4.2 Duty to notify of contaminated land

The **duty to notify** requires you to notify EPA of contamination, in some specific circumstances[5]. It applies when a person is aware, or should be aware, of the notifiable contamination and may apply in addition to your duty to manage. The duty to notify requires:

> *A person in management or control of land must notify the Authority if the land has been contaminated by notifiable contamination as soon as practicable after the person becomes aware of, or reasonably should have become aware of, the notifiable contamination.*

If you already know of significant contamination from past investigations or reports, you probably have enough information to notify EPA.

If the contamination is notifiable, you will be required to answer the following questions, along with providing any other prescribed information. In some circumstances, these answers may already be available in environmental audit reports associated with your land. You will also need to provide information about your management response or proposed management response.

- Where is the source of contamination?
- What is the activity or suspected activity that resulted in the contamination?
- What is the nature of the contamination?
- How extensive is the contamination?
- Is there evidence of risk of harm to human health and the environment?

[5] See Section 4.2.1 for information on the two key types of notifiable contamination. All circumstances where notification is required are defined in the Environment Protection Regulations 2021.

- Is there potential for off-site migration of contamination that poses a risk of harm?

As previously mentioned, identifying and assessing contaminated land can be complicated. It may be necessary to engage a consultant to confirm the nature and extent of contamination, assess if the contamination is notifiable and if so, answer the above questions. Please refer to *Factsheet: Engaging Consultants* (publication 1702) and the EPA website, for more information on engaging a consultant.

Important information

Duty to notify **does not call for an investigation** solely for compliance. Responsibility is based on **actual** awareness or **reasonable** awareness of the person who is managing or controlling the contaminated land.

4.2.1 When is contamination notifiable?

There are two key types of notifiable contamination: the first is based on an **exposure pathway** and the second arises when you **retain waste contaminated soil** on your land.

The need to notify EPA of contamination based on **exposure pathways** arises when both of the following factors apply:

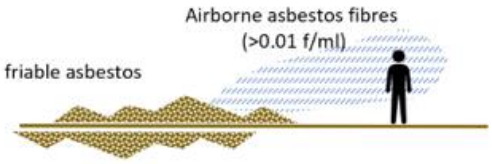
- Contamination is present in excess of the investigation levels or guideline values set out in the National Environment Protection (Assessment of Site Contamination) Measure (NEPM); Australian Drinking Water Guidelines (ADWG); or the Australian New Zealand Guidelines for Marine and Fresh Water (ANZG)

  and

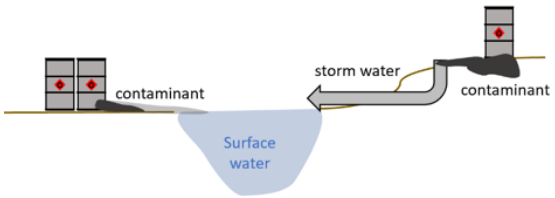
- An 'exposure pathway' exists (Figure 4 and Figure 5) through which the contamination *either*:
  - exposes or is likely to expose a person to the contamination

    or
  - is migrating or is likely to migrate from the land which you manage or control.

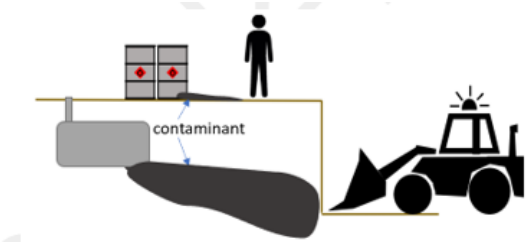
Figure 8 provides some scenarios where you are required to notify EPA of contamination when it is present in concentrations that exceed investigation or guideline values.
For more information about the scenarios please refer to the duty to notify guidance.



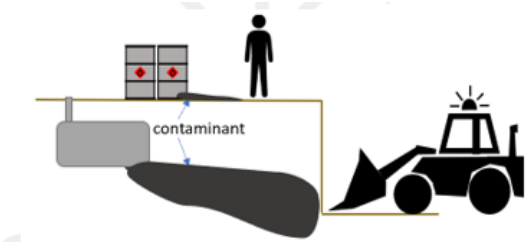
Friable asbestos is present and is likely to expose a person to respirable fibres



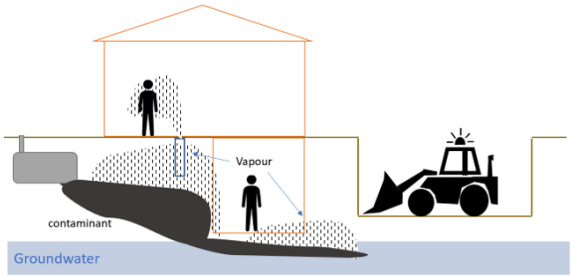
Contamination is entering or is likely to enter surface water



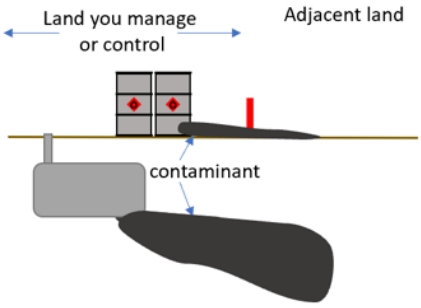
A person is likely to be exposed to contamination in soil or vapour



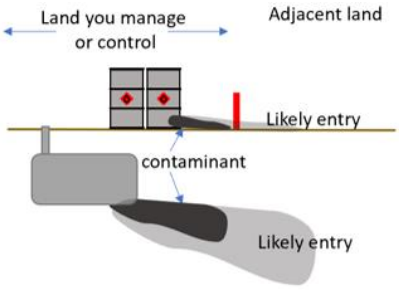
A person is exposed or is likely to be exposed to contamination in or on soil



A person is exposed or is likely to be exposed via vapour inhalation from contamination or by-product of contamination



Contamination in or on soil on adjacent land, has entered or is likely to have entered, from your land



Soil contamination is present on your land and is likely to move onto adjacent land

Figure 7: You must notify EPA of the contamination found in the land you manage or have control of, in the situations outlined in this diagram if the levels of contamination exceed applicable investigation or guideline levels.

You may also need to notify EPA if you decide to retain waste soil sourced from the contaminated land that you manage or control. For example, instead of disposing of waste contaminated soil to landfill, you may elect to retain it on site and manage it in a way that minimises the risks of harm as part of your duty to manage contaminated land.

Important information

Even if your site does not require notification, you are still required to **manage** the contamination and its associated risks under the general environmental duty (GED) and the Duty to manage contaminated land.

Further information

For more information about the duty to notify of contamination please refer to *Notifiable contamination guideline: duty to notify of contaminated land* (publication 2008)

Important information

In addition to the contaminated land duties, the obligations under the general environmental duty (GED) are applicable under all situations. For more information, on the general environmental duty, please refer to the EPA website and *Industry guidance: supporting you to comply with the general environmental duty* (publication 1741).

4.3 Useful links and resources

- *Contaminated Land Policy* (publication 1915)
- *Assessing and controlling contaminated land risks: a guide to meeting the duty to manage for those in management or control of land'* (publication 1977)
- *Notifiable contamination guideline: duty to notify of contaminated land* (publication 2008)
- *Civil construction, building and demolition guide* (publication 1834)
- *Fact sheet: Engaging consultants* (publication 1702)
- *Contaminated land: Understanding Section 35 of the Environment Protection Act 2017* (publication 1940)
- *Reasonably Practicable* (publication 1856)
- *Industry guidance: supporting you to comply with the general environmental duty* (publication 1741)
- Duty to respond to harm caused by pollution (publication 1991).
- EPA Priority Sites Register
- Victoria Unearthed
- WorkSafe Victoria guidance on contaminated construction sites

- National Environment Protection (Assessment of Site Contamination) Measure 2013
- Australian New Zealand Guidelines for Marine and Fresh Water (ANZG)
- National Framework for Remediation and Management of Contaminated Sites in Australia
- Landata
- State Library of Victoria

Appendix 1

Table 1: Some examples of how contamination could harm human health and the environment.

Incident	Source	Pathway	Receptors	Impacts
Groundwater impacted by petroleum hydrocarbons beyond site boundary	An underground petroleum storage tank has leaked, which resulted in contamination of the surrounding soil and groundwater.	• Leaching of petroleum from soil to groundwater. • Off-site migration of contaminated groundwater. • Irrigation of gardens or filling pools with contaminated groundwater. • Vapour emissions to outdoor air, buildings or service conduits.	• Residential properties next to site potentially exposed to soil, air and groundwater contamination. • Construction workers on and offsite who interact with underground services adjacent to site. • Nearby surface water body (dams, creeks, rivers, lakes, pools, ponds, puddles and water in stormwater drains).	• Risk of harm to the health of onsite workers arising from exposure to solvent vapours in air (inhalation) or solvent-contaminated bore water (direct contact, incidental ingestion, inhalation). • Quality of onsite groundwater which may be rendered unsuitable for use (including irrigation, consumption or recreational activities).
Chemical spill leaked through a surface bund and entered soil and groundwater.	A large spill from a chemical tank at an industrial plant has leaked through a surface bund.	• Leaching of petroleum from soil to groundwater. • Off-site migration of contaminated groundwater.	• The groundwater discharges to a nearby wetland.	• Vegetation at the groundwater discharge area is dead and/or shows signs of stress.

Incident	Source	Pathway	Receptors	Impacts
Excavations have identified a layer of fill that appears to contain waste materials (indicated by the presence of non-natural materials such as brick and/or discoloured and odorous materials).	The non-natural fill material represents a suspected source of contamination to groundwater.	• Leaching of contaminants (metals etc.) from waste materials to the surrounding soil and groundwater from soil to groundwater. • Off-site migration of contaminated groundwater. • Odour emissions from the waste materials.	• Commercial properties next to site potentially exposed to soil, air and groundwater contamination. • Construction workers on and offsite who are performing the excavations. • Nearby surface water body (dams, creeks, rivers, lakes, pools, ponds, puddles and water in stormwater drains).	• Risk of harm to the health of onsite workers arising from exposure to odours from waste materials, exposure to unknown contaminants from the waste materials. • Quality of onsite groundwater impacted, which may be rendered unsuitable for irrigation or consumption.