

# Shipping container storage

Planning Practice Note | 24

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This practice note provides guidance on shipping container storage provisions in planning schemes.

International trade is growing and, with it, the proportion of containerised goods. The demand for land on which to store shipping containers will grow with these trends.

Containerised trade and facilities that support this trade are critical to Victoria's economy. Shipping container storage and other facilities that handle shipping containers can have significant transport and environmental impacts where they adjoin sensitive uses or use transport routes in or near sensitive areas.

This practice note:

- describes shipping containers and shipping container storage
- outlines the planning provisions that apply to shipping container storage
- provides advice on the location, use, design and operation of shipping container storage
- provides guidance on the information that should accompany a planning permit application for shipping container storage
- provides advice on planning permit conditions.

The advice in this practice note can inform planning decisions about shipping container storage and other land uses that involve shipping container handling, such as a transport terminal.

## What are shipping containers?

Shipping containers are large, usually rectangular-shaped, units that are used or are capable of being used to carry goods for transport by sea, road, rail or air. Shipping containers used in international trade are of standard sizes and dimensions to facilitate their easy transfer from one transport mode to another. The most common shipping container transported by sea, road or rail is either 6.1 or 12.2 metres (20 or 40 feet) long by 2.4 metres (8 feet) wide and 2.6 metres (8 feet 6 inches) high.

The industry commonly refers to a shipping container as either a TEU (if it is 20 feet long) or a 2TEU (if it is 40 feet long). TEU means Twenty Foot Equivalent Unit.

## What is shipping container storage?

'Shipping container storage' is a land use term in Clause 74 of all Victorian planning schemes, which is defined as "Land used to store shipping containers. It may include the cleaning, repair, servicing, painting or fumigation of the shipping containers". The shipping containers may be empty or full.

The storage of shipping containers on a site does not necessarily mean that the land is being used for 'shipping container storage' as defined in the planning scheme. The storage of shipping containers may be ancillary or incidental to another use of the land.

In deciding whether a proposal is defined as shipping container storage, it is important to establish the primary purpose for which the land is to be used. If the primary purpose of the use is to store shipping containers, the definition of shipping container storage applies. However, if the land is to be used primarily for some other purpose, such as to assemble or distribute containerised goods or to manufacture goods made from parts stored in shipping containers on the land, another definition in the planning scheme may apply (such as the definition for transport terminal or industry).

If the land is to be used for more than one purpose (for example, to store shipping containers and to assemble and distribute goods), and one use will not be more dominant than the other, it is possible that more than one land use term may apply. The use and development controls applying to each land use term must be met.

## What planning provisions apply to shipping container storage?

The provisions that apply to shipping container storage include:

- the State Planning Policy Framework (SPPF)
- the Local Planning Policy Framework (LPPF)
- zone provisions
- Clause 52.33 (a particular provision).

## SPPF

The SPPF provides the broad policy framework for use and development in planning schemes. Clause 17.02 (Industry) aims to ensure availability of industrial land and to facilitate sustainable and viable industry. It encourages councils in urban growth areas to zone land for industrial development where good freight transport access and appropriate buffers can be provided.

Clause 18.03 (Ports) recognises the importance to Victoria of economically sustainable ports and planning for port and port-related uses on and near the ports. Land adjacent to ports should be protected for uses that depend upon or gain significant economic advantage from being near the ports, such as shipping container storage. Port development should be physically separated from sensitive uses and aim to achieve a high standard of environmental quality.

Councils should seek to implement these policies when planning for their industrial areas, land adjacent to their industrial areas and infrastructure investment. Careful strategic planning significantly reduces the potential for land use conflicts in the longer term.

## LPPF

The LPPF sets out the local policy context for a municipality and includes a Municipal Strategic Statement (MSS) and local planning policies (LPPs). The MSS may set out objectives, strategies and general implementation measures for industry and business that are relevant to a proposal. The LPPF may also include an LPP to guide decision-making on permit applications for industrial development generally or for shipping container storage specifically.

Planning decisions should implement the SPPF, the MSS and any relevant LPP.

## Zones

The wide discretion available in planning schemes means that a proposal for shipping container storage can be considered in many zones. This practice note sets out the planning provisions that apply to shipping container storage in zones that are designed to be applied to general industrial areas or areas where a mixture of manufacturing industry and associated commercial or industrial uses is encouraged. These are the Industrial 1 Zone (IN1Z), Industrial 2 Zone (IN2Z), Industrial 3 Zone (IN3Z) and Commercial 2 Zone (C2Z, B3Z, B4Z).

## Land use

There are two types of zones where shipping container storage may be established or expanded:

1. Zones where a planning permit is not required to use land for shipping container storage if a proposal meets certain conditions in the zone. The IN1Z falls into this category.

The conditions that must be met in the IN1Z are set out in Section 1 of the Table of Uses in the zone and in the following table.

If one or more of these conditions cannot be met, the use is a Section 2 use and requires a permit.

If a permit is not required, the landowner or occupier should demonstrate to the council's satisfaction that the proposal meets the zone requirements before a business is established or expanded on the land.

2. Zones where a planning permit is required to use land for shipping container storage. These include the C2Z (B3Z, B4Z), IN2Z and IN3Z.

### Section 1 conditions in IN1Z for shipping container storage

CONDITION	COMMENT
Must not be a purpose shown with a Note 1 or Note 2 in the table to Clause 52.10.	Clause 52.10 provides for adequate separation between sensitive uses and a new industry or warehouse to ensure that residents, education centres and hospitals are not affected by adverse environmental effects, nuisance or exposure to hazards.  The processes to be used and the materials to be processed and stored on the site will determine whether a separation distance applies.
The land must be at least the following distances from land (not a road) which is in a residential zone, Capital City Zone or Docklands Zone, 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: <ul style="list-style-type: none"><li>• The threshold distance, for a purpose listed in the table to Clause 52.10.</li><li>• 100 metres, for a purpose not listed in the table to Clause 52.10.</li></ul>	Clause 52.10 provides for adequate separation between sensitive uses and a new industry or warehouse to ensure that residents, education centres and hospitals are not affected by adverse environmental effects, nuisance or exposure to hazards.  The processes to be used and the materials to be processed and stored on the site will determine whether a separation distance applies.
The site must adjoin, or have access to, a road in a Road Zone.	Shipping container storage tends to generate high volumes of truck traffic, which can have adverse effects on the safety and function of the road network. This condition is designed to encourage shipping container storage on sites that have access to the major road network.
Shipping containers must be set back at least 9 metres from a road in a Road Zone.	Roads in a Road Zone are often major roads that are highly visible and may have a gateway function. These conditions are designed to ensure that the height and setbacks of shipping containers on sites adjoining major roads is in keeping with the scale of development expected in the zone and provide sufficient space for an effective landscape treatment.  A permit may be granted for a lesser setback or a greater height depending on the location and the impact on the appearance of the site and the streetscape.

CONDITION	COMMENT
<p>The height of shipping container stacks must not exceed 6 containers or 16 metres, whichever is the lesser.</p>	<p>Roads in a Road Zone are often major roads that are highly visible and may have a gateway function. These conditions are designed to ensure that the height and setbacks of shipping containers on sites adjoining major roads is in keeping with the scale of development expected in the zone and provide sufficient space for an effective landscape treatment.</p> <p>A permit may be granted for a lesser setback or a greater height depending on the location and the impact on the appearance of the site and the streetscape.</p>
<p>Must not adversely affect the amenity of the neighbourhood, including through the:</p> <ul style="list-style-type: none"> <li>• Transport of materials, goods or commodities to or from the land.</li> <li>• Appearance of any stored goods or materials.</li> <li>• Emission of noise, artificial light, vibration, odour, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit or oil.</li> </ul>	<p>Only shipping container storage which does not adversely affect the amenity of the neighbourhood may establish without a permit.</p> <p>If a use cannot meet these performance criteria, a permit is required. A permit may be granted for a use that creates adverse amenity impacts depending on the location of the site and the nature of the impacts.</p>

## Buildings and works

In the industrial and commercial zones, a permit is required to construct a building or construct or carry out works. Some minor works or plant rearrangements or shipping containers in the Port Zone are exempt from a permit (check the zone provisions and Clause 62.02 for details).

A stack of shipping containers is not a 'building' as defined in the *Planning and Environment Act 1987* (the Act). Therefore, unless a new building is proposed to be constructed on the site or an existing building is proposed to be extended, a requirement for a permit to construct a building may not apply. However, a permit may be required to construct or carry out works. This includes levelling works, cut and fill that change the topography of the land as an example of works that may require a permit.

### Clause 52.33

Clause 52.33 contains decision guidelines which a council must consider before deciding on an application to use or develop land for shipping container storage. The decision guidelines highlight the key planning considerations relevant to a responsible authority (usually a council) decision

about the location, use, design and operation of shipping container storage. These matters include:

- suitability of the site for shipping container storage
- effect on the amenity and character of the neighbourhood
- whether the site layout is designed to avoid or reduce significant off-site effects
- need for landscaping to screen or soften the appearance of the site
- adequacy of traffic management measures.

An applicant should supply sufficient information to enable a responsible authority to consider these matters.

Clause 52.33 does not apply to land which is in a Port Zone or Special Use Zone that has been established for port and port-related activities. Special planning provisions apply to these areas.

### Other provisions

The land may also be affected by other provisions in the planning scheme, such as an overlay. The council can advise which planning scheme provisions apply.

# Planning considerations relevant to the location, use, design and operation of shipping container storage

## Location

Shipping containers used in international trade are unloaded at ports and moved through a series of steps in the transport chain for unpacking, cleaning, repair and servicing, storage, repacking and export. These activities can occur at dispersed sites.

The movement of shipping containers between sites is predominantly by individual truck trips. As a result, shipping container storage and other uses that handle large volumes of shipping containers tend to generate high volumes and frequency of truck traffic.

The road network in an area influences the choice of routes used by truck drivers to access a site and, therefore, the impacts of truck traffic on surrounding land uses. The impacts may include:

- reduced traffic safety (due to conflicts between different types of traffic)
- noise from vehicles (for example, noise from motors, brakes and gear changes) and the transport of empty or poorly secured vehicle loads
- vibrations due to heavy or poorly secured vehicle loads
- truck queuing on roads.

The severity of these impacts varies according to the sensitivity of the location, the volume and speed of vehicles, the type and standard of road surface and the time of day.

To avoid or minimise these impacts, a proposal should be located to:

- have safe and convenient access to freeways or major roads that are designed to carry truck traffic. If direct access to a freeway or major road is not available, the site should have access to a freeway or major road via local roads that serve industrial areas and have little or no residential development along them
- have access to rail services. Shipping containers that are transported by rail can significantly reduce the amount of truck traffic on the road network. Therefore, proposals that use rail services to transport a significant portion of shipping containers to and from the site should be strongly encouraged

- avoid truck traffic through residential areas and other areas where sensitive uses (such as schools) are located
- avoid congestion along roads and at road intersections.

Roads to the site should be of adequate dimensions and constructed to an appropriate standard to accommodate the type and volume of vehicle movements that will be generated by the proposal.

Land uses surrounding the site should be compatible industrial uses or other uses that will not be adversely affected by shipping container handling operations. Sites adjoining or near residential or other sensitive uses should be avoided.

## Site size

The site size and configuration influences site design and operations and, therefore, the impacts on surrounding land uses. The site should be of an adequate size and dimensions to accommodate the proposed activities and any measures needed to avoid or minimise off-site impacts. To determine whether the size of a site is adequate, the following matters should be considered:

- the capacity for trucks to queue on-site
- the provision of space for trucks to safely manoeuvre on-site and enter and exit the site in a forward direction
- whether the expected maximum volume of shipping containers can be stored on-site
- where and how high the shipping containers will be stacked on-site
- whether noise from activities such as repair and servicing can be contained on-site
- whether airborne particles and fumes from activities such as shipping container fumigation, repair and painting, and dust from vehicle movements, can be contained on-site
- the adequacy of landscape areas to effectively screen storage areas from view and enhance the appearance of the site
- the provision and location of on-site waste storage areas.

## Site layout

- The layout of the site should provide for safe and efficient vehicle manoeuvring, access and egress. All vehicles should be able to enter and exit the site in a forward direction.
- Before a shipping container is unloaded or stored on the site, its details are recorded. This is usually the first stopping point for trucks entering the site. The office or 'gatehouse' where these details are recorded should be located to maximise truck queuing on-site. The amount of truck-queuing space provided on-site should take into account the:
  - maximum hourly rate of truck movements into and out of the site
  - timing of peak delivery periods
  - function, capacity and safety of roads to the site (particularly during peak periods).
- Internal vehicle access lanes should be arranged to maximise truck-queuing opportunities on-site and avoid truck-queuing off-site.
- Parking and queuing areas for trucks should be clearly defined and separated from car parking spaces.
- Shipping container storage areas should be set back from road boundaries and screened or landscaped to avoid or minimise any adverse impacts on the streetscape.
- Outdoor waste storage and work areas should be screened from view from roads and adjoining sensitive uses. This may be by buildings, landscaping or fencing.
- Lighting should be carefully located and baffled to ensure that all public areas are well-lit at night without causing a nuisance to surrounding land uses.
- Landscaping should be provided along road boundaries and be of a sufficient width to fulfil the purpose of the landscaping (for example, to screen storage areas from view).

## Buildings

- The scale and height of new buildings should have regard to the scale and height of nearby buildings.
- Buildings and car parking areas should be designed to address the street, minimise the use of the front part of the site for storage and minimise security perimeter fencing on front boundaries.

## Shipping container stacks

- The scale and height of shipping container stacks should have regard to the scale and height of nearby buildings.
- Shipping container stacks should be located at the rear of the site where possible, unless the rear of the site abuts a sensitive use.
- Shipping containers stacked adjacent to landscaped areas or along property boundaries should be stacked in a tier or pyramid formation to reduce their visual bulk.

The risk of falling shipping containers is a workplace safety issue that an applicant should consider when planning the height and layout of shipping container stacks and vehicle access arrangements. Potential causes of falling shipping containers include high wind speeds, ground surface subsidence, vibrations caused by on-site vehicle movements and inadequate spacing between stacks for forklift operations. Suggested techniques for reducing the risk include:

- aligning the longitudinal axis of shipping containers with the predominant wind direction
- providing separation distances between shipping container stacks and vehicle access lanes, residential properties, on-site offices, amenities and work areas, and work areas on adjoining sites. The required separation distance will vary depending on the height of the stack
- stacking shipping containers in a pyramid formation where practicable
- providing sufficient space between stacks for forklifts, mobile cranes and other vehicles to manoeuvre safely
- ensuring that shipping container stacking areas are level, well compacted and durable.

## Landscaping and fencing

- The type of landscaping and planting provided should have regard to the streetscape character, the size of the site, the height and scale of buildings on or near the site, and the conditions required for the planting to achieve optimum and healthy growth.
- Landscape areas used to screen or soften the appearance of shipping container stacks or waste storage areas should be of sufficient dimensions to accommodate effective screen planting, such as combinations of dense shrubs and high branching taller trees.
- Narrow landscape areas that are difficult to maintain should be avoided.
- Perimeter fencing should be integrated into the landscape design for the site.
- Buildings and car parking areas should be designed to minimise fencing on front boundaries. If front boundary fencing cannot be avoided, the fencing should complement the streetscape character.

## Noise

- Measures for reducing noise impacts should be considered, including locating noise-producing activities and refrigerated shipping containers well within the site and sound-baffling noisy equipment.
- Trucks and the use of mechanical equipment, the repair and servicing of shipping containers and the loading and unloading of shipping containers can create noise. *State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1* prescribes limits for noise from industry and should be considered when planning the site layout.

## Dust and dirt

- Areas used for truck and car vehicle movements and parking (such as access and queuing lanes) should be formed and constructed of concrete or some other durable material.
- Crossovers should be constructed of concrete and wheel-wash equipment or wheel grates provided to reduce the transfer of dust and soil onto roads.
- To minimise the creation of dust and mud, areas used to stack shipping containers should be

constructed and provided with an all weather surface to withstand shipping container loads and lifting equipment.

## Operations

- If shipping containers or vehicles are proposed to be washed on-site, an on-site wash bay constructed of concrete or some other impervious and durable material should be provided, and waste from the bay must drain into a public sewer or a settlement and oil separation system. The system must comply with the *Environment Protection Act 1970* and be installed to the satisfaction of the responsible authority. The Environment Protection Authority *Bunding Guidelines Publication 347* contains information relevant to the construction of wash bays.
- Shipping containers and vehicles should be washed only in the wash bay.
- If shipping containers are repaired and serviced on the site, the repairs and servicing should be undertaken well within the site. The *Industrial Waste Resource Guidelines* (June 2009) published by the Environment Protection Authority contain more information about the measures for minimising the off-site impacts of these activities. These guidelines offer guidance for waste and resources regulated under the Environment Protection (Industrial Waste Resource) Regulations 2009.
- Any chemicals proposed to be stored on the site should be stored in accordance with the *Dangerous Goods Act 1985*.

## Preparing a planning permit application for shipping container storage

Delays in the planning permit application process can be avoided if accurate and clear information about the proposal is provided. This information helps council to understand what is proposed and provide accurate advice about whether a permit is required, what a permit is required for and the planning scheme provisions that apply.

The application may need to include any or all of the following information. This will depend on the nature of the proposal and what the permit is required for. To check the information that should be provided, talk to a planner at the responsible authority.

## A location plan which should show (at a scale not less than 1:500):

- the full site area
- the boundaries and dimensions of the site
- adjoining roads
- rail access, if relevant
- surrounding land uses
- distance from sensitive uses, such as housing.

## Plans for the development

The plans for the development should comprise:

- detailed plans of the proposed development at a scale of 1:100, 1:200 or 1:250 showing:
  - relevant ground levels
  - the layout of existing and proposed buildings and works
  - proposed landscape areas
  - crossovers, driveways and vehicle parking, truck queuing and loading areas
  - shipping container storage areas and proposed stack heights
  - any repair and servicing areas
  - any wash bays and waste treatment areas
  - goods delivery and waste storage areas
- elevation drawings, especially for buildings, shipping container stacks and fencing visible from public roads and nearby sensitive uses, and details of building materials, colours and finishes
- a landscape layout which includes a description of the vegetation to be planted, the surfaces to be constructed, a site works specification and the method of preparing, watering and maintaining the landscape area
- construction details of all drainage works, driveways, vehicle parking, goods delivery, truck queuing and loading areas
- location and design of lighting.

The plans should be drawn to scale, be of a reasonable drafting standard and include a north point and relevant dimensions.

## A short report explaining

- a general description of the proposal, including, for example, a description of the type and quantity of shipping containers to be stored, the expected volume and type of vehicle movements to and from the site per day, the routes (over an agreed distance) proposed or likely to be used by trucks to transport shipping containers to and from the site and the hours of operation
- how land not required for immediate use is to be maintained
- why the site is suitable for the use:
  - how the proposal supports the SPPF and the LPPF (including any relevant industrial development LPP)
  - the capacity and suitability of the surrounding road network to accommodate the type and volume of traffic to be generated by the proposal
  - the capacity and suitability of the site to accommodate the intended use (including the maximum number of shipping containers that can be stored and processed on-site) and contain significant off-site impacts
  - likely environmental and amenity effects on the neighbourhood
  - how the proposal has been designed to avoid or minimise any adverse off-site impacts (for example, due to noise, fumes, dust, light, stormwater run-off, vibration or appearance)
  - how the proposal complies with the purpose and decision guidelines of the zone and Clause 52.33.

## Planning permit conditions

If the responsible authority decides to grant a permit to use or develop land for shipping container storage, it may include specific conditions on the permit. The conditions must be reasonable, relate to the planning permission being granted, fulfil a planning purpose and be in plain English.

The chapter on planning permits in *Using Victoria's Planning System* at the department's website provides more information about drafting planning permit conditions.

Matters relevant to shipping container storage that the council may address in planning permit conditions include:

## Use

- location and heights of shipping container stacks
- maximum volume of shipping containers to be stored
- noise emissions
- dust emissions
- waste disposal
- repairs and servicing
- hours of operation.

## Development

- site layout
- building design
- landscape provision and maintenance
- drainage
- construction details
- surface treatment
- vehicle access arrangements
- lighting.

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