HOBSONS BAY CITY COUNCIL

Draft Industrial Design Guidelines

2023-2038

Acknowledgment of Country

Council acknowledges the Bunurong People of the Kulin Nation as the Traditional Owners of these municipal lands and waterways, and pay our respects to Elders past, present and emerging.

Contents

1. Introduction

1.1. Overview

The Industrial Design Guidelines 2023-2038 (the guidelines) have been prepared to guide the design and development of industrial land within the City of Hobsons Bay. The purpose of the guidelines is to deliver attractive and sustainable industrial development that supports the objectives of the Industrial Land Management Strategy 2023-38.

The guidelines are intended to assist applicants and Council officers in preparing and assessing planning permit applications for industrial development and subdivisions. The guidelines are intended to be used by a variety of stakeholders that have an interest in industrial development in Hobsons Bay.

The guidelines should be read in conjunction with the Hobsons Bay Industrial Land Management Strategy 2023-38, the Landscape Design Guidelines (2021) and the Hobsons Bay Planning Scheme (the scheme).

The preparation of the guidelines has been informed by various resources including local and state policies and strategies. To view the full list, see Appendix 1.

1.2. Purpose

The purposes of the guidelines are:

- to ensure development in Hobsons Bay's industrial precincts supports the objectives of Council's Industrial Land Management Strategy (2023-2038)
- to improve the amenity, design, safety, accessibility and environmental performance of industrial areas
- to enhance the liveability, amenity, and safety of industrial land for workers, visitors, and the local community
- to encourage a high-quality design that respects the character of industrial precincts and provides an appropriate interface to residential areas and areas of environmental significance
- to ensure that the design and siting of development within industrial areas makes provision to protect residents of adjoining or nearby land from noise, odour or dust emanating from industrial properties
- to encourage the application of environmentally sustainable design principles and reduce the impacts of climate change and the urban heat island effect
- to support industrial development that implements energy efficient design
- to promote the creation of an urban forest in industrial areas by encouraging quality landscaping design and increased tree-canopy cover in accordance with Council's Urban Forest Strategy 2020
- to ensure places of significant vegetation and places or objects of local and Aboriginal heritage significance, are appropriately considered and addressed within industrial areas

1.3. How to use the guidelines

The guidelines will be utilised during the planning permit application process to encourage the highest level of design quality, amenity, safety, accessibility and environmental performance in industrial areas.

The guidelines apply to applications for industrial land use, development and subdivision which require a planning permit in industrial precincts in the City of Hobsons Bay, including land in the following zones:

- Industrial 1 Zone (INZ1)
- Industrial 3 Zone (INZ3)
- Schedules 2, 3 and 4 of the Special Use Zone (SUZ)

Each subsection of the guidelines contains **design objectives** followed by applicable **design guidance** and indicative diagrams. These guidelines are segmented into sections (2 – 5), each dealing with different aspects of subdivision or development. Section 6 provides for more specific use requirements. All sections relevant to a proposal (subdivision and/or development) should be considered.

Designers, planners, and developers are urged to become familiar with the guidelines and to apply them throughout the design process.

1.4. Assessing permit applications against the guidelines

In preparing a planning permit application, applicants should ensure that the use or development of industrial land meets the guidelines as well as the policies and provisions of the scheme. The guidelines have been prepared to supplement existing policy in the scheme by providing practical and instructive design guidance.

Council will use its discretion to apply the guidelines to development and land use applications where appropriate. Some developments or locations may have site specific needs which require alternative design solutions. Council will accept alternative solutions if it can be demonstrated that the proposed development still meets the overall purpose and objectives of the guidelines.

As technology, innovation and implementation methods evolve, applicants are encouraged to explore alternative solutions that can better respond to existing site conditions or lead to improved outcomes.

2. Site planning

In the early stages of planning for new industrial development, it is important to consider how the design will enhance the sites functionality, amenity and the environment.

2.1. Subdivision design

Design objectives

- to ensure that subdivision layouts allow for sustainable outcomes and contribute to the visual amenity and character of the area
- to create a variety of lot sizes to accommodate intended uses, ensure access, allow opportunities for landscaping and appropriate built form responses
- to ensure subdivision layout supports greater permeability for walking and cycling
- to promote passive solar design through orientation of streets and lots
- to protect significant vegetation and retain native grassland areas, preferably connecting corridors of vegetation (particularly along waterways) whilst considering critically endangered species
- to ensure places of local heritage significance and Aboriginal cultural heritage sensitivity are identified and appropriately considered and addressed
- to protect and enhance waterway systems including river and riparian corridors, waterways, lakes, wetlands and billabongs
- subdivision layouts should be designed to accommodate an appropriate street network as detailed in Section 3.4

Design guidance

- subdivision layouts should demonstrate an appropriate response to:
    - existing topography, natural drainage and features of the site
    - existing and future transport movement networks including roads, cycling and pedestrian routes. Consideration should be given to breaking up larger lots for transport permeability where such opportunities may arise
    - streetscape amenity including canopy trees, footpath and kerb treatments and street lighting
    - development constraints (i.e., land subject to inundation)
    - any adjacent environmental, heritage, commercial and residential areas
    - any setbacks required to adjacent waterway and railway corridors
- subdivision layouts should consider the provision of:
    - outdoor amenities for staff
    - Water Sensitive Urban Design (WSUD) elements to help manage stormwater run-off on site
    - landscaping and tree planting to help mitigate urban heat island effects and improve site amenity
    - landscaping areas to act as a buffer between industrial and residential areas

    - footpaths and/or shared paths on both sides of all new, remade, or modified roads along the lot boundary
- subdivision layouts should enable the siting of buildings to maximise solar access and natural cross flow ventilation
- subdivision layouts for sites adjacent to protected native grasslands should be designed to consider any conservation management practices such as prescribed burning and control requirements for noxious weeds. See Section 2.2 of the guidelines for further information
- subdivision layouts of sites adjacent to environmental or residential areas should:
    - consider the risk of off-site impacts such as stormwater runoff, noise pollution and light spill-over and implement the necessary controls
    - consider the interface treatments detailed in Section 2.2
    - consider impacts to amenity and connectivity
- subdivision design should consider the building and landscape setbacks detailed in Section 4.2
- subdivision layouts should aim to retain large lots and minimise land fragmentation and poor access
- subdivision layouts should provide an identifiable address and front for each new lot/occupancy created

2.1.1. Retaining native grasslands

- where possible, subdivision layouts should retain areas of native grasslands on site. Applicants should refer to Hobsons Bay Native Vegetation Offset Guidelines (2022) and *Start with the grasslands* guidance (Victorian National Parks Association, 2013) to understand their obligations and maintenance practices if they are to retain native grasslands on site
- to enhance resilience, ecosystem function and habitat connectivity, subdivision layouts for sites with native grasslands should:
    - join patches of native grasslands to existing conservation areas where possible, or
    - create a large grassland ‘island’ or network by connecting on-site grassland patches with other grassland patches in adjacent lots. See example in figure below of preferred grassland corridor retention

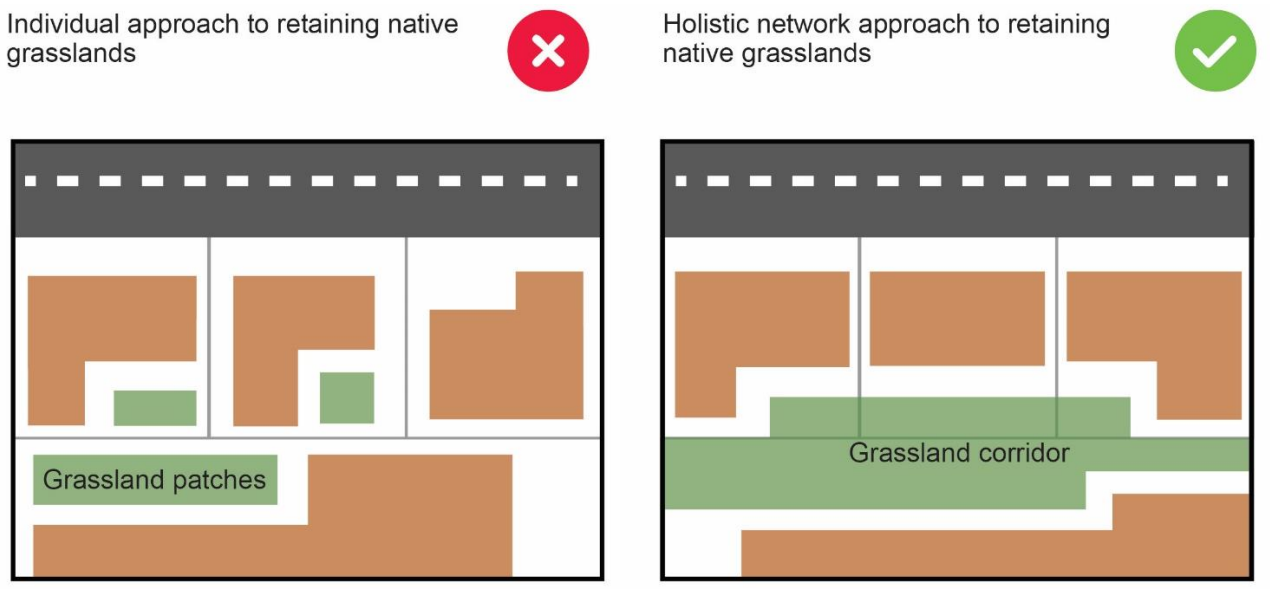


Figure 1 - Approach to retaining native grasslands

2.2. Interface treatments

Where industrial development is proposed to be located adjoining a sensitive use, such as a residential area, it needs to be carefully designed to minimise off-site impacts.

Design objectives

- to ensure industrial sites can operate safely and efficiently while also minimising offsite impacts
- to enhance the interface between industrial land and adjoining sensitive areas such as residential areas or areas of environmental significance
- to ensure new industrial development appropriately responds to the character and amenity of adjoining or surrounding residential areas
- to protect the ecological value and integrity of native grasslands and areas with significant biodiversity values adjacent to industrial sites
- to protect the function of waterways and enhance the biodiversity values within waterway corridors in industrial areas

2.2.1. Residential interface

Design guidance

- the height of industrial buildings and works opposite or adjacent to residential areas should consider the scale of dwellings in relation to the street
- industrial developments should avoid expanses of blank walls or visually impermeable fencing fronting residential areas
- buildings should provide a transition in scale where development has an interface with residential areas
- buildings fronting residential areas should have articulated and visually interesting facades that reflect the scale and materials used in the residential built form

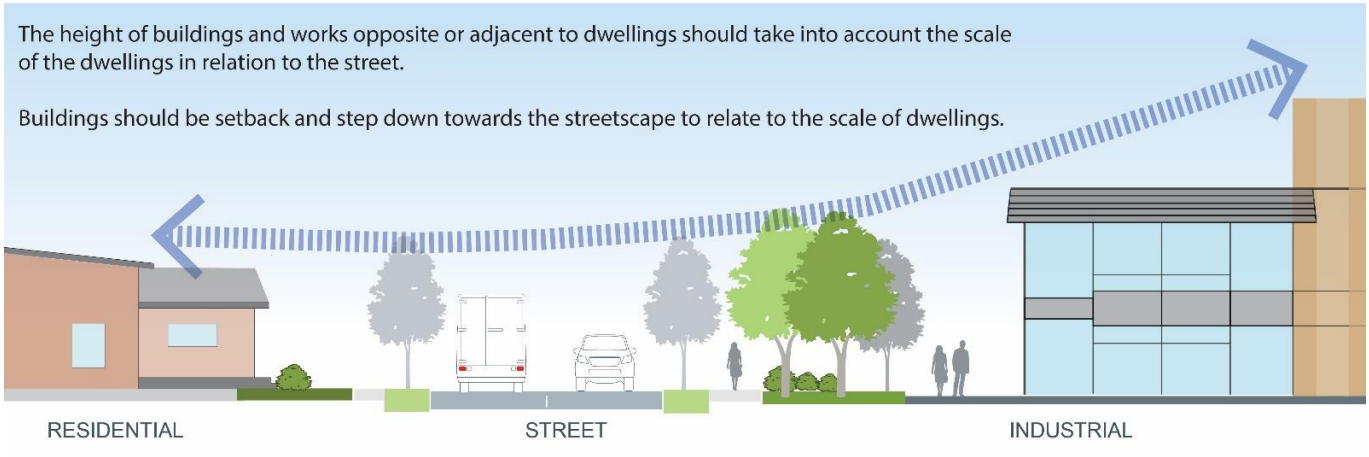


Figure 2 - Scale of industrial buildings in relation to the street

2.2.2. Native grassland and significant biodiversity areas interface

For land abutting native grasslands and areas with significant biodiversity values, it is important that the design considers the protection of native flora and fauna.

Native grasslands require prescribed burning several times a year. Prescribed burnings are required to help maintain biodiversity values, control invasive plant species, and keep grasslands healthy. Landowners adjacent to a native grassland area are encouraged to contact Council to discuss how prescribed burning may affect their business operations.

Regular weed control and maintenance is required to reduce noxious species from spreading into abutting grassland or significant biodiversity areas.

Design guidance

- to prevent the growth of invasive plant species and the risk of fire hazards, the boundary along a native grassland and significant biodiversity area should:
    - have sealed hard paving surfaces[1]
    - be free of flammable materials, outdoor storage, rubbish, vehicle loading and parking

[1] It is acknowledged that the schedule to the Special Use Zone 4 specifies a landscape setback to a Public Conservation Zone of 4 metres that contains native grasslands. This requirement is proposed to be reviewed as part of a future planning scheme amendment to introduce the Draft ILMS and Draft IDG.

- be clear of permeable surfaces or landscaping that could create opportunities for the growth and spread of exotic species and weeds

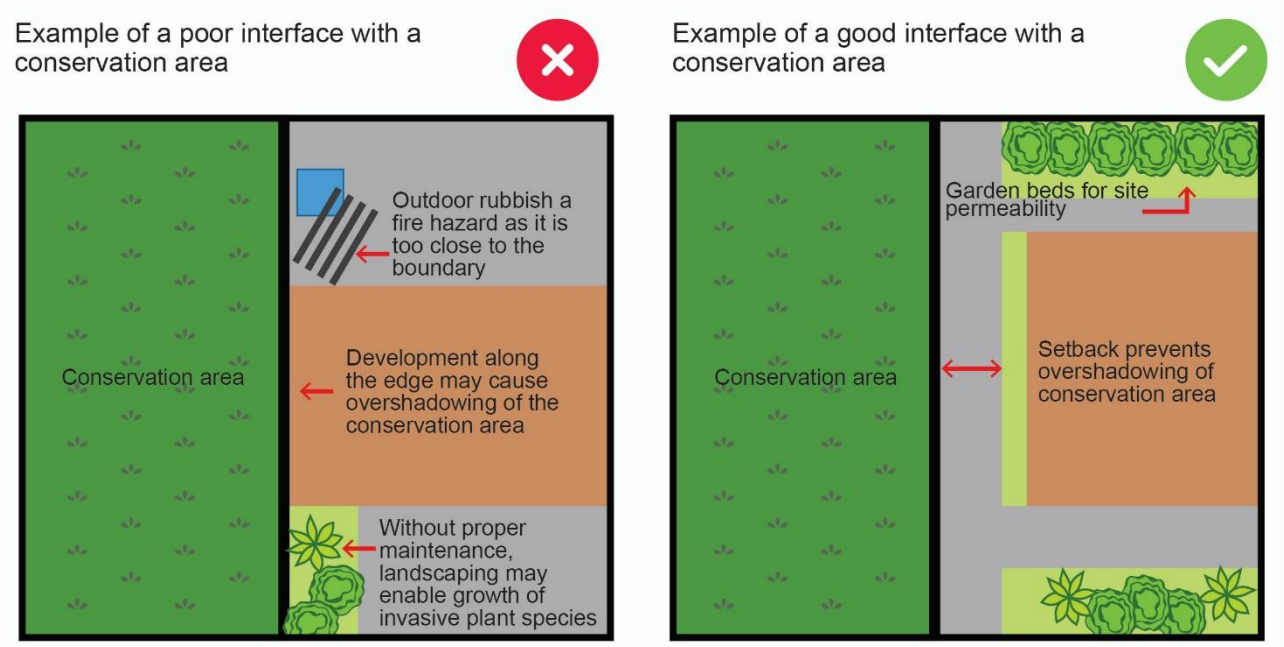


Figure 3 - Appropriate interface with conservation areas

- buildings should be designed to positively address native grassland areas with appropriate setbacks, articulated built form, materials and tones that complement adjoining native grassland areas
- to prevent the loss of rainwater available to native grassland areas, planning permit applications should demonstrate (through hydrology plans or similar) that the proposed development will either protect or preserve the native grassland's existing hydrology

  Tip: This can be achieved by considering WSUD techniques such as increased site permeability. See section 5.1 for further information.
- buildings should have appropriate setbacks or building height to prevent the overshadowing of native grasslands at the winter solstice
- fencing constructed along the boundary of a site with native grasslands must not disturb adjacent grassland and be designed to minimise the spread of noxious weeds and exotic species growth
- to protect native grassland habitats from light pollution, developments should incorporate best practice lighting design for all outdoor artificial lighting or internal lighting that is externally visible. Refer to section 4.6 for further information

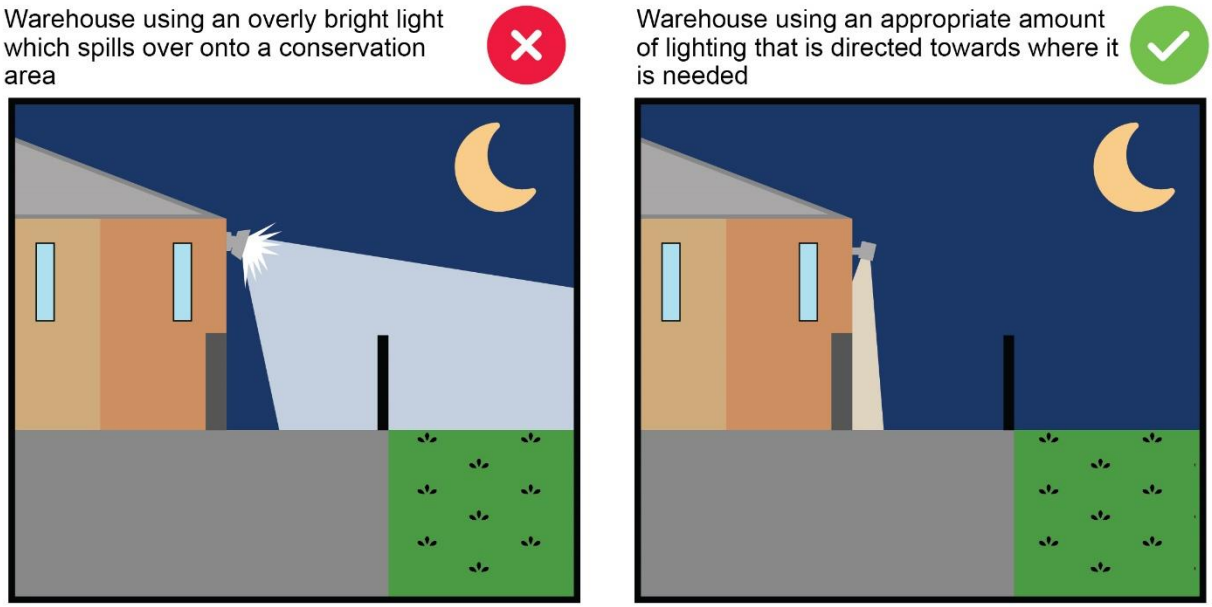


Figure 4 - Appropriate lighting within industrial developments

2.2.3. Waterway interface

For land adjacent to waterway corridors, it is important that site design considers the visual and stormwater runoff impacts of the development, as well as the advice and guidance of Melbourne Water as the relevant waterway management authority.

Design guidance

- to help reduce high levels of stormwater runoff during peak rain events, a 20 metre landscape setback should be provided from the banks of all waterways next to industrial areas in accordance with Melbourne Water's *Waterway Corridors – Guidelines for greenfield development areas*.

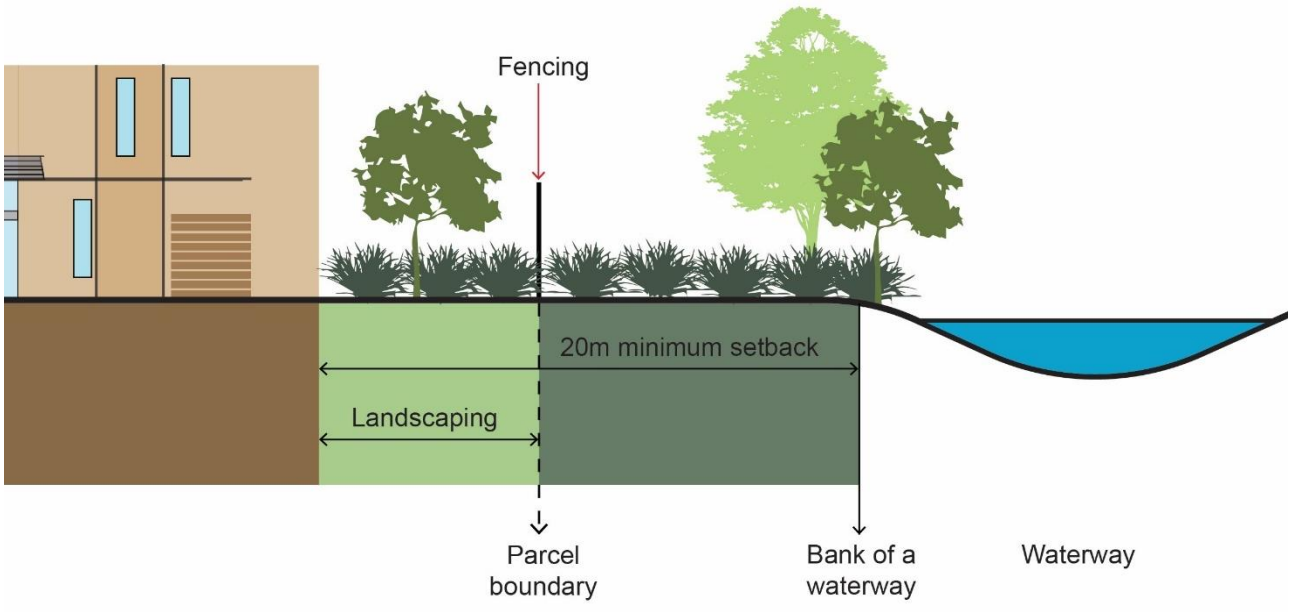


Figure 5 - Landscape setbacks from waterways next to industrial areas

- to protect and improve waterway health and biodiversity values, a 100 metre landscape setback should be provided from the banks of Kororoit Creek
- landscape setbacks along the boundary of a waterway should be well maintained, free from outdoor storage, rubbish, vehicle loading and parking
- landscaping along waterways such as creeks or drains should not use exotic species and known weed species. To protect existing vegetation plants within these spaces should be indigenous species endemic to the area. Refer to **Appendix 2 – Preferred plants along creeks and waterways** for a list of suitable species
- sites should positively address areas along waterways to improve passive surveillance through window glazing and location of outdoor staff amenity areas
- to prevent intrusion into a waterway and protect biodiversity values, sites should have appropriate fencing along the boundary to a waterway that does not restrict community access and does not intrude on view lines from the waterway and helps prevent the spread of noxious weed species

3. Accessibility and movement

Industrial development should be designed to support a range of sustainable travel options for workers and safe and efficient access to and from the site for larger vehicles, without compromising amenity and landscaping outcomes.

3.1. Site access

Design objectives

- to ensure that vehicles can access industrial sites safely and efficiently
- to enable safe pedestrian and active transport movements

Design guidance

- direct pedestrian access should be provided to connect the front entrance of the building office to the street and car park parking area
- pedestrian routes should be clearly delineated and separated from vehicular movement areas where possible

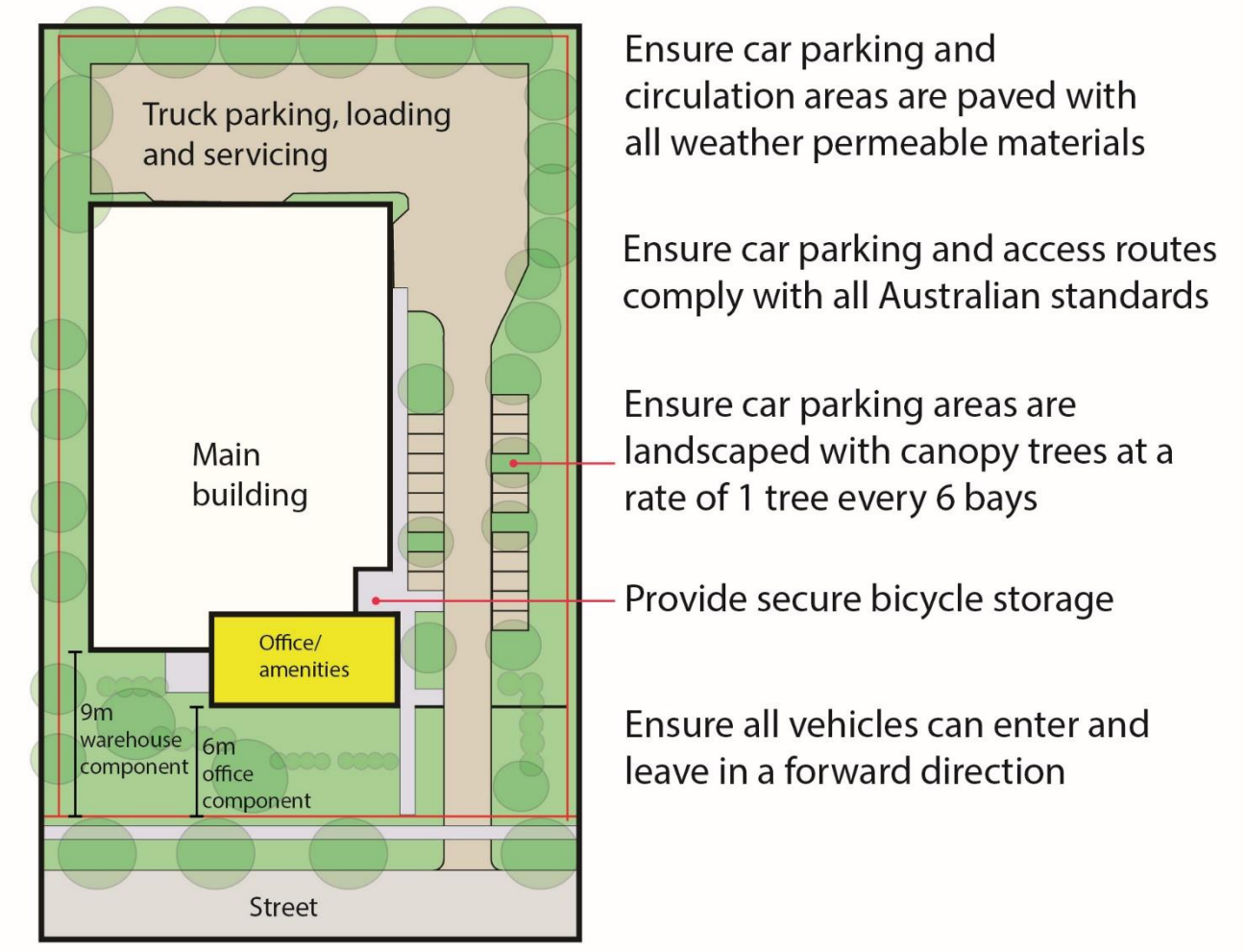


Figure 6 - Accessibility and movement

- ample parking for bicycles, scooter, other active transport modes, and end of trip facilities should be encouraged on all sites
- the development layout should ensure vehicular movements do not conflict with pedestrian and other active transport mode movements

- where practicable, developments should minimise the number of crossovers to accommodate consistent nature strips, retain mature trees, enable uninterrupted pedestrian footpaths and encourage additional tree planting
- where possible, crossovers should be provided to the internal or local access road network and should be avoided on the through road network
- crossover design should reinforce the priority of pedestrians or bicycle riders on the footpath
- the development should be designed to enable vehicles, of all sizes proposed to use the site, to exit in a forward direction. For the purposes of assessing the viability of trafficable areas, plans should include swept path analysis demonstrating entry and exit from the site
- sites larger than 1.0 hectare (10,000 square metres) should be designed so that all vehicles can enter and leave the site in a forward direction
- for sites with an area greater than 0.4 hectare (4000 square metres), provision should be made for articulated vehicles to enter and leave the site in a forward direction
- vehicle crossovers, including splay widths should be designed to suit the needs of the site, in line with Council guidance
- all driveways, accessways, car parking, loading bays and outdoor storage areas should be fully sealed and constructed to minimise the offsite impacts of dust. This ensures the improvement of air quality within and surrounding the site and industrial area

3.2. Car parking

Design objectives

- to ensure the siting of parking areas and access ways is safe and convenient
- to promote an active street frontage by ensuring the layout of parking areas are visually attractive
- to improve landscaped character and contribute to the urban forest by including tree canopy planting between car parking spaces

Design guidance

- visitor parking should generally be within the front of the site or situated close to the entry area of the development
- car parking areas for staff should be located at the side or rear and have appropriate lighting
- basement parking structures may be permitted if:
    - the development has an adequate setback
    - the parking structure can provide visual interest through architectural elements and softening by landscaping
- car parking areas should be landscaped in accordance with section 4.3

- car parking areas should be landscaped with canopy trees at a rate of 1 tree per 6 bays (refer Figure 6)
- the design of the car parking area should be divided into smaller areas with aggregated areas for landscaping and tree planting to avoid large areas of hard surface
- allow for permeable car parking surfaces and accessways where possible in lesser trafficked areas to reduce stormwater runoff
- the design of car parking areas should provide electric vehicle (EV) charging infrastructure, or the necessary space and infrastructure requirements to support the installation of EV charging infrastructure

  Tip: Associated requirements to support an EV charging infrastructure includes but are not limited to the appropriate electrical capacity, pre-cabling, waste receptacles, distribution boards, power use metering systems, conduit installation and space for signage.
- the windows of the building should be designed to face car parking areas to provide for passive visual surveillance
- off-street parking and access arrangements should be in accordance with Clause 52.06 (*Car parking*) of the *Hobsons Bay Planning Scheme* and *Australian Standard AS 2890.2:2018 - Off-street commercial vehicle facilities*
- the visual impact of parking areas should be managed through the following:
  - appropriate landscaping setbacks and tree planting throughout
  - where appropriate provide opportunities for the shading of vehicles
  - large developments should locate staff parking to the side or rear of the building
  - landscape screening should be used if alternative designs are not practicable (i.e., reusing an existing car parking area)

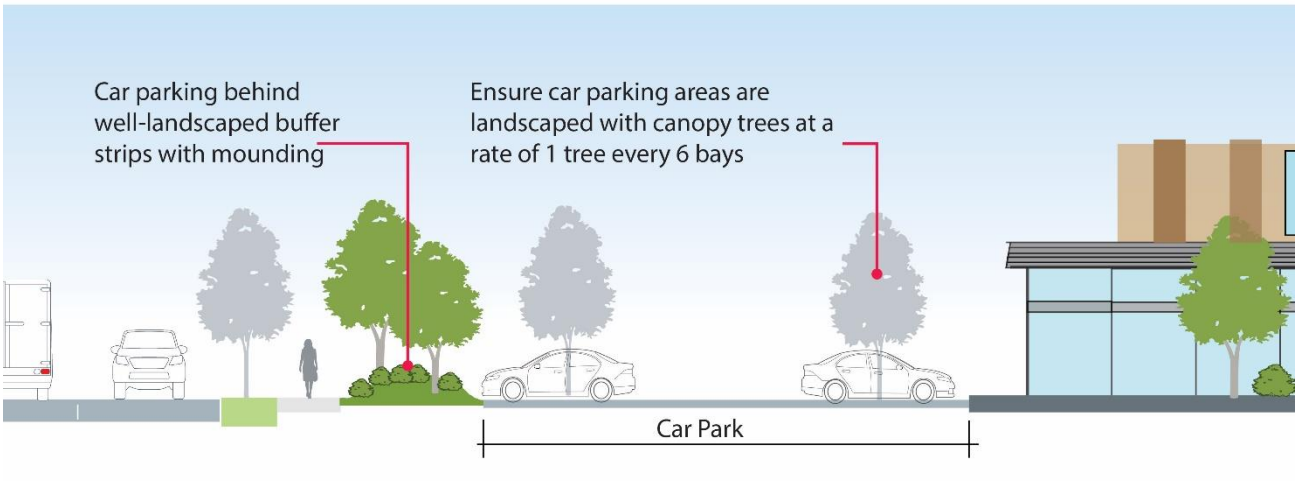


Figure 7 - Mitigating the visual impact of parking areas

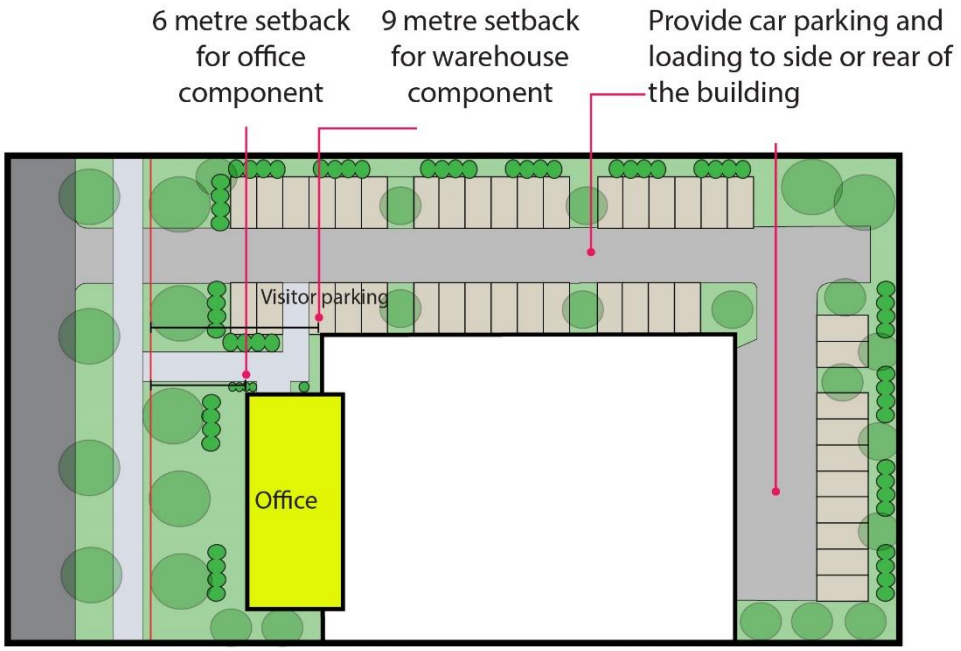


Figure 8 - Layout of sites with large car parking requirements

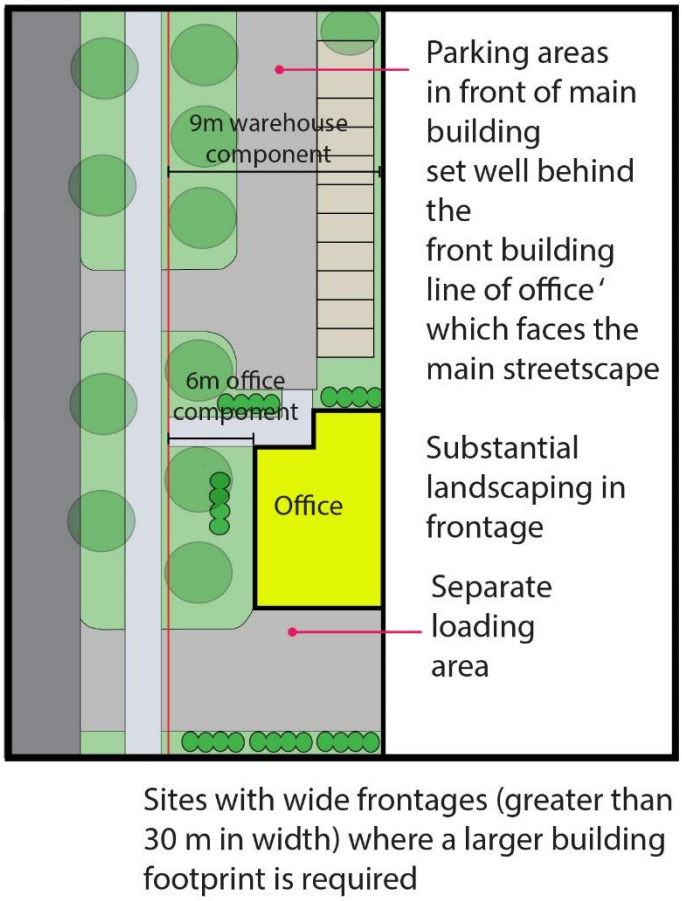


Figure 9 - Layout of sites with large building footprints

3.3. Loading and service areas

Design objectives

- to ensure the layout of loading areas are safe, convenient, and visually attractive and/or screened from public view

Design guidance

- loading and service areas should be located to the side and rear of the property away from the street frontage
- where sites are located near residential areas, loading and service areas should not be located along the boundaries adjoining residences
- loading bays that are visible from the public realm should be screened with landscaping or articulated built form
- all loading and servicing of vehicles should occur on-site

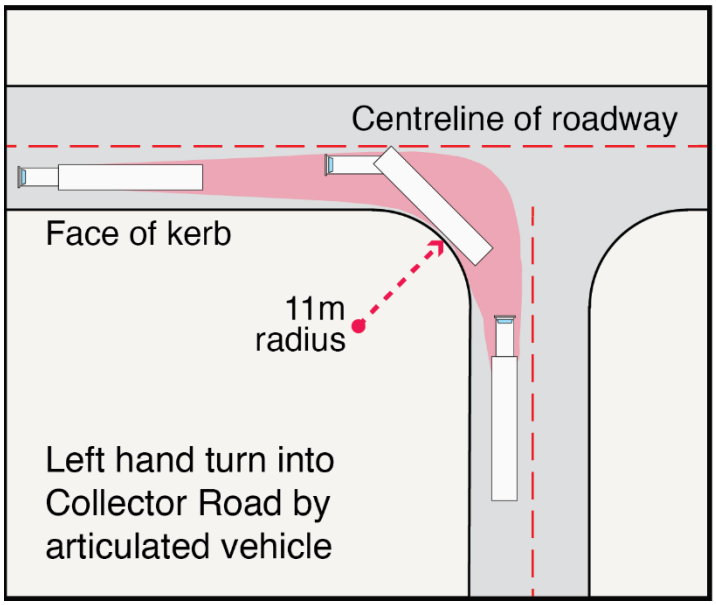


Figure 10 - Left hand turns into Collector Roads by articulated vehicles

- at sites of 0.1 hectare (1000 square metres) or less, loading areas may share access driveways with car parking areas provided that the visitor car spaces are not disrupted and remain accessible
- loading areas should not be sited so that vehicles must reverse onto roads
- loading areas should be separated from pedestrian access paths
- all loading bays and the access to and from the loading bays should be constructed of concrete

3.4. Street network

Design objectives

- to ensure that access arrangements to industrial sites can accommodate large vehicles
- to ensure that access to the site is safe and does not cause detriment to residential areas or other users

Design guidance

- industrial uses that rely on heavy vehicle access should avoid using residential streets
- new industrial collector roads should have a carriageway width of 12.5 metres. The verge width should be 4.0 metres and should include footpaths and street tree planting.

- intersections of main roads (TRZ2 and TRZ3) with collector roads should be designed to allow articulated vehicles to turn into the collector road without crossing the centerline
- a swept path analysis can demonstrate the left-hand turn into collector roads by articulated vehicles. Intersections should consider a raised apron in the swept path area of larger vehicles to prevent use by smaller vehicles
- where access for B-double trucks is required, a Traffic Engineer's report should be provided demonstrating these vehicles can enter and leave the site safely without unduly disrupting other road users or damaging infrastructure or landscaping
- if the use and development of a site relies on access from an unconstructed road, the use and development is required to construct that road to the appropriate council standard, including the provision of lighting, nature strips, footpaths, street tree planting, crossovers. Alternatively, the use and development should consider other access arrangements

4. Built form

Elements of the built form such as architectural features, placement of windows and entrances come together in a way that influences how people engage with and use a space. Responding to existing features such as open space, waterway corridors or significant vegetation is important in creating an environment with a sense of place and protecting important biodiversity.

4.1. Visual impact

Design objectives

- to encourage well designed buildings that provide visual interest and engagement with the street
- to create attractive buildings and streetscapes with features that define the character of industrial precincts
- to ensure that buildings are ‘in scale’ with the surrounding development and are complementary to adjacent more sensitive areas
- to encourage building forms, materials and finishes that add visual interest to the urban character
- to enhance interfaces with residential areas, public open space, areas of environmental significance and other sensitive interfaces.
- to ensure development adjacent to waterways adopts high quality materials and respectful design and siting

Design guidance

- larger scale buildings should use two or more materials to avoid a monotonous ‘box-like’ appearance
- building design should incorporate colours and textures that complement the surrounding development in a contemporary style with modulated and articulated façade treatments to provide visual interest
- building walls visible from the street or public open space should be articulated to provide visual interest
- provide a logical sequence of entry and arrival as part of the site’s design to ensure that the main entrance and entry approach can accommodate persons of all mobility levels

Figure 11 - Image of articulated design and mixture of architectural materials

Tip: Articulation of walls can be achieved by variations in setback, use of glazing and a mixture of architectural materials, finishes and colours.

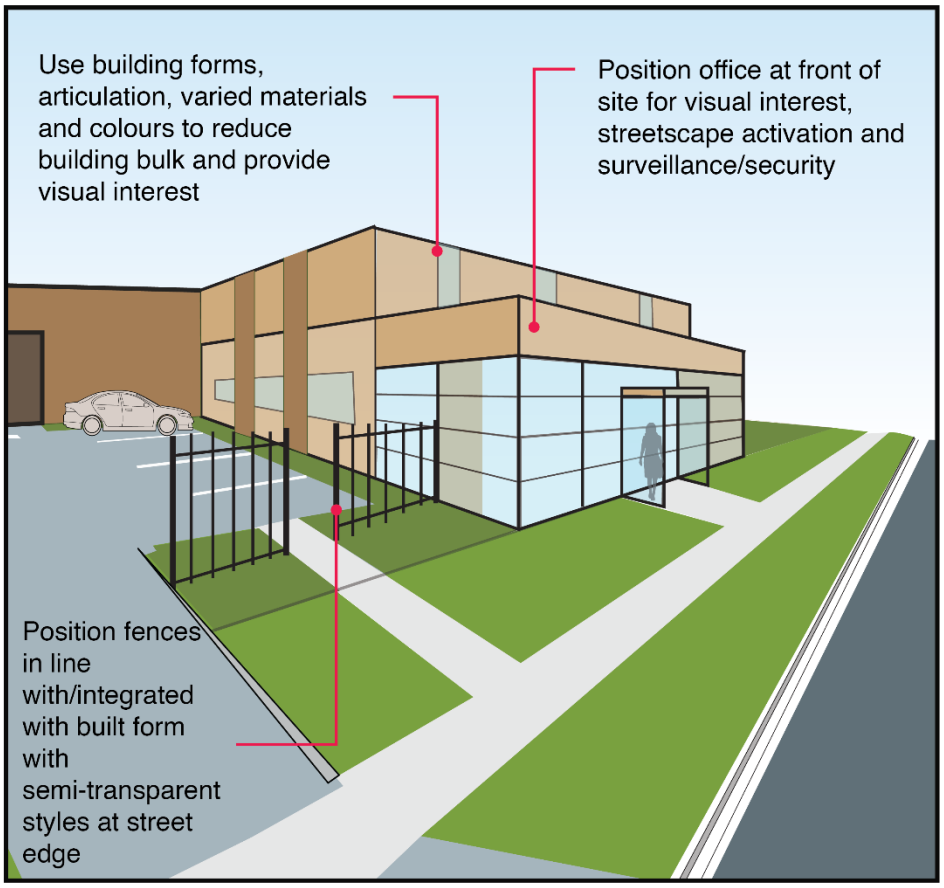


Figure 12 - Articulated design for visual interest and streetscape activation

- long continuous buildings should be broken into smaller, vertical sections through features such as varied setbacks, articulation, diverse materials, or colours
- avoid the use of highly reflective building materials and finishes that direct heat and glare onto nearby buildings

- front building setbacks should be consistent with the setbacks of abutting buildings if it is a similar sized lot
- larger building masses should be appropriately setback from the frontage to minimise dominance on the site and public realm
- exterior surface materials should be used that will reduce the incidence and appearance of graffiti
- offices, staff amenity areas and other active uses are encouraged to be located near to the street frontage to reduce building mass, provide surveillance of the street, and create visual interest

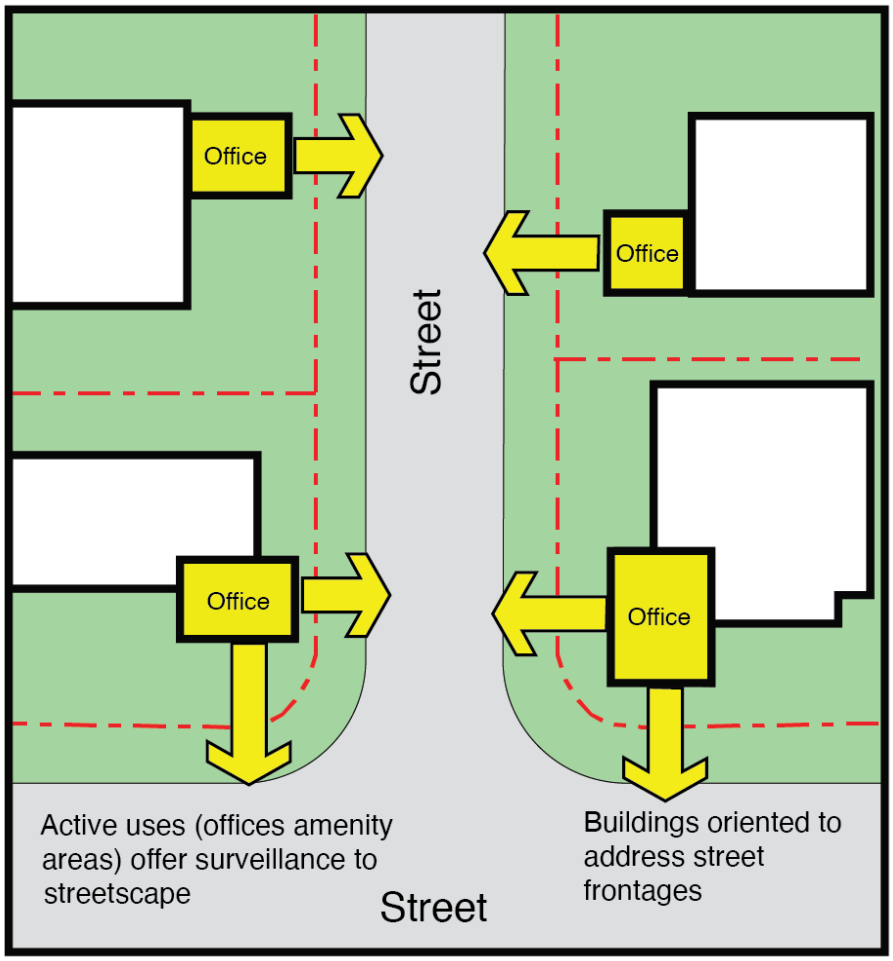


Figure 13 - Building orientation to activate streetscapes

- buildings on corner sites should be designed to address both street frontages through building articulation, active edges, and the siting of windows
- noise and odour-generating functions should be located away from nearby residents or adjacent neighbours wherever possible

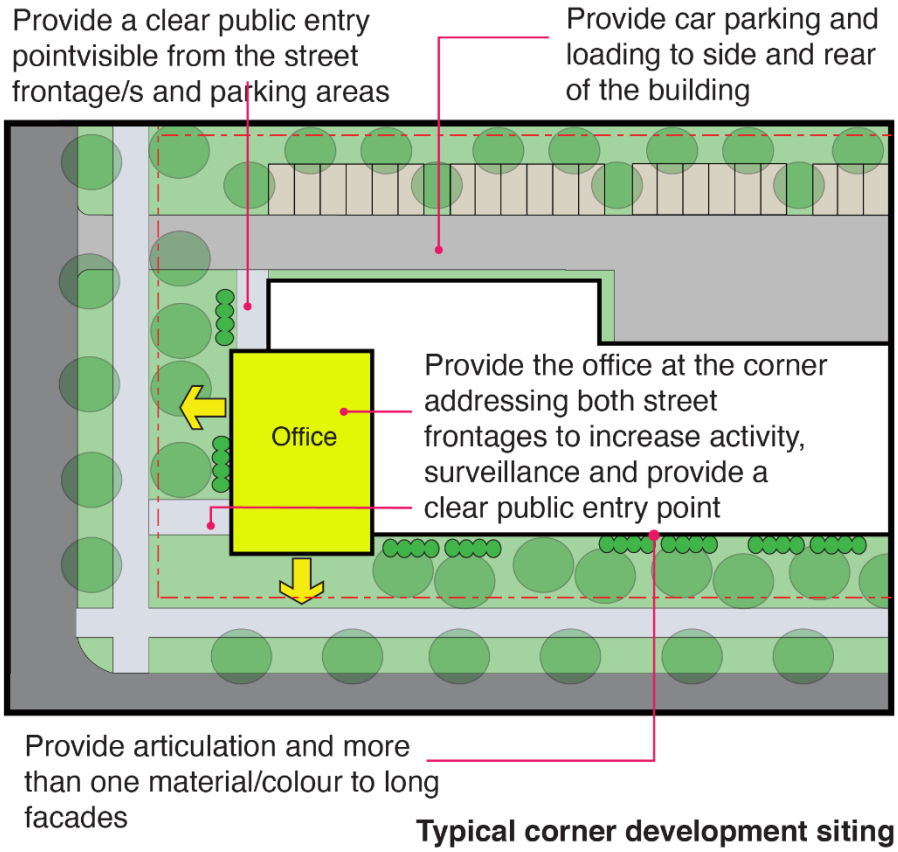


Figure 14 - Typical corner siting elements

4.2. Setbacks

Design objectives

- to achieve preferred building and landscaping setback requirements for industrial land
- to ensure new development responds appropriately to sensitive interfaces such as nature reserves, drainage reserves and easements, public open space, areas of environmental significance, railway lines, creeks and residential areas
- to positively respect the streetscape character and interface with sensitive uses and ensure new development integrates with existing development
- to allow adequate space for meaningful landscape treatments including canopy trees to enhance streetscape amenity
- to ensure adequate clearance for vehicles entering and exiting a site
- to allow visual separation of built form and to distinguish between individual sites

Design guidance

- setbacks of new developments should be consistent with the setbacks detailed in **Table 1 – Landscape and Building Setbacks**[2]
- landscape setbacks listed in **Table 1** are to be fully landscaped
- setbacks proposed in **Table 1** should apply to all industrial areas in Hobson's Bay[3]
- the height and setback of buildings should consider proximity to roads, public open space, waterways, conservation areas and residential areas
- car parking, outdoor storage and service equipment (such as water tanks for fire sprinklers or electrical substations) should not be within landscaped areas

Table 1 – Landscape and Building Setbacks

Setting	Landscape and Building Setbacks
Front setback	• provide a 6 metre building setback to an office component and a minimum 9 metre building setback for a warehouse component. Structures over pedestrian entries can protrude into the front setback • provide a minimum 4.5 metre landscape setback at the frontage of the site • provide a minimum 5 metre landscaping setback along a frontage opposite residential uses • landscape setbacks should be exclusively for landscaping and tree planting. Car parking or outdoor storage should not be located within the landscape setback area
Developments along minor roads (predominantly for local access)	• industrial developments fronting a minor road should provide a minimum 4.5 metre landscape setback • landscape setbacks should be exclusively for landscaping and tree planting. Car parking or outdoor storage should not be located within the setback area
Corner sites	• for industrial developments on corner sites, provide a minimum landscape setback of 4.5 metres to each street frontage unless setbacks are otherwise specified in the Hobsons Bay Planning Scheme

[2] It is acknowledged that the recommended setbacks may not be appropriate in all development scenarios. Council has the discretion to consider variations to the recommended setbacks where this would still meet the design objectives and the requirements of the planning scheme.

[3] It is proposed that the setback requirements in the SUZ3 and SUZ4 will be subject to review as part of a future Planning Scheme Amendment process to implement the Draft ILMS and Draft IDG.

Setting	Landscape and Building Setbacks
	• Any side wall facing a road should be setback a minimum of 2 metres from the street, and this setback should be fully landscaped
Side and rear setbacks	• unless a building is built to the boundary, include a minimum 2 metre setback to the side and rear • any side and rear setback should be entirely landscaped with a mixture of ground cover, shrubs and canopy trees • for industrial developments with a side or rear boundary to a residential area provide a minimum 3 metre setback that is fully landscaped • any side or rear setback that interfaces with an area of environmental significance (except adjacent to native grasslands) or public open space should be landscaped using native or indigenous species, unless fire management requirements specify otherwise • lots greater than 2000sqm should provide a minimum 2 metre landscape side setback to car parking areas • locate car parking and loading areas where possible to the side and rear of buildings
Developments along a railway corridor	Developments along a railway corridor should: • refer to the *VicTrack Rail Development Interface Guidelines (August 2019)* • consider the location of gas or fuel pipelines that may be present along the railway corridor and any requirements pursuant to the *Pipelines Act 2005* Landscape setbacks are to be provided as follows; • within 30 metres of the Geelong-Melbourne railway in SUZ3 areas (except for areas already developed for works at the approval date) • within 10 metres of the Geelong-Melbourne railway and the Laverton-Altona railway in SUZ4 areas
Development along a waterway corridor	Developments along waterway corridors should: • include a written response that addresses how the design responds to the local waterway or wetland setting and supporting design objectives • include a site design that considers the visual and stormwater runoff impacts of the development

Setting	Landscape and Building Setbacks
	• consider the views of a relevant waterway and floodplain management authority (Melbourne Water) • improve passive surveillance along waterway corridors and avoid unsightly blank interfaces • ensure loading and storage areas do not dominate views from the creek • refer to the Melbourne Water's *Waterway Corridors – Guidelines for greenfield development areas* • encourage healthy and active communities and promote access to waterways where possible Landscape setbacks are to be provided as follows: • within 100 metres of the banks of Kororoit Creek • within 60 metres of Laverton Creek • within 60 metres of Cherry's Drain and Cherry's Lake • within 60 metres of Stoney Creek • within 60 metres of Stoney Backwash (where achievable)
Development within Birmingham Street Area in Spotswood – Schedule 2 of the Design and Development Overlay (DDO2)	Industrial development should be setback: • at least 20 metres from Birmingham Street • at least 9 metres from Melbourne Road • the setback area shall be landscaped and maintained in accordance with a landscaping plan approved by the responsible authority

4.3. Landscaping

Design objectives

- to encourage well landscaped industrial precincts with well-defined streetscapes and increased tree canopy cover that contribute to the Hobsons Bay Urban Forest Strategy 2020 tree canopy cover targets
- to encourage landscaping that enhances the appearance and amenity of the site, streetscape and public areas
- to ensure the selection of plant species is suitable for the local context and enhances biodiversity values where possible
- to reduce the urban heat island effect
- to promoting safety by maximising visibility and passive surveillance and providing good connections and access

- to discourage privatisation of spaces that interface with or provide access to waterway systems

4.3.1. Landscaping design

Design guidance

- landscaping design should:
  - incorporate tree planting throughout the site, including within setbacks, where appropriate
  - avoid extensive areas of river rocks, artificial turf, or other similar treatments as they contribute to the urban heat island effect
  - avoid use of large rocks for security purposes and instead incorporate tree planting or consider appropriate fencing in accordance with section 4.7
  - incorporate a combination of trees, shrubs and groundcovers to create visual diversity, where appropriate
  - incorporate Water Sensitive Urban Design (WSUD) where applicable. Refer to section 5.1 for further information
  - include irrigation systems (where required)
  - have regards to plant height and growth at maturity to prevent overgrowth on footpaths and public spaces
  - complement the building design and form
  - result in effective and substantial landscaped areas
  - designed to provide a sensible balance between grassed and garden areas
  - generally, allow views into and across industrial sites rather than seeking to screen them entirely from view
- plant species selection should suit the environment, location and intended use. Plant species should be selected from the preferred species list as detailed within

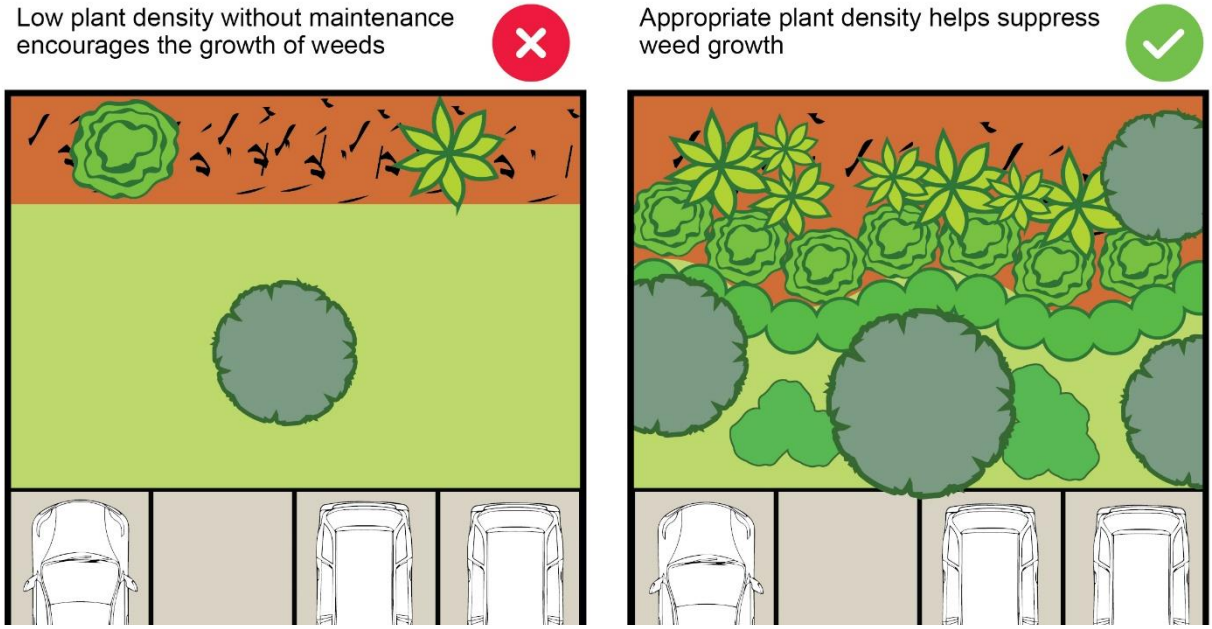


Figure 15 - Appropriate plant densities

the *Hobsons Bay Landscape Design Guidelines 2021* unless adjoining native grasslands

- where appropriate, plant species selection should be hardy, require little maintenance and not require irrigation from potable water
- garden beds should have an appropriate plant density and use ground cover species (where practicable) to suppress weeds
- green walls and green or brown roofs are highly encouraged in building design to reduce the urban heat island effect. The building design should consider the on-site climatic conditions, weight loading, drainage, irrigation, and maintenance requirements to support the longevity of green walls and green roofs

Tip: Green and brown roofs on large buildings can help maintain internal temperatures and filter as well as retain on-site stormwater.

Figure 16 - Image of existing green roof

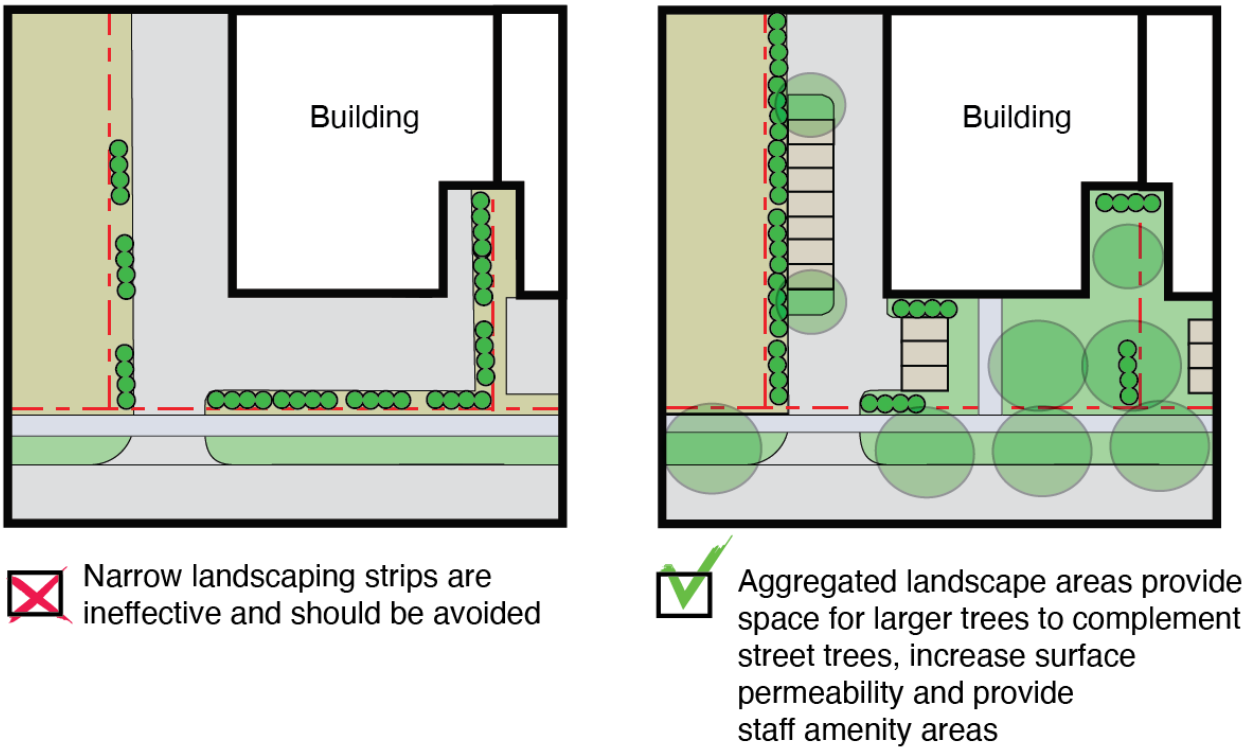


Figure 17 - Aggregated landscaped areas

Tip: Aggregation of landscape areas can provide opportunities for increased landscaped areas.

- where landscaping cannot be fully provided within the site because of existing buildings and works, planting outside the site (such as within the public nature strip) may be considered

- landscaping may be integrated with the public nature strip to complement site landscaping, where appropriate and should have regard to public safety
- ensure appropriate levels of surveillance adjacent to public thoroughfares with dense planting between neck and knee height that maintains passive surveillance and reduces hiding places

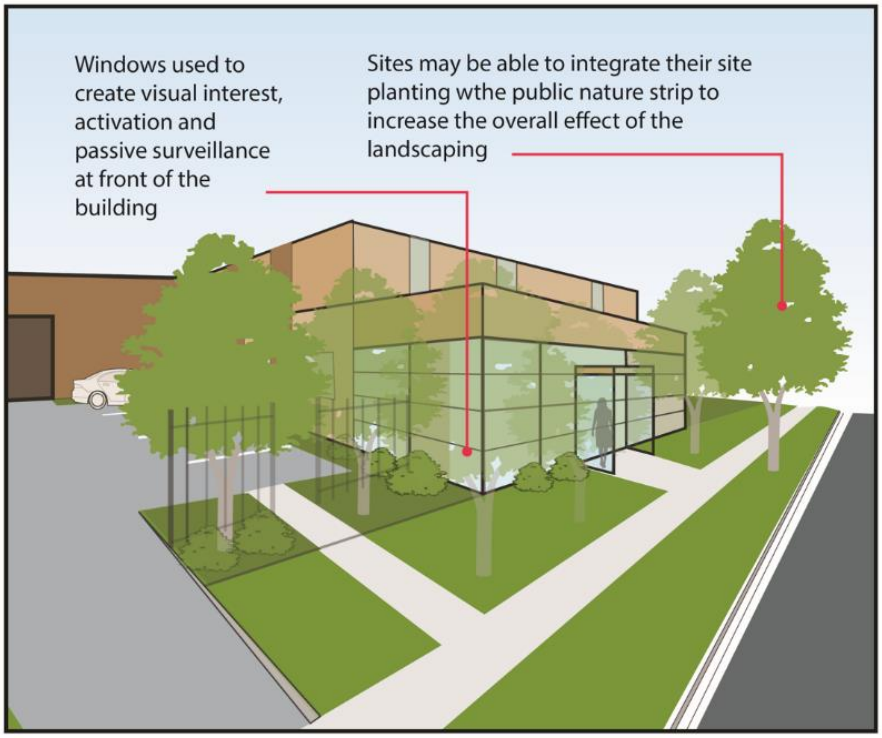


Figure 19 - Integrating site planting with public nature strips

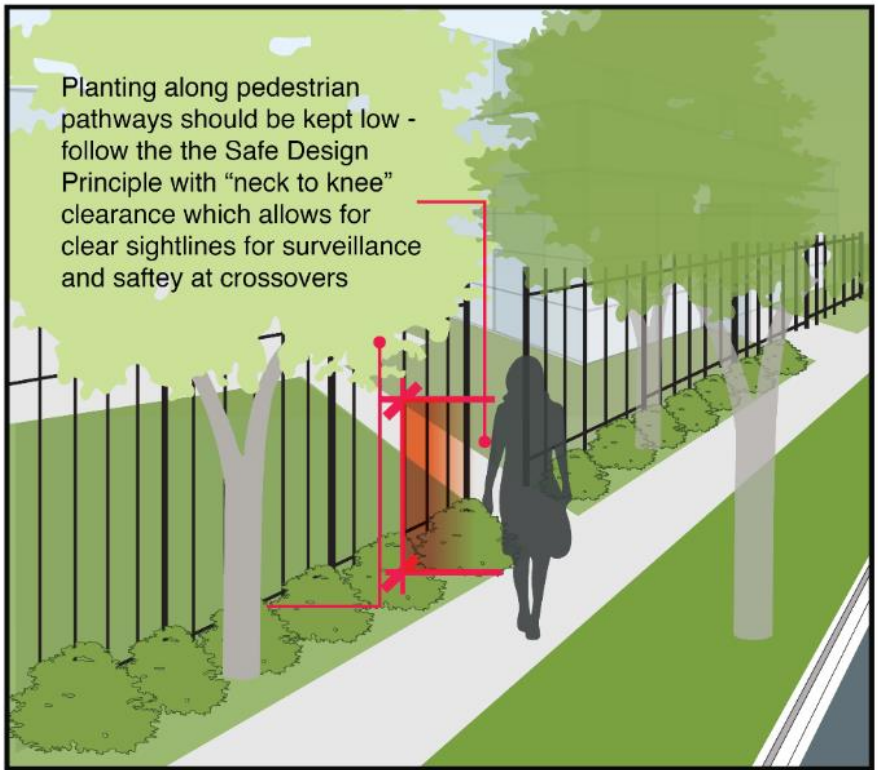


Figure 18 - Planting along pedestrian pathways for safety

4.3.2. Trees

Design guidance

- Trees should be:
  - selected and placed to complement and be in scale to the building
  - positioned to soften the height of buildings and structures
  - provided with sufficient space and soil depth/volume to promote growth. Soil should be sandy loam and free of weed seed
  - planted in locations that does not adversely impact upon the infrastructure such as light poles
- suitable tree species should be selected from Hobsons Bay's Landscape Design Guidelines (2021) except where adjacent to native grasslands where suitable native tree species will be required
- appropriate ground surfaces should be chosen for the area around trees to maximise tree root access to water and air
- where appropriate, hard stand areas should be divided into smaller areas with aggregated areas for landscaping and tree planting

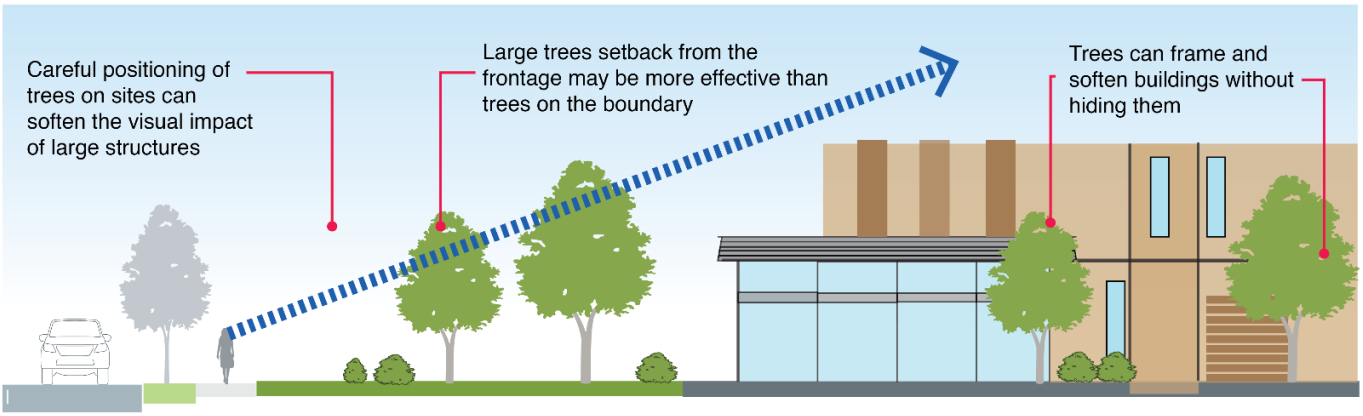


Figure 20 - Orientating large trees to soften the visual impact of buildings

- car parking areas should be landscaped with canopy trees at a rate of 1 tree per 6 bays

Tip: The use of trees is critical to a successful landscaping outcome in industrial areas, where buildings are of a larger scale. Trees viewed from a distance can help break up the substantial lines of large industrial buildings and warehouses.

4.3.3. Landscaping in car parking areas

Design guidance

- the landscaping design should be integrated with pedestrian thoroughfares and car park function
- a minimum of one canopy tree should be provided at a rate of one canopy tree for every six car parking spaces
- trees should be provided with sufficient space to promote healthy growth and protection

- landscaping design should optimise tree planting patterns to maximise shade for parked vehicles and pedestrians where appropriate

Figure 21 - Car parking design

- landscaping design should soften the appearance of the car parking area but not obstruct sight lines for pedestrian safety and traffic visibility
- car parking design should not impact or reduce the overall landscaping area which can include elements such as vehicle overhang, access to car doors, pedestrian paths, lighting, and signage

Tip: You can prevent vehicle overhang by using wheel stops, raised edging and vehicle barriers.

Figure 22 - Vehicle overhang

- landscaping strips next to car parking areas should, where possible be at least 1.8 metres wide excluding kerbs and other barriers. At larger premises where high maintenance grassed areas and garden beds are placed in front of fences, the grassed areas should ideally be several metres wide to allow easier mowing
- the design of car parking areas should include continuous islands between rows of car parking bays to allow for landscaping or Water Sensitive Urban Design (WSUD) elements

4.4. Waste

Design objectives

- to ensure each site has sufficient and appropriate access to waste and recycling areas/facilities
- to ensure that waste is handled and stored so that it does not lower the appearance and amenity of the neighbourhood
- to ensure that waste does not impact upon the quality of stormwater and the surrounding environment
- to apply circular economy principles of reducing waste to landfill and supporting the Victorian Government's *Recycling Victoria - A new economy (2020)* plan for a circular economy

Design guidance

- all premises should have a designated bin area for the storage, sorting, and removal of garbage, recyclables and other wastes generated from the site
- all garbage, recyclables and other wastes generated by a development need to be stored in the appropriate waste bins or containers with permanent, well-fitting lids
- AS4123.7 bin colours should be adopted and businesses should consider the separation and management of re-usable waste materials such as paper, cardboard, glass, plastics, metals, and organic materials
- where practical, provide smaller internal receptacles to collect materials for recycling streams. For example, providing a 10L caddy in a kitchen area for the separation of food scraps for organic recycling or a 60L receptacle for paper in office areas
- bin storage areas should be integrated with the building design and site layout
- bin storage areas including recycling bins should be:
    - appropriately screened from the public realm, street frontages and staff amenity areas
    - located away from stormwater drains, pedestrian paths or dedicated landscaped areas
- bin storage areas should allow ease of access by all users and waste collection service trucks

- bin storage areas should be easy to clean, with access to water and correct drainage to the sewer. Never allow the water from washing bins and/or waste storage areas to flow into the stormwater drain
- where liquid wastes are generated on site, a separate storage area is required. Liquid waste storage areas should be bunded and drained to a grease trap, in accordance with the requirements of EPA Victoria
- clinical, hazardous and electronic waste should be placed in specialised containment bins and collected by specialised services
- collection frequency for commercial developments should be minimised to reduce amenity concerns and congestions
- waste should be stored in a confined and designated area that is kept tidy so that:
    - no dust, grit, liquid, or odours are emitted beyond the site boundaries
    - waste is not scattered via wind gusts
    - vermin are not attracted to the waste
- stockpiling of waste should be avoided. Where stockpiling of waste is unavoidable it should always be managed within EPA Victoria guidelines
- provision of on-site waste storage bins during the construction phase of the development will be required. Recovery of construction and demolition waste for reuse, repurpose or recovery should be prioritised
- plan for how the performance of the waste management system will be monitored to ensure minimal contamination and maximised recycling

4.5. Storage

Design objectives

- to ensure storage of goods does not adversely impact on the appearance and amenity of the area
- to ensure that sufficient area is allocated for external storage
- to ensure that storage of goods does not impact upon the quality of stormwater

Design guidance

- outdoor storage should be:
    - located behind buildings
    - set back from boundaries to allow for landscaping
    - consolidated into grouped areas rather than dispersed throughout the site
    - appropriately screened from public view by fencing, landscaping, or trellises

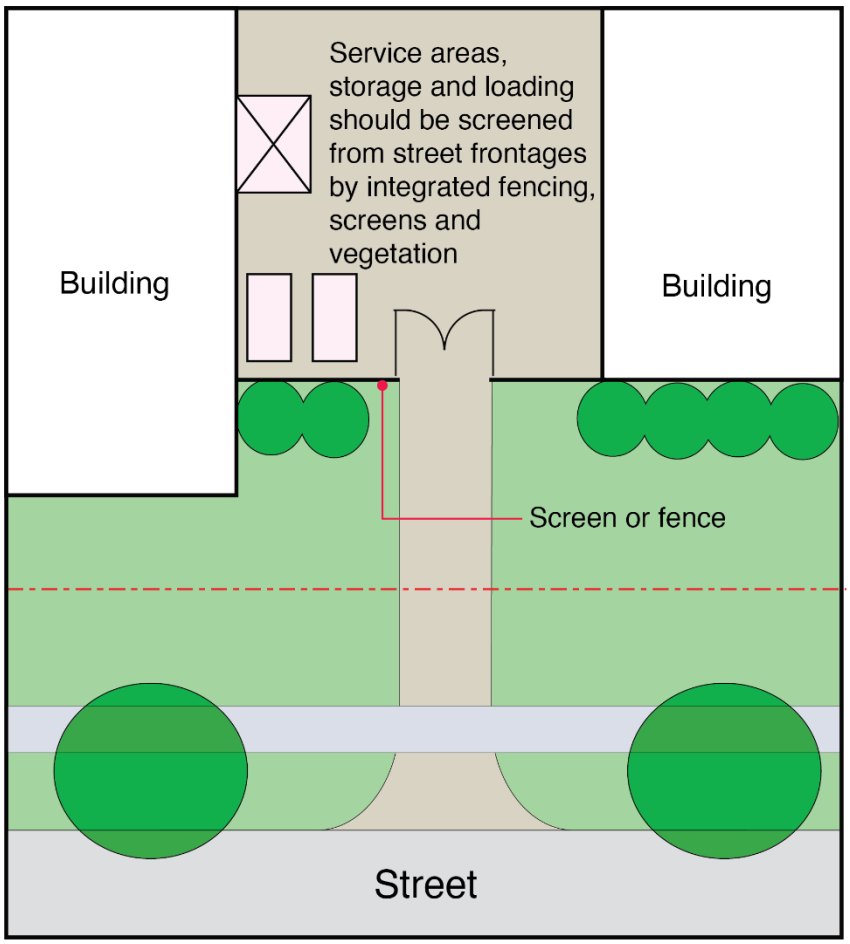


Figure 23 - Screening

- located away from stormwater drains, pedestrian paths or dedicated landscaped areas
- at least 3 metres away from adjacent conservation areas and native grasslands to prevent opportunities for the growth and spread of exotic species and known weeds

Tip: Screening of storage and loading can be achieved in several ways which will improve the appearance of the site from the street and increase site efficiency.

4.6. Lighting

Design objectives

- to ensure lighting does not impact the amenity of the local area or negatively affect ecosystems within nearby conservation areas or native grasslands
- to ensure sites are appropriately lit to provide security and safety for pedestrians

Design guidance

- all outdoor lighting should comply with *AS/NZS 4282:2019 – Control of the obtrusive effects of outdoor lighting (2019)* and *National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (2020)*
- lighting of walls facing streets and public spaces is encouraged
- lighting should be located:
    - at building entrances, areas where goods and equipment are stored outside, and car parking vehicle entrances and exits
    - pedestrian and cycling routes
    - points of potential conflict between pedestrian, cyclists, and vehicular movements
- lighting design should be co-ordinated with tree planting to ensure trees do not obscure lights
- adequate security lighting should be provided and be energy efficient. Sensor lighting should be considered where security is not essential
- landscape lighting should be considered near public boundaries
- sites that are in proximity to residential, native grassland or conservation areas should use the following recommendations to prevent light pollution:
    - light only the intended object or areas by:
        - keeping lights close to the ground, where possible
        - using light shielding or baffling
        - keeping light from shining upwards
    - use smart lighting controls such as dimming, motion sensors, timers, and technology to remotely manage lights
    - use lights with reduced or filtered blue, violet, and ultraviolet wavelengths (i.e., warmer colour lights)
- unnecessary external lighting is discouraged

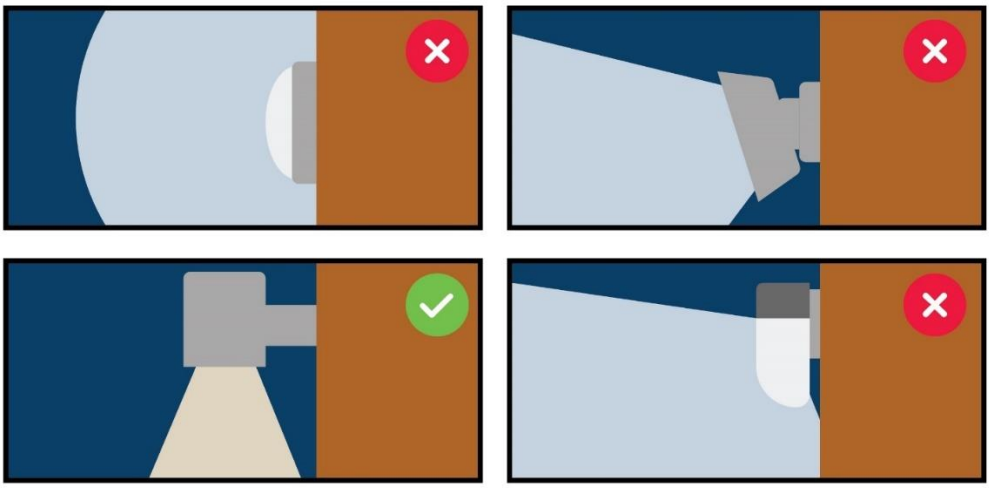


Figure 24 - Appropriate external lighting

4.7. Fencing

Design objectives

- to ensure that fencing complements the amenity of the area and contributes to an 'open' streetscape
- to ensure fences provide adequate site security

Design guidance

The following general guidelines apply where a planning permit is required:

- fencing should be set back to, or behind the building line so that the building itself becomes part of the security solution along the street frontage
- fences and gates should be integrated with the design of the building and should:
    - be visually permeable, unobtrusive or low height (where applicable) to provide passive surveillance
    - not detract from the streetscape

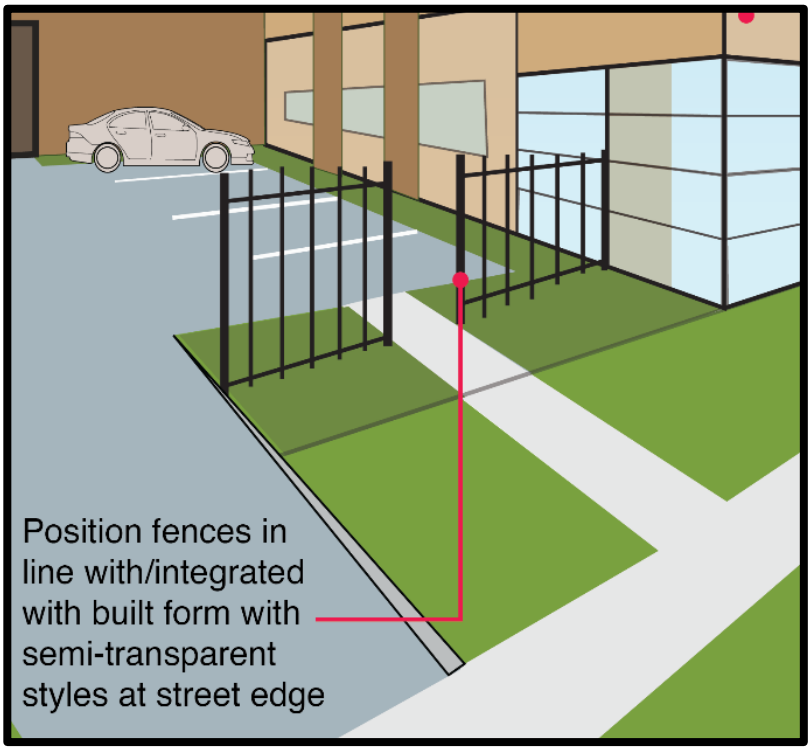


Figure 25 - Fencing design

Tip: It should generally be semi-transparent and articulated, while providing adequate security for the premises. Solid and unarticulated fencing should be avoided

- at smaller industrial sites, fences higher than 1.5 metres should generally not be constructed across the entire frontage, unless there is a requirement for site security
- where high fences are used to enclose an industrial site, it is preferable that a section of the front of the premise be open to the street to provide a sense of address and contribute to the streetscape
- where site security along the boundaries (not frontage) is required, fencing and gates should be constructed of black PVC coated chain link fence or black steel post style

4.8. Signage

Design objectives

- to ensure the design of signage is responsive to the site and scale of development on the site and suitably respectful of nearby residential areas and areas of environmental significance
- to provide clear way-finding signage to direct pedestrian, cyclist, and vehicular movement

Design guidance

- development applications are encouraged to submit an overall signage strategy for their site which includes business and directional signage
- business identification signage should be incorporated into the building design
- way-finding signage should be provided within sites to delineate entries and exits, staff and visitor parking, office, loading areas and bicycle parking facilities
- way-finding signage should complement the overall design of the development and be consistent in style and form throughout the site
- signage fronting residential areas and areas of environmental significance should be designed so that it does not detrimentally affect the character of the area
- the location of signage should be clear of vegetation and not impede access
- to enable a seamless design, telecommunication infrastructure should be incorporated within the design of a pylon or free-standing panel sign where appropriate
- internally illuminated and animated signs should not be orientated to face any native grasslands or any areas of environmental significance

4.9. Material & colour palette

Design objectives

- to create attractive buildings and visual interest even where the intended use dictates a solid form or large expanses of blank façade
- to ensure the colour and materials palettes of industrial buildings are appropriate to the locality and sensitive interfaces
- to reduce environmental impact (heat absorption or reflection) through materials used
- building materials should be reclaimed, recycled or recyclable where possible and be of a high quality with minimal ecological footprint (life cycle). These materials should be robust and be resistant to weathering.

Design guidance

- development applications are encouraged to use materials and colours appropriate to the location, building and landscape design

- for sites adjacent to public open space (reserves, grasslands, creeks), materials should be utilised that reinforce the landscape such as timber and textured concrete
- side and rear walls visible from a residential area, railway or waterway corridor should be articulated, textured and painted to address this interface, and have graffiti proof paint applied to 3 metres above ground level where walls are accessible
- use of bright, bold colours in large portions or that are not compatible with the muted tones of the natural landscape are discouraged
- light coloured roofs and paving should be used to reflect as much heat as possible, however, reflectivity and glare impacts should also be considered
- external finishes should be of low reflectivity to minimise glare and reflection to surrounding areas

5. Environmentally Sustainable Development Principles

Environmentally Sustainable Development (ESD) principles aim to protect our environment and mitigate the effects of stormwater runoff, climate change and the urban heat island effect.

5.1. Water Sensitive Urban Design

Design objectives

- to lower contamination of stormwater discharge and help improve the quality of local waterways and the surrounding environment
- to reduce potable water consumption
- to achieve environmentally sustainable developments by encouraging the use of Water Sensitive Urban Design (WSUD) techniques
- to assist in the management of urban stormwater run-off and reduce the pressure on drainage infrastructure
- to minimise increases in stormwater and protect the environmental values and physical characteristics of receiving waters from degradation by stormwater
- to encourage stormwater management that maximises the retention and reuse of stormwater

Design guidance

- applicants are encouraged to engage with a WSUD consultant to maximise the use of WSUD elements within the site

  Tip: For further information about the WSUD visit the Melbourne Water website.
- consider the necessary ongoing maintenance and management of WSUD elements within the initial design stage
- where practicable, the site layout should include:
  - vegetated swales instead of conventional kerb and channel drainage
  - raingardens or bioretention systems to reduce pollutants in stormwater, improve stormwater quality and reduce peak run-off flows while providing attractive landscaping
  - buffer or vegetated strips to increase permeable surfaces and filter sediments and coarse pollutants within stormwater run-off
  - stormwater infiltration measures at the end of swales or open drains
- where practicable, rainwater run-off from industrial roofs and concreted areas should be collected in a water saving / catchment device for reuse in the irrigation of landscaped areas, production processes, toilet flushing, external wash down facilities and other industrial uses that does not require potable water
- WSUD assets treating more than one lot within multi-unit developments should be placed within common property where they can be more effectively managed and do not unreasonably burden any single lot owner
- stormwater run-off should not have a negative impact on nearby native grasslands or conservation areas

5.1.1. Permeable paving

Design guidance

- high site permeability is encouraged in all developments. At least 30 to 40 percent of the total site areas should be permeable

  Tip: This can be achieved by maximising open space areas that enable natural drainage such as garden beds and grassed areas.

- where practicable, permeable paving or porous materials should be used to increase stormwater infiltration, reduce surface water run-off, and provide passive irrigation to trees, landscaped areas or WSUD systems

  Tip: Examples of porous materials include gravel, granitic sand, unit pavers on a sand and crushed rock base.

- before installing permeable paving, applicants are encouraged to seek specialist advice to help maximise the benefits, understand the maintenance requirements and protect building infrastructure
- permeable pavements should not be used in areas subjected to frequent flooding (i.e., floodplains) or overland flow paths where high rates of sediment transported during flood events can cause significant clogging
- where practicable, the application of permeable paving should be considered in low traffic and light load bearing areas such as visitor car parking bays, driveways, outdoor worker amenity areas, plazas, assembly areas and pedestrian walkways
- to prevent structural damage, infiltration-promoting systems (such as permeable paving) should be applied away from buildings. Offset distances will depend on the permeable pavement design and selection of materials
- the design of infiltration-promoting systems should consider mechanisms to manage flows that are above the system's treatment capacity. Overflows from permeable paving systems should not be directed towards or cause damage to structures, buildings or services
- thorough prior assessment should be undertaken when considering the application of infiltration-promoting systems in the vicinity of heritage buildings

5.2. Energy efficient urban design

Design objectives

- to reduce a buildings greenhouse emissions by encouraging energy efficient design principles for industrial developments
- to adopt economically viable energy efficient design initiatives
- to ensure that industry strives to minimise its impact on global warming and climate change through appropriately designed buildings
- to locate buildings on sites so they are oriented to maximise opportunities to capture natural lighting and allow for natural ventilation

5.2.1. Natural lighting

Design guidance

- provide adjustable shading devices to all north, east, and west facing glazing
- where practicable, maximise natural lighting to all spaces within the development (including warehouses). Alternative daylight access options include:
    - skylights
    - operable clerestory windows
    - lightwells
    - tubular skylights
    - translucent roofing materials

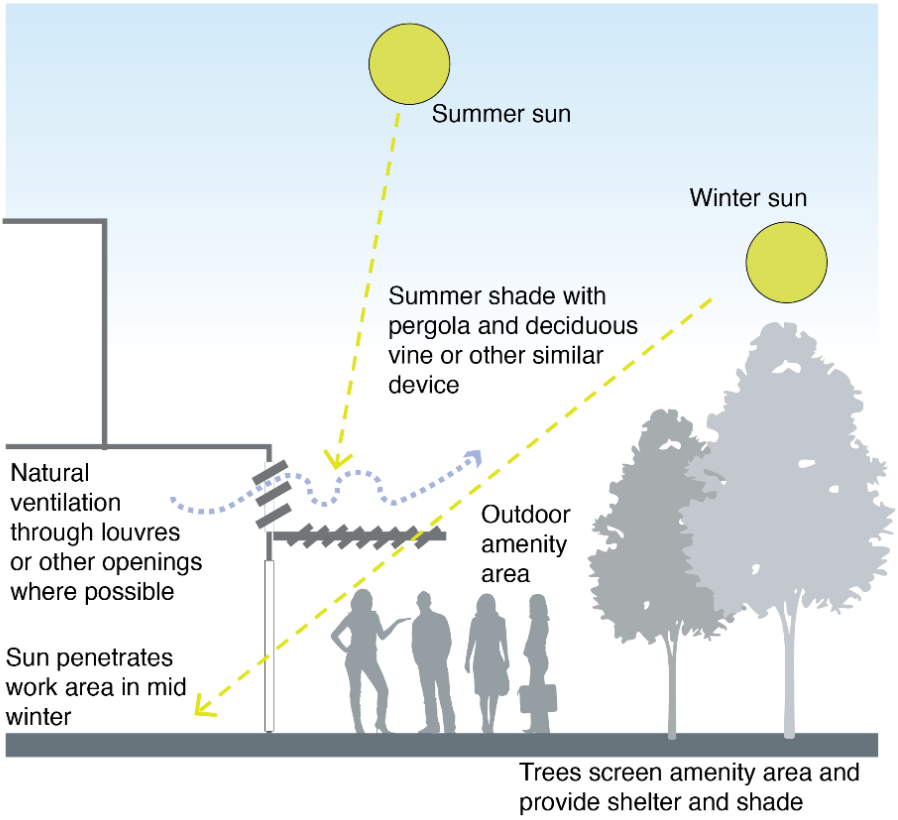


Figure 26 - Natural lighting

5.2.2. Heating and cooling

Design guidance

- maximise insulation and thermal mass and minimise air building leakages, where appropriate
- maximise natural ventilation that promotes cross flow ventilation within the building and ensuring the openings can be well sealed to minimise draught in colder months

- heating and cooling systems should minimise power output while meeting the specific temperature needs of the business activities within a building
- provide rotating or ridge vents to allow ventilation to warehouse spaces
- large external surface areas (such as roofs and driveways) should use colours with a Solar Reflectance Index (SRI) greater than 50 to reflect the heat and reduce surface temperatures

  Tip: Light colours such as white, light stone and cream are great for reflecting heat.
- where practicable, the design of pedestrian pathways and outdoor worker areas should incorporate landscaping and shading to improve human thermal comfort

5.2.3. Options to reduce electricity use

Design guidance

- developments should consider the spatial requirements for onsite renewable energy generation, future renewable energy storage or other load management systems
- roof structures of new developments should include or be designed to be able to accommodate solar photovoltaic (PV) arrays
- developments should utilise energy efficient appliances and lighting
- developments should implement onsite technologies that produce renewable sources of electricity for consumption
- developments are encouraged to switch to Green Power or similar accredited renewable energy

Figure 27 - Image of renewable energy

5.3. Sustainable Building Materials

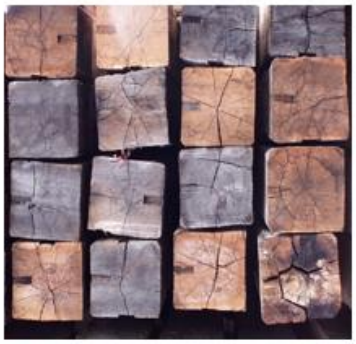
Design objectives

- to minimise the total material resources used
- to minimise the environmental impacts of material used
- to encourage the use of environmentally friendly materials

Design guidance

- where practicable, the development should reuse all or part of existing buildings
- building materials should be high quality and durable
- chosen building materials should be sustainably sourced and where practicable, locally sourced to:
    - reduce the carbon footprint from transportation
    - contribute to a circular economy
- materials with recycled content are encouraged. Examples include:
    - concrete that is made up of recycled aggregate or water
    - use of Supplementary Cementitious Materials (SCM's) made from recycled materials
    - building supplies made from by-products or recycled materials such as:
        - structural and reinforced steel that uses recycled steel content
        - recycled glass
        - recycled timber, certified plantation or engineered timber materials
        - cross laminated timber
        - water based building finishes / materials, over products which contain volatileorganic compound.

Recycled aggregates and concrete



Recycled timber

Recycled glass

6. Specific use requirements

6.1. Container storage

The use of shipping containers is an important aspect of many businesses in Hobsons Bay. Efficient movement, storage and buffer treatments will ensure that containers are safely handled with minimal impacts to streetscape amenity.

Design objectives

- to ensure the placement of containers does not adversely impact the appearance and amenity of the site and surrounds
- to ensure the stacking of containers does not pose a safety hazard

Design guidance

- container storage areas should be setback at least 6 metres from all boundaries
- the container stacks should not exceed 4 containers high on any surface other than concrete hardstand and should not exceed 6 containers high on concrete hardstand
- the most immediate facing tier to the fence line should not exceed one container high and the tiers must only rise by one increment (in a pyramid formation) until the maximum is reached
- landscaping and canopy trees should be incorporated into the setbacks to soften and minimise the appearance of storage container stacks on the street

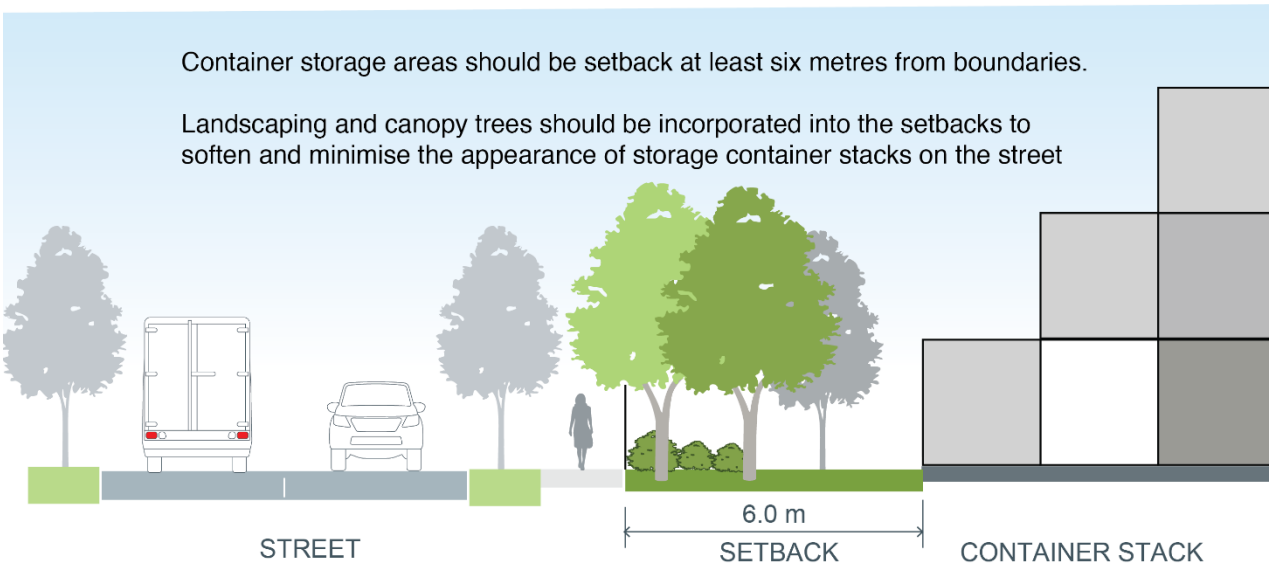


Figure 28 - Container storage setbacks

6.2. Factoryettes

Design objectives

- to ensure the size of factoryettes is adequate and can comfortably accommodate a variety of self-contained industrial uses and associated facilities
- to ensure that factoryettes do not detract from the amenity and aesthetics of surrounding areas
- to ensure that factoryettes are built for pedestrian accessibility and mobility

Design guidance

Each factoryette unit should have:

- a separate roller or tilt door access for light commercial vehicles
- a pedestrian door to an office area that is separate from the vehicle access door
- a dedicated rubbish skip storage area that is easily accessible by a waste collection vehicle
- a loading bay provided within proximity of each unit's vehicle access door
- toilet and bathroom facilities
- an internal screened storage area should be provided for each unit
- streetscapes should be designed to incorporate canopy trees and lower-level planting areas

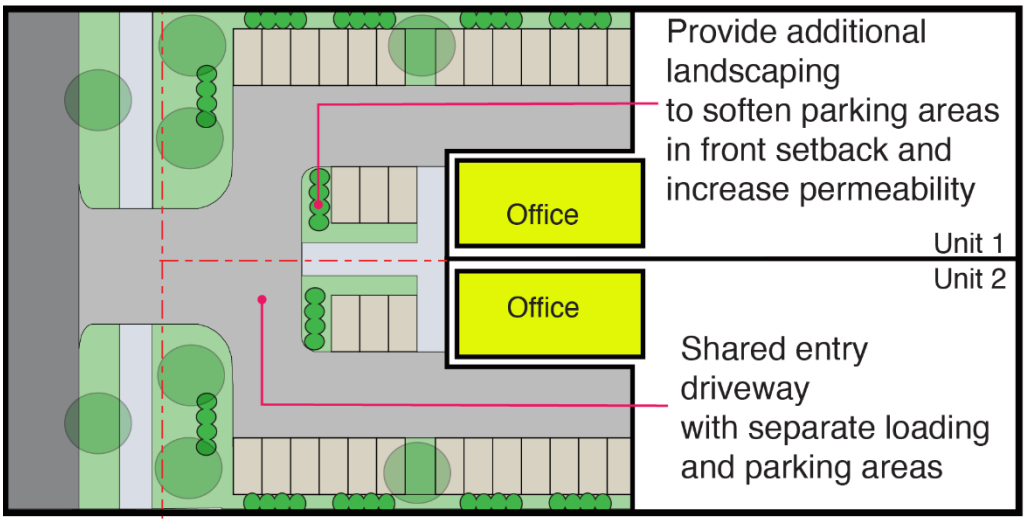


Figure 29 - Typical factoryette siting with greater car park requirements

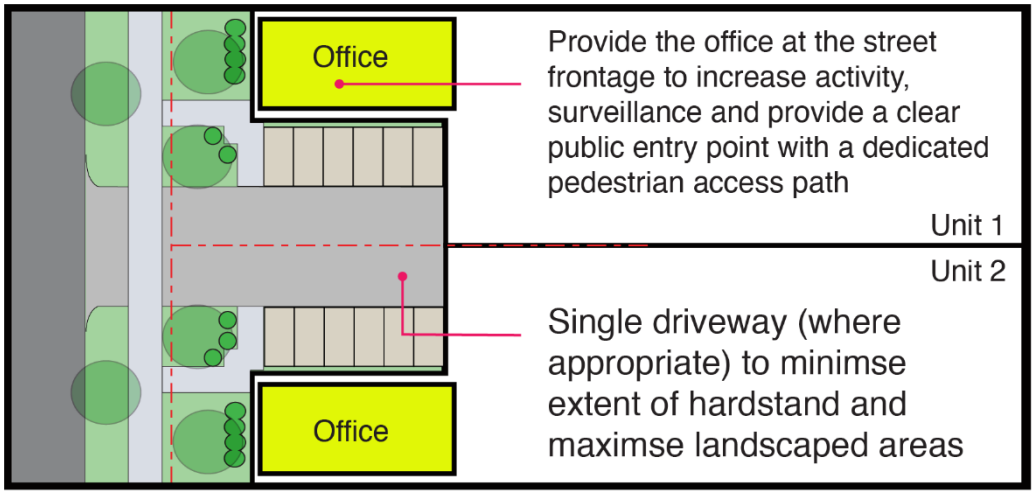


Figure 30 - Typical factoryette siting

Appendix 1

Resources that have informed the preparation of the guidelines.

Document	Purpose
2890.2:2018 Parking facilities Off-street commercial vehicle facilities – *Australian Standard AS*	Specifies minimum requirements for the layout of off-street facilities for the loading and unloading of commercial vehicles, including design requirements for access driveways across the property boundary and for internal circulation roadways.
4282:2019 – Control of the obtrusive effects of outdoor lighting (2019) – *Australian Standards AS/NZS*	Sets out requirements for the control of the obtrusive effects of outdoor lighting. This Standard specifically refers to the potentially adverse effects of outdoor lighting on nearby residents, users of adjacent roads and transport signalling systems.
Hobsons Bay Biodiversity Strategy (2017-2022)	Guides conservation management in Hobsons Bay whilst ensuring alignment with Council operations, particularly conservation, land use planning and open space planning.
Hobsons Bay Industrial Land Management Strategy (2023-2038)	Provides guidance on the use of industrial land to support Councils objectives for economic growth and employment.
Hobsons Bay Landscape Design Guidelines (2021)	Seeks to ensure that high quality landscape design is provided as part of developments. Outlines key considerations and recommendations for any landscape plan submitted to Council.
Hobsons Bay Native Vegetation Offset Guidelines (2022)	Provides guidance on offsets when removal of native vegetation within Hobsons Bay is permitted.
Hobsons Bay Planning Scheme	Outlines the objectives, policies and controls for the use, development, and protection of land within the City of Hobsons Bay.
Hobsons Bay Response to Climate Change Action Plan (2022)	Outlines the actions that Council will take to help build the resilience of the community, reduce greenhouse gas emissions, provide future-proofed public spaces and protect and enhance the natural environment.
Hobsons Bay Urban Forest Strategy (2020)	Aims to increase tree canopy in Hobsons Bay to 30 per cent by 2040 to help create a liveable city and a better urban environment that contributes to the community's health and wellbeing.
National Light Pollution Guidelines for Wildlife - Including Marine Turtles, Seabirds and Migratory Shorebirds (2020) *Australian Government Department of the Environment and Energy*	Provides guidance on managing artificial light so wildlife is: • Not disrupted within, nor displaced from, important habitat; and • Able to undertake critical behaviours such as foraging, reproduction and dispersal
Recycling Victoria – A new economy (2020) *DELWP*	Outlines a plan of reform to establish a recycling system that Victorians can rely on. The document aims to transform how Victoria reuses, repairs and recycles.

Document	Purpose
Start with the grasslands (2013) – *Victorian National Parks Association*	Provides guidance for the design and management of native grasslands to maximise environmental and social outcomes.
Urban Design Guidelines for Victoria (2019) - *DELWP*	Provides advice on building design in relation to a building's interface with public spaces, and the layout of cities, towns, and neighbourhoods. It is a reference document in all planning schemes through the Planning Policy Framework.
VicTrack Rail Development Interface Guidelines (2019)	Provides guidance on how to establish an appropriate interface with railway land to ensure development does not adversely affect existing and future transport operations.
Water Sensitive Urban Design Guidelines – South Eastern Councils (2013) *Melbourne Water*	Provides clarity on Water Sensitive Urban Design (WSUD) processes and information on the planning, design, construction and maintenance of WSUD systems.
Waterway Corridors – Guidelines for greenfield development areas within the Port Phillip and Westernport Region (2013) *Melbourne Water*	Provides guidance on waterway corridor widths, vegetation quality, infrastructure and activities permitted in waterway corridors to ensure waterway resilience and function in the face of urban development.

Appendix 2

Preferred plants along creeks and waterways

Trees

Botanical name	Common name	Height (m)	Width (m)	Evergreen/ Deciduous	Comments
Eucalyptus leucoxylon	Yellow Gum	25	10	E	Large native tree
Eucalyptus melliodora	Yellow Box	30	25	E	Large native tree
Eucalyptus leucoxylon connata	Melbourne Yellow Gum	20	15	E	Medium native tree that is a great habitat for insects and attracting birds
Melaleuca lanceolata	Moonah, Rottnest Teatree	8	5	E	A highly ornamental but hardy small native tree
Banksia marginata	Silver Banksia, Honey Suckle	8	5	E	Small native tree that has flowers and are a great habitat for birds
Callitris glaucophylla	White Cypress Pine	15	10	E	Medium sized native tree great for providing habitat for wildlife
Eucalyptus microcarpa	Grey Box	25	12	E	Large native tree
Acacia implexa	Lightwood	10	8	E	Small native tree, suitable for easements
Allocasuarina verticillata	Drooping Sheoak	15	8	E	Medium sized native tree

Shrubs

Botanical name	Common name	Height (m)	Width (m)	Evergreen/ Deciduous	Comments
Bursaria spinosa	Sweet Bursaria	5	4	E	Screening shrub
Eutaxia microphylla var. diffusa	Spreading Eutaxia	1.5	1.5	E	Flowering shrub
Acacia acinacea	Gold Dust Wattle, Round -leaf Wattle	1.5	2	E	Flowering shrub
Dodonaea viscosa	Sticky Hop Bush	3	3	E	Screening shrub

Sub-Shrubs

Botanical name	Common name	Height (m)	Width (m)	Evergreen/ Deciduous	Comments
Rhagodia candolleana ssp. candolleana	Seaberry Saltbush	1.5	2	E	Coastal shrub
Correa glabra	Rock Correa	1.5	2	E	Flowering shrub
Duma florulenta	Tangled Lignum	2	2	E	Flowering shrub

Ground Covers

Botanical name	Common name	Height (m)	Width (m)	Evergreen/ Deciduous	Comments
Dianella revoluta	Blue Flax-lily	0.5	0.5	E	Small clumping ground cover plant
Austrostipa scabra	Rough Spear Grass	0.5	0.5	E	Tufting perennial grass
Chloris truncata	Windmill-grass	0.5	0.3	E	Tufting perennial grass
Chrysocephalum apiculatum	Yellow Buttons	0.6	0.6	E	Clumping perennial ground cover plant
Pelargonium australe	Austral Stork's Bill	0.6	0.6	E	Flowering herbaceous ground cover plant
Enchylaena tomentosa	Barrier Saltbush	1	1	E	Hardy, woody shrub that bears small berries
Lomandra longifolia	Mat-rush	0.8	0.7	E	Upright tufting perennial

Glossary

Term	Definition
Areas of environmental significance	Areas of significant biodiversity such as areas of state regional or locally significant native grasslands.
Brown roofs	Consists of a waterproof system like a green roof. The surface substrate is not planted. Instead, the brown roof is left to self-vegetating plants (help from windborne or bird seed dispersal).
Building setback	Relates to the minimum distance a building is required to be constructed from a boundary with a neighbouring property or any natural or man-made feature adjacent to the lot.
Conservation area	An area of land that has been identified as having high biodiversity value.
Environmental areas	For the purposes of the guidelines, environmental areas include parks (that provides recreation and leisure benefits, either public or private), encumbered open spaces (i.e., wetlands and grasslands) and land zoned PPRZ or PCRZ.
Environmentally Sustainable Development (ESD)	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Aims to improve the health and wellbeing of occupants through building design while reducing the impact of developments on the environment.
Factoryettes	Factoryettes consistent of small industry warehouses or storage units developed on a single lot with shared driveways and car parking areas. They are often subdivided into individual units after development.
Green roofs	A layer of vegetation that is planted over a waterproofing system installed on top of a flat or slightly inclined roof.
Impervious or impermeable surfaces	Surfaces made of materials that do not allow water to pass through. Examples include roofs, buildings, roads, concrete and parking areas.
Landscape setback	Areas, delineated in the guidelines, which are to be used exclusively for planting. Landscape setbacks are usually adjacent to but within site boundaries.
Main road	Declared roads for which VicRoads has responsibilities under the *Road Management Act 2004*. Examples of declared roads include but are not limited to freeways and arterial roads.
Micromobility	For the purposes of the guidelines, micro-mobility is the use of small, lightweight (powered and unpowered) wheeled vehicles that are used for personal transport. Examples of micromobility include bicycles, e-bikes, e-scooters and e-skateboards.
Minor road	Municipal roads (secondary roads) that are predominantly for local access.
Native grassland area	An area of critically endangered ecological community listed under the *Environment Protection Biodiversity Conservation Act 1999*.
Passive design principles	Design elements of a development that help maintain a comfortable temperature within the building without relying on

Term	Definition
	additional heating or cooling. Examples of passive design include appropriate building orientation, shading, insulation and ventilation.
Passive surveillance	Passive surveillance is about providing the opportunity for occasional sightlines and views to the street and local surrounds from within a development.
Pervious or permeable surfaces	Surfaces made of materials that allow water to pass through and travel into the ground below. Examples of include garden beds, soil, gravel and permeable pavers.
Public open space	Public open space encompasses the variety of spaces within the urban environment that are readily and freely accessible to the wider community for recreation and enjoyment.
Residential area	An area where the land is primary used for housing.
Sustainable Building Materials	Sustainable building materials are made from production processes of a low environmental impact. They are recyclable or consist of reused materials sourced from production processes.
Supplementary Cementitious Materials (SCM)	Are materials (natural or by-products) added to concrete mixtures that can change the properties of concrete such as durability and hardening.
Tree canopy	The layer of leaves, branches and stems of trees that cover the ground when viewed from above. Tree canopy can help cool the areas beneath them, support healthy ecosystems, improve air quality, reduce stormwater flows, alleviate the urban heat island effect and promote active transport by providing shaded routes.
Vehicle overhang	When a vehicle, either its front or rear, extends outside of the parking bay perimeter. This protrusion may interfere with pedestrian and vehicle movement and reduce landscaping areas.
Water Sensitive Urban Design (WSUD)	Aims to reduce the impacts of urban development on the surrounding environment and waterways by managing stormwater runoff efficiently.
Waterway corridor	For the purposes of the guidelines, a waterway corridor includes a waterway (i.e., creek, drainage channel and river) and its bed and banks of land on either side of it. Concepts used to further design waterways include core riparian zone, floodplain and vegetated buffer – as described in Melbourne Water guidelines.