

# Managing buffers for land use compatibility

## Planning Practice Note 92

March 2021

The purpose of this practice note is to provide guidance on:

- planning for land use compatibility and the Planning Policy Framework
- requirements in planning provisions relating to the management of buffers, including:
  - clause 53.10 Uses and activities with potential adverse impacts; and
  - clause 44.08 Buffer Area Overlay.

### Overview of land use compatibility

Many industrial and other land uses have the potential to produce off-site impacts, such as noise, dust, odour and hazardous air pollutants. While these impacts can often be prevented through onsite management, unintended off-site impacts due to equipment failure, accidents, abnormal weather events and other causes may still pose risks to amenity, safety and human health. These impacts are particularly concerning where residential areas, hospitals, schools and other sensitive uses may be exposed.

Ensuring land use compatibility is fundamental to the objectives of planning in Victoria. Where separation between incompatible uses is not considered as part of the planning process, land use conflict can occur. This often results in situations where the operation and viability of industries, including critical infrastructure, is threatened while communities are put at risk.

### What are buffers and why are they important?

'Buffer' in the context of land use planning refers to land used to separate or manage incompatible land uses, often industrial uses and sensitive uses, to ensure land use compatibility and avoid land use conflict.

Although buffers are not a substitute for best practice management of off-site impacts by industry, it is recognised that even 'state of the art' facilities are not always able to eliminate the potential for unintended off-site impacts. Buffers are often still needed to protect sensitive uses from these impacts and provide certainty for industry operators.

#### Sensitive uses

Sensitive uses are land uses considered to be sensitive to emissions from industry and other uses due to their impact on amenity, human health and safety. Sensitive uses will differ depending on the type of industry or other use.

Examples of sensitive uses include, but are not limited to:

- Dwelling
- Residential aged care facility
- Child care centre
- Hospital
- Place of assembly
- School



Buffer areas can be used effectively to accommodate compatible land uses. Often these can be complementary to the industry with potential off-site impacts (e.g. lighter industrial and commercial uses). Buffer areas could also be used to accommodate informal outdoor recreation which would be complementary to nearby sensitive uses.

### How does the Planning Policy Framework help protect and manage buffers?

State planning policy sets out broad principles for use and development, including consideration of encroachment and land use compatibility.

Clause 13.07-1S Land use compatibility, of the Planning Policy Framework aims to protect community amenity, human health and safety while facilitating appropriate commercial, industrial or other uses with potential adverse off-site impacts.

The Environment Protection Authority (EPA) *Recommended separation distances for industrial residual air emissions* publication (EPA Publication 1518) is included under Clause 13.07-1S for consideration as a policy document. This document provides guidance on what land uses require separation, the types of land uses that are suitable as interface land uses and informs strategic land use planning decisions and consideration of planning permit applications. The document can be accessed on the EPA website at [www.epa.vic.gov.au](http://www.epa.vic.gov.au).

Other areas of the Planning Policy Framework aim to protect industry and infrastructure from encroachment of incompatible uses, including:

- clause 13.07-2S (Major hazard facilities)
- clause 17.03-2S (Sustainable industry)
- clause 17.03-3S (State significant industrial land)
- clause 19.01-3S (Pipeline infrastructure)
- clause 19.03-3S (Integrated water management)

### The importance of strategic planning

As reflected in the Planning Policy Framework, the priority when planning land use and development is avoiding land use conflict in the first place. This involves understanding where existing industry and other uses with potential off-site impacts are and ensuring current zoning appropriately protects operators and surrounding communities. It also means making sure that sensitive uses and future urban growth are directed away from areas that could be affected by off-site impacts. Strategic planning around uses with potential off-site

### Recommended separation distances for industrial residual air emissions, Environment Protection Authority, 2013

- Address dust and odour impacts
- Include guidance on cumulative impacts, interface land uses, variation of separation distances and the 'agent of change' principle

impacts should consider the capacity or need for future expansion of that use or expected changes to operations. Planning approaches might differ depending on the strategic planning scenario.

### Avoiding land use conflict in greenfield areas

Greenfield areas are typically still in the process of being developed, and therefore may not suffer from existing land use conflict. However, while buffers for industries and other uses established in greenfield areas often remain intact, it is crucial that zones and other land use planning tools are used to prevent land use conflict from occurring in the future – especially in the face of strong urban growth pressure.

Industries and other uses with potential off-site impacts should be clearly identified so they can be considered early in strategic planning processes and in the development of precinct structure plans.

Where incompatible land uses are forecast to be transitioned out of an area, implementation should be staged to ensure land use conflict can be effectively managed before transition has finished. This should be outlined in precinct structure plans.

### Avoiding land use conflict in urban renewal areas

Areas planned for urban renewal often contain historical industrial uses that pose potential off-site impacts. While some of these uses may be earmarked for future transition, others could be encouraged to remain in the area for the employment and services they provide. Again, the use of zones and other land use planning tools to prevent land use conflict should be considered early.

Understanding the nature of potential off-site impacts, whether noise, dust, odour or other impacts, can help determine what type of controls should be applied. For example, while noise impacts can often be addressed by implementing design or construction standards, this may not be enough to mitigate hazardous air pollutants or odour.



Land within identified buffers or separation distances should be assessed to determine whether sensitive uses can be supported, including recommendations about managing future development.

The extent of these buffers should be reviewed by the relevant expert agency, based on all available evidence.

Where incompatible land uses are forecast to be transitioned out of the urban renewal area, implementation of a structure plan or development plan should be staged to ensure land use conflict can be effectively managed before transition has finished.

### Industries with potential adverse off-site impacts

Industrial and other zones require proposed industrial land uses to not adversely affect the amenity of the neighbourhood. In many cases, the likely effects of the proposed industry on the neighbourhood must be demonstrated by the proponent and be factored into the decision on a planning permit application.

Industry proposals that trigger certain requirements under Dangerous Goods and Occupational Health and Safety regulations generally require a planning permit and will be referred to WorkSafe Victoria.

#### Clause 53.10 operation

Clause 53.10 sets out threshold distances for different types of uses and activities with potential adverse impacts.

Establishing land uses known to pose potential off-site impacts must respond to threshold distances contained in Clause 53.10 Uses and activities with potential adverse impacts. These distances are based on the potential adverse impacts of each land use or activity and represent a threshold distance within which further detailed assessment is needed to determine whether the use or activity is appropriate (see Appendix A for a full list of uses or activities with corresponding impacts and detailed descriptions). This means that a use or activity that does not meet the threshold distance is not necessarily prohibited but is subject to the further assessment to determine its appropriateness.

The threshold distance is the shortest distance between the property boundary of the proposed land use affected by Clause 53.10 and:

- Land (not a road) in an Activity Centre Zone, Capital City Zone, Commercial 1 Zone, Docklands Zone, residential zone or Rural Living Zone; or
- Land used for a hospital, an education centre or a corrective institution; or
- Land in a Public Acquisition Overlay to be acquired for a hospital, an education centre or a corrective institution.

The Activity Centre Zone, Capital City Zone, Commercial 1 Zone, Docklands Zone, residential zones and Rural Living Zone generally support or encourage sensitive land uses and often will not be compatible with other land uses that have potential off-site impacts. Hospital, Education centre and Corrective institution are also listed because they could be equally sensitive to off-site impacts and may be located outside these zones.

Compliance with threshold distances can determine whether a new use will require a planning permit or not, through conditions in the zones. Where a threshold distance is not met (or a threshold distance is not specified for an industry listed in Clause 53.10), the proposal will typically require a planning permit and the permit application will be referred to EPA. EPA considers several factors in determining whether a referred proposal is acceptable, including:

- whether the proposal meets the relevant recommended separation distance in EPA Publication 1518
- the standard of industrial plant, equipment and emission control technology
- any completed risk assessment demonstrating potential off-site impacts
- the size of the proposal compared to comparable industries
- topographic or meteorological characteristics that may affect the dispersion of potential off-site impacts
- the likelihood of potential off-site impacts occurring
- cumulative impacts, where the clustering of certain industries may influence the significance of potential off-site impacts.

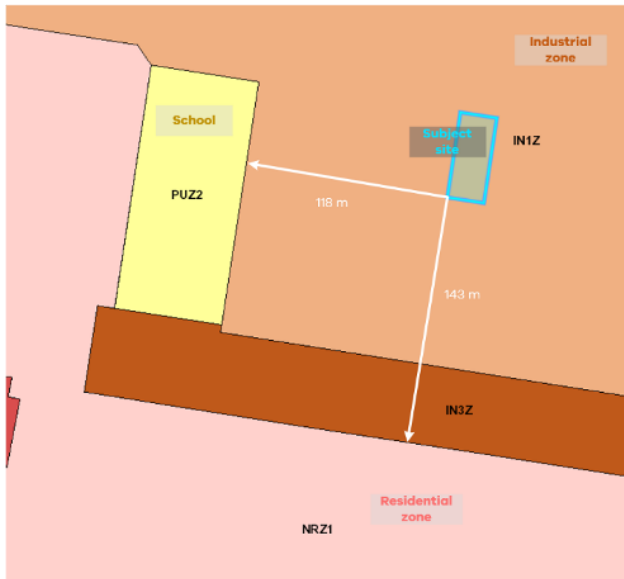
As a determining referral authority, if EPA objects, the responsible authority must refuse the application. Alternatively, if EPA specifies conditions, those conditions must be included in any permit granted.



Some zones, such as the Mixed Use Zone and Township Zone, prohibit uses or activities if they are listed in Clause 53.10, regardless of the distance.

### Measuring threshold distances

#### Scenario 1 – Bakery (other than one ancillary to a shop)



The subject site is in the Industrial 1 Zone (IN1Z).

Bakery is included under the *Industry* land use term as a Section 1 use in the IN1Z, and no planning permit is required if certain conditions are met. These conditions include:

- The use must not be a purpose in the table to clause 53.10 with no threshold distance specified.
- The land must be at least the following distances from land (not a road) which is in an Activity Centre Zone, Capital City Zone, Commercial 1 Zone, Docklands Zone, residential zone or Rural Living Zone, land used for a hospital or education centre or land in a Public Acquisition Overlay to be acquired for a hospital or an education centre:
  - The threshold distance, for a purpose listed in the table to clause 53.10.
  - 30 metres, for a purpose not listed in the table to clause 53.10.

*Bakery (other than one ancillary to a shop)* is listed in the table to clause 53.10 and has threshold distances specified as follows:

- 100 metres – for a bakery producing more than 200 tonnes per year.

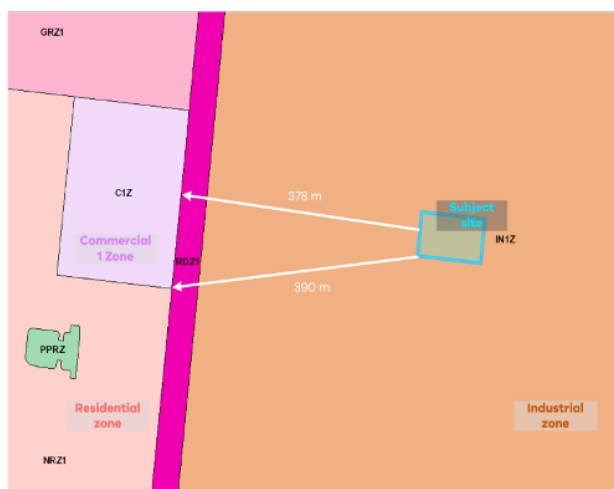
- 500 metres – for a bakery including night-time operations, producing more than 200 tonnes per year.

The bakery proposes to produce less than 200 tonnes per year. This means the threshold distances in clause 53.10 do not apply and instead the proposed bakery must be at least 30 metres from the nominated sensitive zones and land uses.

At its nearest point, the subject site is 118 metres from land used for an education centre (school) and 143 metres from land in a residential zone. Therefore, the proposal does not require a planning permit.



## Scenario 2 – Transfer station



The subject site is in the Industrial 1 Zone (IN1Z).

*Transfer station* is a Section 2 use in the IN1Z, so a planning permit is required.

In addition to requiring a planning permit for the use of the land, the land must be at least 30 metres from land (not a road) which is in a residential zone or land used for a hospital or an education centre or land in a Public Acquisition Overlay to be acquired for a hospital or an education centre – otherwise it is prohibited. At its nearest point, the subject site is 390 metres from land in a residential zone, so a planning permit can be considered.

In line with the referral provisions in Clause 66.02-7, an application to use land for an industry, warehouse or utility installation for a purpose listed in the table to Clause 53.10 with no threshold distance specified or if the threshold distance is not to be met must be referred to EPA.

*Refuse and used material storage, sorting and recovery in a transfer station* is listed in the table to Clause 53.10 and has threshold distances specified as follows:

- 500 metres – for a transfer station accepting organic wastes.
- 200 metres – for other transfer stations.

The transfer station is to accept various types of organic waste, so the threshold distance of 500 metres applies. The threshold distances in clause 53.10 are measured from the property boundary of the proposed land use to:

- Land (not a road) in an Activity Centre Zone,

Capital City Zone, Commercial 1 Zone, Docklands Zone, residential zone or Rural Living Zone; or

- Land used for a hospital, education centre, or corrective institution; or
- Land in a Public Acquisition Overlay to be acquired for a hospital, education centre or corrective institution.

Because there is land in a Commercial 1 Zone 378 metres away from the subject site, the threshold distance cannot be met, and the permit application must be referred to EPA for consideration.

EPA considers a range of factors in assessing whether a proposal is acceptable, including the size of the proposal and the standard of industrial equipment and technology, the type of likely off-site impacts and whether the proposal meets the relevant separation distance in EPA Publication 1518. As a determining referral authority, if EPA objects to the proposal then the responsible authority must refuse the application, and if EPA specifies conditions, those conditions must be included in any permit granted.

If EPA does not object to the proposal, a permit may be granted subject to the decision of the responsible authority.



### **Managing buffers where there is existing or potential land use conflict**

While ensuring land use compatibility is a key planning objective, this is difficult where incompatible land uses already encroach, or are likely to encroach, within the buffers of industries and other uses with potential off-site impacts. Options to manage land within buffer areas include pursuing land use transition and restricting use and development.

#### **Land use transition**

Land use conflict can be addressed through transitioning incompatible uses (either the emitting uses or sensitive uses) out of an area. This should consider the full range of planning tools available, including zoning. While rezoning (back zoning) land in established areas is not always feasible, this approach establishes a strong indication of desired land use and sets clear expectations for industry and the community.

#### **Buffer Area Overlay**

The Buffer Area Overlay (BAO) can be used in certain circumstances to prevent future encroachment and intensification of incompatible use and development within the buffer areas of industry, warehouse, infrastructure or other uses with potential off-site impacts.

The BAO supports implementation of the objective and strategies in clause 13.07-1S Land use compatibility. The BAO complements clause 53.10, which helps to ensure that industry establishes appropriately, by addressing the reverse situation so that land use and development around existing industry is appropriate.

Criteria must be met and information must be provided to apply the BAO. Issues of land use conflict and compatibility may still exist in areas not covered by the BAO.

### **Applying the Buffer Area Overlay**

The purpose of the BAO is to identify areas where there is potential for off-site impacts on safety or human health, or significant off-site impacts on amenity, from industry, warehouse, infrastructure or other uses. The BAO also ensures that use and development within buffer areas is compatible with potential off-site impacts. Application of the BAO can be led by industry operators or councils. See Appendix B for a summary of steps to apply the BAO.

#### **Principles**

When considering the application of the BAO, the following principles need to be understood:

- Policy and zoning are the primary and preferred tools within the planning system for ensuring land use compatibility.
- Overlays and associated planning scheme maps not only identify land, but also apply requirements that improve land use and development outcomes.



## ELIGIBILITY

The BAO can be applied to land uses that are compliant with relevant regulations and standards but pose a risk of unintended off-site impacts on human health or safety, or significant off-site impacts on amenity.

### Step One

#### *Consider compliance and impacts*

Operators should consider the compliance of their operations and the nature of potential off-site impacts.

**The use must be compliant with existing regulations and standards relating to off-site impacts or land use compatibility, such as those of EPA Victoria and other regulatory authorities.**

This could include:

- Permissions, including licences, issued under the *Environment Protection Act*.
- Planning and building permits
- Environment Protection Policies
- *Siting, design, operation and rehabilitation of landfills* (Landfill BPEM)
- Dangerous Goods and Occupational Health and Safety regulations
- *Pipelines Act*, regulations and Australian Standard AS 2885
- Work authorities and work plans under the *Mineral Resources (Sustainable Development) Act*.

The BAO does not duplicate or replace existing laws, regulations and standards relating to off-site impacts or land use compatibility. The BAO identifies areas where, despite compliance with these laws, regulations and standards, unintended off-site impacts may still occur and those residual risks may be required to be managed through land use and development controls. Application of a BAO however does not replace the need for an operator to minimise risks to surrounding areas or comply with existing requirements.

### **EPA Publications relevant to demonstration of compliance**

[Publication 1851.1 – Implementing the general environmental duty: A guide for licence holders](#)

[Publication 1856 – Reasonably practicable](#)

[Risk management expectations](#)

[Publication 1695-1 – Assessing and controlling risk: A guide for business](#)

**The use must have potential for unintended off-site impacts on human health or safety, or significant off-site impacts on amenity.**

The BAO is designed to address:

- Human health, safety or significant amenity impacts
- Off-site impacts
- Unintended impacts

Operators should use the risk exposure matrix for application of the BAO (see Appendix B) to consider the residual risk of potential unintended off-site impacts and then seek advice from EPA and/or other relevant authorities in Step 2 and Step 3.

The BAO is not intended to address lower level amenity impacts, i.e. those that are unlikely to have significant impacts over time. Although it is not the role of the BAO to manage these impacts, relevant environmental legislation and regulations still apply along with planning mechanisms, such as the Planning Policy Framework, zones and clause 53.10.

Noise, dust and odour, which are typically considered to be lower level amenity impacts, can sometimes pose significant amenity or human health risks depending on a number of factors.



### What are significant off-site impacts on amenity?

The BAO can apply where there is potential for significant unintended off-site impacts on amenity. For the purposes of applying the BAO, the significance of impacts on amenity, particularly noise, dust and odour, depends on the following factors:

- Frequency (how often the impact occurs)
- Duration (how long the impact lasts)
- Intensity (how obvious the impact is)
- Character (what the character or nature of the impact is)
- Context (what the experience of a person exposed to the impact would be)

The risk exposure matrix for application of the BAO at Appendix B bases the consequence criteria for amenity, human health and safety impacts on these factors.

### Step Two

#### *Discussion with council and relevant authorities*

Operators should have an initial discussion with council and relevant authorities about the proposed application of the BAO.

In preparation for this discussion, and based on the considerations outlined in Step 1, operators must demonstrate:

- a documented history of compliance with all relevant laws, regulations and standards (and any applicable licences or approvals) relating to off-site impacts or land use compatibility, such as those administered by EPA Victoria and other relevant authorities
- that all reasonably practicable measures to minimise future off-site impacts have been considered and exhausted
- consideration of potential unintended off-site impacts.

### Step Three

#### *Advise on compliance and potential off-site impacts*

The relevant authority, such as EPA, should provide advice about known historical impacts and understood potential risks based on information supplied by the operator.

### What to expect from EPA

For many industries and impacts, EPA will be the relevant authority to provide advice. Based on initial discussions and information provided by the operator, EPA will consider:

- whether all reasonably practicable measures to minimise off-site impacts have been considered and exhausted
- whether the BAO appears appropriate based on compliance and residual risk.

Enquiries should be directed to:

[stratplan@epa.vic.gov.au](mailto:stratplan@epa.vic.gov.au)

For more information about EPA considerations in strategic planning, visit: [www.epa.vic.gov.au/for-business/find-a-topic/planning-guidance/strategic-planning](http://www.epa.vic.gov.au/for-business/find-a-topic/planning-guidance/strategic-planning)





## ASSESSMENT

Application of the BAO to land uses must be based on evidence – demonstrating the types of potential off-site impacts, the spatial extent of those impacts (the buffer area) and appropriate requirements for land use and development within the buffer area.

### Step Four

#### *Prepare assessment*

**An assessment of the potential off-site impacts of the use must be undertaken to inform preparation of the BAO schedule and decision on the amendment.**

The assessment must be undertaken by a qualified professional and demonstrate:

- the potential of the land use for **off-site safety, human health or significant amenity impacts**, such as blast, hazardous air pollutants, noise or odour
- the **spatial extent** of relevant potential impacts, (reflecting current or approved operations), i.e. the buffer area
- based on potential impacts, what future **land uses** need to be managed or prohibited in the buffer area. This could include incompatible industrial uses.
- based on potential impacts, what future **buildings and works** need to be managed or prohibited in the buffer area
- based on potential impacts, how future **subdivision** needs to be managed or prohibited in the buffer area.

The assessment should also advise:

- what **information** needs to be provided with permit applications to inform decision-making, i.e. application requirements.
- whether the **views** of any agencies are required to inform decision-making.

Operators should provide this assessment to the relevant authority, such as EPA, for advice.

### Step Five

#### *Advise on recommendations in assessment*

The relevant authority, such as EPA, should provide advice on findings and recommendations in the assessment.

The spatial extent of the buffer area determined through the site-specific assessment should take into account variables such as prevailing weather conditions, topography etc. Default distances such as those found in EPA guidance material or clause 53.10 are not appropriate for this assessment.

Information about what land uses, buildings and works and subdivision need to be managed or prohibited within the buffer area will inform requirements in the BAO schedule.

If certain land uses, buildings and works or subdivision require a permit due to potential off-site impacts within the buffer area, information or assessments may need to be provided by permit applicants to support responsible authorities in making a decision.



## IMPLEMENTATION

The BAO is implemented through schedules to the overlay. These are informed by the evidence base. To support appropriate application of the overlay, certain information must be submitted with proposals to apply the BAO.

### Step Six

#### *Discuss implementation*

Operators and councils should discuss the recommendations in the site-specific assessment and how they can be implemented through a schedule(s) to the BAO.

### Step Seven

#### *Draft schedule(s) informed by evidence base*

Councils should draft a BAO schedule or schedules based on the recommendations in the assessment. The BAO schedule is comprised of the following, as appropriate, informed by the completed assessment:

- a **detailed statement of risk** for the buffer area that identifies the potential off-site safety, human health or significant amenity impacts of the land use
- **up to five objectives** to be achieved for the buffer area – this could include what compatible land uses are to be encouraged within the buffer area
- **requirements for use of land, subdivision and buildings and works**
- reference to **referral requirements** (referral requirements themselves should be included in the schedule to clause 66.04)
- **application requirements**
- **exemption from notice and review**
- **decision guidelines.**

The assessment document itself can be included as a background document in the schedule to clause 72.08.

Known requirements for use and development should be built into the schedule to the overlay where possible, rather than left for referral.

For example, rather than referring applications for use of land proposals that will always receive a 'no' response from referral authorities – prohibit them through the schedule to the overlay.

### Step Eight

#### *Submit application for authorisation with required information*

Councils should submit an application for authorisation to prepare an amendment to the Minister for Planning. **This must include the following information required by the Minister** under s8A of the *Planning and Environment Act 1987*:

- information or reports demonstrating that the land use is compliant with regulations and standards relating to off-site impacts or land use compatibility and that all reasonably practicable measures to minimise off-site impacts have been considered and exhausted
- an assessment demonstrating the potential of the land use for off-site safety, human health or significant amenity impacts, the spatial extent of potential impacts and appropriate restrictions on land use and development in the buffer area
- the written views of the Environment Protection Authority or other relevant authority in relation to the above information and the proposed application of the BAO.

This information will provide evidence to support appropriate application of the Buffer Area Overlay.

### Step Nine

#### *Planning scheme amendment process*

Implementation of the BAO schedule(s) via the standard planning scheme amendment process.

## REVIEW

It is important that BAO schedule(s) are reviewed regularly to ensure they continue to reflect the risk profile of the land use. Review of schedule(s) could involve changes to mapping, ordinance or both.

### Step Ten

#### *Periodically review application of the BAO*

Operators should inform councils about anything that may trigger the need to review application of the BAO, such as closure or significant changes in operations.

Councils should review BAO schedules as part of regular planning scheme reviews and when otherwise required.

If a BAO schedule needs to be modified, Step 4 to Step 9 above should be followed to inform changes.



Operators and councils should discuss resources required to undertake any further assessments.

## OTHER CONSIDERATIONS

### Managing the impacts of proposed future operations

The BAO can be used to manage existing operations, and future operations that have been approved but not yet commenced. Approved operations include those approved through licences, permits etc.

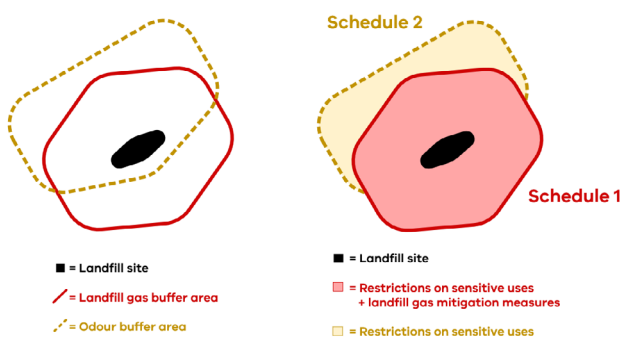
### Managing impacts from more than one site

The BAO can be used to manage impacts from more than one site in an area or precinct. The same criteria applies as with individual sites. An assessment that considers each site is still required to demonstrate potential off-site impacts and appropriate land use and development responses within the buffer area(s). Cumulative impacts should also be considered as part of this assessment, where relevant.

### Managing different impacts from a single site

Multiple schedules can be used to cover different impacts from a single site (see example below). Each schedule needs its own statement of risk that reflects the potential impacts in that buffer area.

*Example only*



Appendix D contains example BAO schedules for a landfill scenario where both landfill gas impacts and odour impacts need to be addressed.

### Managing the impacts of licensed pipelines

The BAO could potentially be applied to licensed pipelines in certain circumstances. Energy Safe Victoria is working on a standardised approach for the application of planning controls. Future proposals to apply planning controls to pipelines will be informed by this work.

### Use of the Environmental Significance Overlay (ESO) for buffers

The BAO is a purpose-built tool to manage buffers through the planning system and replaces the use of ESOs for buffer purposes. Existing ESOs that have been used to manage buffers can remain in place, although in some cases replacement with a BAO may be desired.



## Appendix A – Clause 53.10 use and activity descriptions and potential adverse impacts

Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Basic metal products</b>						
<b>Iron or steel production</b>	x	x	x	x		<ul style="list-style-type: none"> <li>Foundries - metal melting or casting ferrous metals (alloys)</li> <li>Production of iron from iron ore or steel to make sheet metal, structural metal and iron and steel products</li> <li>Scrap metal processing - fragmented or melted to recover metal (including lead battery reprocessing).</li> </ul>
<b>Non-ferrous metal production</b>	x	x	x	x	x	<ul style="list-style-type: none"> <li>Metal and ore smelting, refining, melting, casting, fusing, roasting or processing.</li> <li>Grinding and milling works – rocks, ore etc. that are processed by grinding or milling, or separated by sieving, aeration etc.</li> <li>Where metal, metal ores, concentrates or wastes are treated to produce metal (other than iron and aluminium).</li> </ul>
<b>Non-ferrous metal production: aluminium by electrolysis</b>	x	x	x	x	x	Production of aluminium using electrolytic fusion technique.
<b>Chemical, petroleum and coal products</b>						
<b>Ammunition, explosives and fireworks production</b>		x	x	x	x	Production of ammunition, explosives and fireworks.
<b>Biocides production and storage</b>	x	x	x	x	x	Production of biocides, herbicides, insecticides or pesticides by a chemical process.
<b>Briquette production</b>		x	x	x		<ul style="list-style-type: none"> <li>Compressed coal dust or wood dust production</li> <li>Manufacturing clay bricks (except refractory bricks).</li> </ul>



Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Chemical product manufacture other than listed within this group</b>	x	x	x	x	x	Manufacture of other chemical products
<b>Coke processing</b>		x	x	x		Coke is produced, quenched, cut, crushed and graded.
<b>Cosmetics and toiletries production</b>		x	x	x	x	Manufacture of cosmetics and toiletries.
<b>Fertiliser production</b>	x	x	x	x	x	Manufacture of artificial fertilisers (HF, NH <sub>3</sub> , SO <sub>2</sub> ).
<b>Gasworks</b>	x	x	x	x	x	Premises on which coal, coke and oil (including mixtures or derivatives of) are processed to produce combustible gas.
<b>Industrial gases production</b>	x	x		x	x	Production, processing, refining and storage of industrial gases.



Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Organic and inorganic industrial chemicals production other than those listed within this group</b>	x	x	x	x	x	<p>Manufacturing blending or packaging of inorganic chemicals including:</p> <ul style="list-style-type: none"> <li>• dyes and pigments</li> <li>• chromium sulphate</li> <li>• acids and salts</li> <li>• chlorine</li> <li>• sodium hydroxide</li> <li>• other alkalis using electrochemical processes</li> <li>• sodium cyanide</li> <li>• sodium silicate</li> <li>• titanium dioxide</li> <li>• sulphuric acid.</li> </ul> <p>Manufacturing, blending or packaging of organic chemicals, including:</p> <ul style="list-style-type: none"> <li>• wood or gum chemicals</li> <li>• organic tanning extracts</li> <li>• organic dyes and pigments</li> <li>• organic acids</li> <li>• industrial alcohols such as ethanol, methanol, ethylene glycol and ether</li> <li>• antifreeze</li> <li>• beeswax</li> <li>• concrete additive or masonry surface treatment</li> <li>• dry cleaning compounds</li> <li>• eucalyptus oil</li> <li>• flux manufacturing (welding and soldering)</li> <li>• formaldehyde</li> <li>• sandalwood oil</li> <li>• tea-tree oil.</li> </ul>
<b>Other petroleum or coal production</b>	x	x	x	x	x	Other hydrocarbon production or refining



Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Paints and inks manufacture, blending and mixing &gt;2,000 tonnes/year</b>	x	x		x	x	<ul style="list-style-type: none"> <li>Mixing pigments, water, solvents and binders into paints and coatings. Includes manufacturing allied paint products (e.g. putties, caulking compounds, paint and varnish removers) and rubbing compounds and manufacturing inks and toners</li> </ul>
<b>Petroleum refinery</b>	x	x		x	x	<ul style="list-style-type: none"> <li>Refinery of crude oil or condensate</li> <li>Refining heavy and light oil components into petroleum products using oil and grease base stocks, as well as synthetic organic compound base stocks</li> <li>Refining heavy and light component crude oil, manufacturing and/or blending materials into petroleum fuels, and manufacturing fuels from the liquefaction of petroleum gases.</li> </ul>
<b>Pharmaceutical and veterinary chemical production</b>	x	x	x	x	x	Production of pharmaceutical and veterinary chemicals
<b>Polyester and synthetic resins production &gt;2,000 tonnes/year</b>	x	x	x	x	x	<ul style="list-style-type: none"> <li>Manufacture of synthetic resins, non-vulcanisable elastomers and mixing and blending of resins and polymeric materials</li> <li>Manufacture of polyester resins</li> <li>Resin is used to prepare or manufacture plastic foam or foam products using MDI or TDI.</li> </ul>
<b>Rubber production: synthetic rubber, exceeding 2,000 tonnes per year</b>	x	x	x	x	x	Production of synthetic rubber.
<b>Rubber production: using either organic solvents or carbon black</b>	x	x	x	x		Rubber production using either organic solvents or carbon black.
<b>Rubber production: using sulphur</b>	x	x	x	x	x	Rubber production using sulphur.



Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Soap and detergent production</b>		x	x	x	x	Manufacturing cleaning compounds, including toothpastes, soaps and detergents, surface active agents, polishes and speciality cleaning preparations.
<b>Fabricated metal products</b>						
<b>Abrasive blast cleaning</b>		x	x			Metal or other material is cleaned or abraded by blasting with any abrasive material.
<b>Boiler maker</b>		x				Manufacturing boilers, tanks and other metal containers from heavy gauge metals.
<b>Metal coating and finishing</b>	x	x	x	x		<ul style="list-style-type: none"> <li>Galvanising, electroplating, anodising (chroming, phosphating and colouring), chemical etching or milling of metal products</li> <li>Powder coating or enamelling</li> <li>Industrial spray painting.</li> </ul>
<b>Structural or sheet metal production</b>		x	x			<ul style="list-style-type: none"> <li>Manufacturing structural metal products</li> <li>Manufacturing sheet metal products not classified elsewhere, such as pressed or spun metal hollowware, air ducts and bottle closures.</li> </ul>





Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Food and beverages</b>						
<b>Alcoholic and non-alcoholic beverage production &gt;5,000 litres/day: alcoholic</b>	x	x				Alcoholic beverages are manufactured – brewery, distillery or winery.
<b>Alcoholic and non-alcoholic beverage production &gt;5,000 litres/day: non-alcoholic</b>		x				Non-alcoholic beverages are manufactured, processed or packaged.
<b>Animal processing</b>		x	x	x		<ul style="list-style-type: none"> <li>Abattoir – killing of animals for human consumption or pet food – no rendering</li> <li>Slaughtering and dressing birds (including poultry and game birds) and/or preparing and processing, boning, chilling, freezing or packaging or canning the whole or selected parts of bird carcasses.</li> </ul>
<b>Bakery &gt;200 tonnes/year</b>		x	x	x		Production of baked products. Excludes bakeries ancillary to a shop.
<b>Flour mill &gt;200 tonnes/year</b>		x	x			Milling flour or meal intended for human consumption from grains, vegetables or plants.



Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Food production other than those listed within this group &gt;200 tonnes/year</b>		x	x	x		<ul style="list-style-type: none"> <li>• Manufacturing canned, bottled, preserved, quick frozen or dried fruit (except sun-dried) and vegetable products.</li> <li>• Manufacturing dehydrated vegetable products, soups, sauces, pickles and vegetable products.</li> <li>• Manufacturing other food products, including:               <ul style="list-style-type: none"> <li>- coffee and tea</li> <li>- deep fat frying, roasting or drying</li> <li>- egg pulping or drying</li> <li>- flavoured water packs (for freezing into flavoured ice)</li> <li>- food dressings</li> <li>- food flavours and colours</li> <li>- frozen pre-prepared meals</li> <li>- gelatine</li> <li>- ginger</li> <li>- health supplements</li> <li>- honey (blended)</li> <li>- hops</li> <li>- jelly crystals</li> <li>- rice preparation</li> <li>- salts, seasonings, spices</li> <li>- soya bean concentrate, isolate or textured protein</li> <li>- Worcestershire sauce</li> <li>- yeast or yeast extract.</li> </ul> </li> </ul>
<b>Grain and stockfeed mill and handling facility</b>		x	x	x		<ul style="list-style-type: none"> <li>• Receiving, storing, fumigating, bagging, transporting and loading grain or stockfeed</li> <li>• Grain or seed milling premises</li> <li>• Premises on which grain or seed is cleaned, graded, sorted or processed.</li> </ul>



Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Maltworks &gt;200 tonnes/year</b>				x		<ul style="list-style-type: none"> <li>Production of malt.</li> </ul>
<b>Manufacture of milk products &gt;200 tonnes/year</b>		x	x	x		<ul style="list-style-type: none"> <li>Milk is separated, evaporated or a dairy product is manufactured; processing raw milk. Processes include pasteurisation of milk and separation to produce milk and cream with varying fat content.</li> <li>Grading, filtering, chilling fresh liquid whole milk or cream, or manufacturing, bottling or packaging pasteurised liquid whole milk, flavoured liquid whole or skim milk, liquid skim milk, liquid standardised milk, cream, sour cream, cultured buttermilk or yoghurt.</li> </ul>
<b>Milk depot</b>		x		x		Milk receipt or distribution depot operation.
<b>Pet food production</b>		x	x	x		Manufacture of animal feed from grain and other food products.
<b>Production of vegetable oils and animal fats using solvents &gt;200 tonnes/year</b>		x	x	x		Vegetable oil, oil seed or animal fat is processed – includes seed crushing and use of solvents to refine oils.
<b>Seafood processor &gt;200 tonnes/year</b>		x		x		Fish or other seafood is processed or packaged
<b>Smallgoods production &gt;200 tonnes/year</b>	x	x		x		<p>Manufacturing of cured/preserved meats, including canning and packaging:</p> <ul style="list-style-type: none"> <li>Bacon, ham, smallgoods or prepared meat products not elsewhere classified</li> <li>Corned meat manufacturing</li> <li>Croquette manufacturing</li> <li>Pate manufacturing (except fish)</li> <li>Poultry smallgoods manufacturing</li> <li>Salting, drying, pickling or smoking.</li> </ul> <p>Excludes abattoir facilities or rendering works.</p>



Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Miscellaneous manufacturing</b>						
<b>Printing and coating works with heated curing ovens</b>	x	x	x	x		Printing works emitting volatile organic compounds; printing and/or providing reprographic services. Printing methods may include off-set lithographic, reprographic, digital, relief and screen printing
<b>Rendering and casings works</b>		x		x		Animal matter is processed or extracted for use as fertiliser, stock food or other purposes
<b>Non-metallic mineral products</b>						
<b>Bitumen batching plant</b>	x	x	x	x		Asphalt is mixed and prepared
<b>Cement production</b>		x	x			Concrete or cement is mixed, prepared or treated
<b>Cement, lime, clay bricks, tiles and pipe refractories, with a design production rate exceeding 10,000 tonnes per year</b>	x	x	x	x		<ul style="list-style-type: none"> <li>Manufacturing products using a furnace or kiln</li> <li>Manufacturing concrete products, including manufacturing aerated and concrete composite products</li> <li>Production of cement clinker or lime or cement clinker, clay, limestone or similar is ground or milled, including quicklime production</li> <li>Ceramic works, being works in which bricks, tiles, pipes, pottery goods or refractories are processed in dryers or kilns</li> <li>Ceramic kitchen or tableware or other non-refractory ceramic products.</li> </ul>
<b>Concrete batching plant &gt;5,000 tonnes/year</b>		x	x			Concrete is made (batched) and loaded for transport or cement products are made.



Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Glass and glass production including glass wool and fibreglass</b>	x	x	x	x		<ul style="list-style-type: none"> <li>Premises on which glass or glass fibre is produced</li> <li>Manufacturing polymer composite products such as fibreglass products and resilient floor coverings, as well as other polymer products</li> </ul>
<b>Plaster or plaster articles production &gt;5,000 tonnes/year</b>			x			Plaster, plasterboard, gyprock or other products comprised wholly or mostly of gypsum are made.
<b>Rock wool manufacture</b>	x	x	x	x		Manufacture of mineral wool or ceramic fibre.
<b>Solar salt manufacture</b>		x	x			Salt is produced by solar evaporation.
<b>Other premises</b>						
<b>Automotive body, paint, and interior repair</b>	x	x	x	x		Repairing, panel beating and/or spray painting smashed or damaged automotive vehicles.
<b>Rural industry handling, processing or packing agricultural produce</b>		x	x	x		Rural industry handling, processing or packing agricultural produce.
<b>Paper and paper products</b>						
<b>Paper or paper pulp production</b>	x	x	x	x		<ul style="list-style-type: none"> <li>Manufacture of paper pulp, wood pulp, kraft paper, kraft paperboard, cardboard paper or paperboard</li> <li>Involving combustion of sulphur or sulphur containing materials</li> <li>Paper recycling</li> <li>Corrugated paperboard and paperboard container recycling.</li> </ul>



Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Recreational, personal and other services</b>						
<b>Dry cleaning for commercial and institutional customers, or in bulk quantities</b>		x	x	x		Providing a range of dry cleaning services and operations in bulk quantities.
<b>Laundry for commercial and institutional customers, or in bulk quantities</b>		x	x	x		Providing a range of laundry services and operations in bulk quantities.
<b>Textiles</b>						
<b>Carpet backing with latex</b>	x	x		x		Carpet backing process using latex.
<b>Dyeing or finishing of cotton, linen and woollen yarns and textiles</b>			x	x		Industrial finishing of textile products, using processes such as automated embroidery, bleaching, dyeing, printing (except screen printing) or pleating.
<b>Leather and artificial leather goods production</b>		x		x		<ul style="list-style-type: none"> <li>Manufacturing textile or canvas bags for packaging</li> <li>Manufacturing leather belts, gloves, or fur or leather clothing and footwear.</li> </ul>
<b>Leather tanning and dressing</b>		x	x	x		Animal skins or hides where they are treated dried, cured and stored – using a sulphide process or non-sulphide process.
<b>Rope, cordage and twine production</b>		x	x			Manufacturing rope, cordage, twine, net or related products from natural or synthetic fibres.
<b>Treatment or production of natural and synthetic fibres and textiles</b>		x	x	x		<ul style="list-style-type: none"> <li>Manufacture of cotton, linen, woollen yarns and other natural textiles</li> <li>Carpet making and other forms of manufacturing, ginning, milling or production of natural fibres</li> <li>Artificial and synthetic fibre manufacturing or treatment and cellulose nitrate, viscose fibre, cellophane, artificial rubber or other man-made textiles manufacture.</li> </ul>



Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Treatment or production of textiles using carbon disulphide</b>		x		x	x	Textile manufacturing and processing with textile finishing work using a chemical treatment (carbon disulphide).
<b>Wool scouring</b>		x		x		Scouring and primary treatment of wool.
<b>Transport and storage</b>						
<b>Bus depot</b>		x		x		Depot for buses.
<b>Depot for refuse collection vehicles</b>		x		x		Depot for refuse collection vehicles.
<b>Storage of bulk volatile organic compounds in quantities greater than 1,000 tonnes</b>	x	x	x	x	x	Storage of bulk volatile organic compounds in quantities greater than 1,000 tonnes.
<b>Storage of petroleum products and crude oil in tanks &gt;2,000 tonnes capacity</b>	x	x		x	x	Storage of petroleum products and crude oil in tanks with capacity greater than 2,000 tonnes.
<b>Storage of wet-salted or unprocessed hides</b>		x		x		Storing preserved (salted) raw stock to be later used for making leather.
<b>Waste, recycling and resource recovery</b>						
<b>Chemical or oil recycling</b>	x			x	x	Waste liquid hydrocarbons, organic oils or chemicals are refined, purified, reformed, separated or processed.
<b>Combustion, treatment or bio-reaction of waste to produce energy</b>	x	x	x	x	x	Combustion, treatment or bio-reaction of waste to produce energy.



Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Composting and other organic materials recycling</b>	x	x	x	x	x	Composting and other organic materials recycling, including: <ul style="list-style-type: none"> <li>• Outdoor uncovered, regularly turned windrows</li> <li>• Outdoor covered, turned windrows</li> <li>• Outdoor covered windrows with continuous aeration</li> <li>• Enclosed windrows with odour control</li> <li>• In-vessel composting with odour control.</li> </ul>
<b>Hazardous waste storage or treatment</b>	x	x	x	x	x	<ul style="list-style-type: none"> <li>• Industrial liquid waste</li> <li>• Premises on which hazardous liquid waste is treated</li> <li>• Incineration of biomedical, chemical, organic, plastic, rubber or wood waste</li> <li>• Intractable waste, as specified, for burial</li> <li>• Premises engaged in the storage of hazardous industrial waste prior to treatment.</li> </ul>
<b>Landfill</b>	x	x	x	x	x	Landfill accepting putrescible, solid inert or hazardous waste, including: <ul style="list-style-type: none"> <li>• Contaminated solid waste</li> <li>• Special wastes</li> <li>• Fly ash</li> <li>• Contaminated soil</li> <li>• Organic matter that is liable to putrefaction (rapid degradation by microorganisms) including materials containing food, offal and animals.</li> <li>• Waste building or demolition material.</li> </ul>





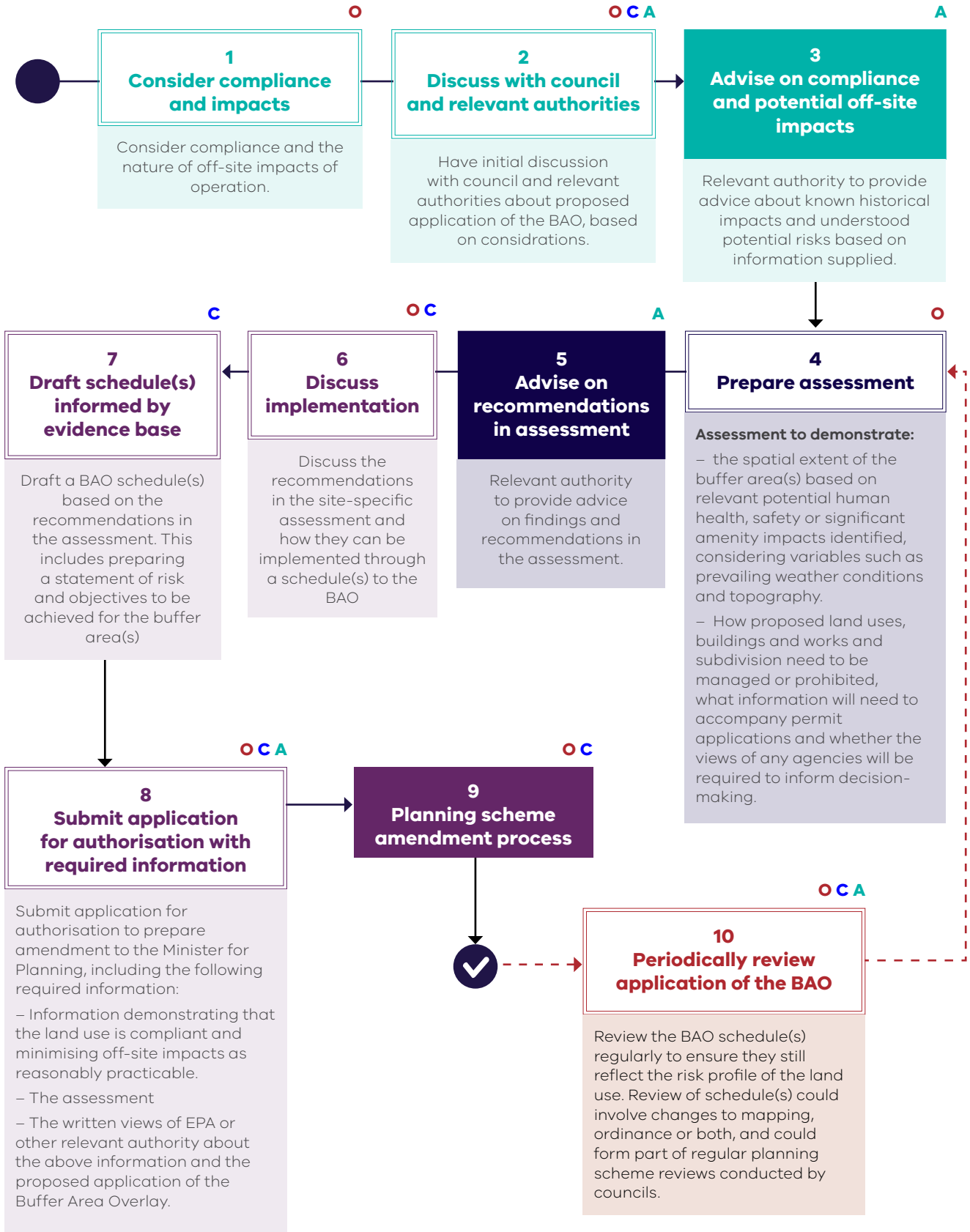
Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Other resource recovery or recycling operations</b>		x	x	x		<ul style="list-style-type: none"> <li>Collecting, dismantling, treating, processing, storing, recycling, or selling used or surplus materials</li> <li>Advanced resource recovery technology facilities</li> <li>Paper and metal recycling facilities</li> <li>Commercial and industrial materials recycling.</li> </ul>
<b>Soil conditioning or blending</b>	x	x	x	x	x	Mixing or blending soils to improve physical qualities (e.g. fertiliser)
<b>Transfer station</b>		x	x	x		Land used to collect, consolidate, temporarily store, sort or recover refuse, used or surplus materials before transfer for disposal, recycling or use elsewhere.
<b>Used plastics treatment or processing</b>		x		x		Recycling of plastic
<b>Waste tyre recycling and re-treading</b>	x	x	x	x	x	<ul style="list-style-type: none"> <li>Premises on which used tyres are crumbed, granulated or shredded</li> <li>Manufacturing tyres from synthetic polymers and/or natural rubber, tyre repair materials and inner tubes</li> <li>Premises with more than 40 tonnes or 5,000 equivalent passenger units (EPUs) of waste tyres at any time.</li> </ul>
<b>Vehicle recycling or disposal</b>		x	x			Recycling or disposal of vehicles and vehicle parts
<b>Water and wastewater</b>						
<b>Sewage treatment plant, exceeding a design or actual flow rate of 5,000 litres per day</b>	x	x		x	x	<ul style="list-style-type: none"> <li>Sewage treatment plant operation</li> <li>Vacuum/wastewater/sewage pumping station.</li> </ul>
<b>Water treatment plant</b>	x	x		x		<ul style="list-style-type: none"> <li>Desalination - premises at which salt is removed from water for potable or other uses that have a design capacity to process more than 1 ML/day feed water</li> <li>Raw water treatment</li> </ul>



Type of use or activity	Potential adverse impacts					Description of activity
	Hazardous air pollutants	Noise	Dust	Odour	Other risk (e.g. loss of containment)	
<b>Wood, wood products and furniture</b>						
<b>Charcoal production</b>		x	x	x		Wood, carbon material or coal is charred to produce a fuel or material of enriched carbon content
<b>Joinery</b>		x	x	x		Production of wooden furniture and household items such as doors, kitchen fittings, flooring and mouldings
<b>Sawmill, wood products and furniture</b>		x	x	x		<ul style="list-style-type: none"> <li>• Timber (tree) milling</li> <li>• Manufacturing softwood or hardwood wood chips</li> <li>• Manufacturing wood boards and sheets from reconstituted wood fibres such as wood chips, sawdust, wood shavings, slab wood or off-cuts</li> <li>• Wood-board manufacturing (including MDF plants)</li> <li>• Manufacturing furniture of wood or predominantly of wood.</li> </ul>
<b>Wood preservation plant</b>		x	x	x	x	Timber treatment by chemical means, including chromated copper arsenate (CCA).



## Appendix B – BAO step by step summary





### Appendix C – Risk exposure matrix for application of BAO

Operations with a high, very high or extreme level of residual risk, shown within the **red line**, are likely to be suitable for application of the BAO.

Operations with a medium level of residual risk based on unlikely, but moderate or major consequences, shown within the **dashed red line**, may be considered suitable for application of the BAO.

Consequence					
Severe	High	High	Very high	Very high	Extreme
Major	Medium	Medium	High	Very high	Very high
Moderate	Medium	Medium	High	High	High
Minor	Low	Low	Medium	Medium	Medium
Very Low	Very low	Low	Low	Low	Medium
Likelihood	Highly unlikely	Unlikely	Possible	Likely	Almost certain

Likelihood criteria	Highly unlikely	Unlikely	Possible	Likely	Almost certain
Descriptive (based on industry history, the nature of the specific business)	Will probably never happen in the industry	Not expected to happen/recur in the industry but it is possible	Expected to happen/recur in the industry occasionally	Expected to happen/recur in the industry regularly	Expected to happen/recur in the industry frequently



Consequence criteria	Very low	Minor	Moderate	Major	Severe
<p><b>Amenity, human health and safety impacts</b></p> <p>(based on the intensity, duration and character of unintended off-site impacts such as odour, dust, noise and landfill gas)</p>	<p>Does not disrupt normal activities associated with sensitive land uses</p> <p><b>Examples:</b></p> <p>Odour that is not very noticeable or doesn't last very long</p> <p>Dust that is hardly noticeable</p> <p>Low volume noise emissions that are hardly noticeable</p>	<p>Annoying when occurs, but unlikely to disrupt normal activities associated with sensitive land uses</p> <p><b>Examples:</b></p> <p>Odour that is sometimes noticeable but does not stop you undertaking normal activities</p> <p>Dust that is sometimes noticeable but doesn't cause damage or irritation</p> <p>Low volume noise emissions that are sometimes noticeable, but do not interfere with normal domestic activities</p>	<p>Moderate disruption to normal activities associated with sensitive land uses and some concern</p> <p><b>Examples:</b></p> <p>Odour that is not intrinsically nauseating or unsafe, but it is clearly noticeable, and you don't get used to it</p> <p>Dust that is noticeable and sometimes results in deposits to outdoor furniture and vehicles</p> <p>Noise that causes some sleep disturbance with open windows and interferes with normal domestic activities outdoors</p> <p>Landfill gas observed from time to time but not very detectable or measurable</p>	<p>Notable disruption to normal activities associated with sensitive land uses and great concern</p> <p><b>Examples:</b></p> <p>Odour that is very noticeable, penetrates inside the house and you can't carry out activities outside the home</p> <p>Dust that is noticeable and results in needing to clean outdoor furniture regularly and some damage to vehicles</p> <p>Noise that would cause sleep disturbance with closed windows and interfere with normal domestic activities indoors</p> <p>Landfill gas present but not at explosive levels</p>	<p>Ongoing disruption to normal activities associated with sensitive land uses or potential for serious harm including loss of life</p> <p><b>Examples:</b></p> <p>Odour that is extremely noticeable and causes people to experience physical symptoms and emotional distress</p> <p>Widespread deposit of dust over property and damage to property. Results in reduced visibility, coughing, sneezing, stinging eyes.</p> <p>Noise that causes people to be unable to have a conversation, even with windows closed</p> <p>Landfill gas migration building to explosive levels</p>



## Appendix D – Example BAO schedules (landfill scenario)

### These are examples only

#### SCHEDULE 1 TO CLAUSE 44.08 BUFFER AREA OVERLAY

Shown on the planning scheme map as **BAO1**

#### GUMNUT LANDFILL – LANDFILL GAS MIGRATION BUFFER AREA

##### 1.0 Statement of risk

Gumnut Landfill is an operating municipal landfill that accepts putrescible waste. The landfill is classified as a hub of regional importance in the *Gumnut Region Resource Recovery Implementation Plan*. Potential for off-site landfill gas migration within this buffer area poses human health and safety risks, such as asphyxiation and explosion, if use and development is not managed appropriately. As an operating landfill there is also potential for unintended off-site odour impacts, primarily to the north and east of the landfill site, which could have impacts on human health by causing headaches and nausea.

##### 2.0 Objectives

- To encourage land use and development that complements the existing function of Gumnut Landfill.
- To restrict encroachment and intensification of land uses that are sensitive to the potential unintended off-site impacts of Gumnut Landfill on safety and human health.

##### 3.0 Use of land

Dwelling and dependent person's unit

A permit is required to use land for a:

- Dwelling
- Dependent person's unit

Land must not be used for:

- More than one Dwelling on a lot.
- More than one Dependent person's unit on a lot.

Other use

The following uses are prohibited on land affected by this overlay:

- Accommodation (other than Dwelling and Dependent person's unit)
- Education centre
- Hospital
- Place of assembly

##### 4.0 Subdivision

A permit is required to subdivide land.

Any subdivision of land which would increase the number of Dwellings which the land could be used for is prohibited. This does not apply to the subdivision of land to create a lot for a Dwelling in respect of which a permit has been granted.

##### 5.0 Buildings and works

A permit is required to construct a building or construct or carry out works.



This does not apply to:

- The construction of an unenclosed building or structure.
- An alteration to a building or structure that does not require ground disturbance.

Any building or works for which a permit is required under this overlay must be constructed or carried out so as to include landfill gas mitigation measures in accordance with the *Gumnut Landfill Impact Assessment 2020*.

## 6.0 Application requirements

An application to use land for a dwelling or dependent person's unit, or construct a building or construct or carry out works must be accompanied by:

- A description of the proposed use of land for a dwelling or dependent person's unit.
- A statement and plan demonstrating how required landfill gas mitigation measures will be implemented in accordance with the *Gumnut Landfill Impact Assessment*.

## 7.0 Exemption from notice and review

An application under this overlay is exempt from the notice requirements of section 52(1)(a), (b) and (d) of the Act.

## 8.0 Decision guidelines

The following decision guidelines apply to an application for a permit under Clause 44.08, in addition to those specified in Clause 44.08 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- Whether the proposal will result in an increase in the number of dwellings and people that may be affected by potential unintended landfill gas migration and odour impacts from Gumnut Landfill.
- Whether the proposal adequately responds to the requirements for use and development in the *Gumnut Landfill Impact Assessment 2020*, including required landfill gas mitigation measures, where relevant.
- The views of the Environment Protection Authority.



## **SCHEDULE 2 TO CLAUSE 44.08 BUFFER AREA OVERLAY**

Shown on the planning scheme map as **BAO2**

### **GUMNUT LANDFILL – ODOUR BUFFER AREA**

#### **1.0 Statement of risk**

Gumnut Landfill is an operating municipal landfill that accepts putrescible waste. The landfill is classified as a hub of regional importance in the *Gumnut Region Resource Recovery Implementation Plan*. Potential unintended off-site odour impacts within this buffer area, primarily to the north and east of the landfill site, could have impacts on human health by causing headaches and nausea.

#### **2.0 Objectives**

- To encourage land use and development that complements the existing function of Gumnut Landfill.
- To restrict encroachment and intensification of land uses that are sensitive to the potential unintended off-site impacts of Gumnut Landfill on human health.

#### **3.0 Use of land**

Dwelling and dependent person's unit

A permit is required to use land for a:

- Dwelling
- Dependent person's unit

Land must not be used for:

- More than one Dwelling on a lot.
- More than one Dependent person's unit on a lot.

Other use

The following uses are prohibited on land affected by this overlay:

- Accommodation (other than Dwelling and Dependent person's unit)
- Education centre
- Hospital
- Place of assembly

#### **4.0 Subdivision**

A permit is required to subdivide land.

Any subdivision of land which would increase the number of Dwellings which the land could be used for is prohibited. This does not apply to the subdivision of land to create a lot for a Dwelling in respect of which a permit has been granted.

#### **5.0 Buildings and works**

None specified.

#### **6.0 Application requirements**

An application to use land for a dwelling or dependent person's unit must be accompanied by:

- A description of the proposed use of land for a dwelling or dependent person's unit.





## 7.0 Exemption from notice and review

An application under this overlay is exempt from the notice requirements of section 52(1)(a), (b) and (d) of the Act.

## 8.0 Decision guidelines

The following decision guidelines apply to an application for a permit under Clause 44.08, in addition to those specified in Clause 44.08 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- Whether the proposal will result in an increase in the number of dwellings and people that may be affected by potential unintended odour impacts from Gumnut Landfill.
- Whether the proposal adequately responds to the requirements for use and development in the *Gumnut Landfill Impact Assessment 2020*.
- The views of the Environment Protection Authority.

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