Development Control Plan 2016

Volume 7 – Industry and Infrastructure

Wollondilly Shire Council

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PART 1 – PRELIMINARY

1.1 Introduction

This volume provides controls for the development and use of land for the purposes of industrial and also transport and infrastructure related land uses and forms part of the Wollondilly Development Control Plan 2016.

1.2 Objective

1. To provide for development that protects the scenic qualities of the Wollondilly Shire Area.
2. To ensure that industrial development has a neutral or beneficial effect on the natural and built environments.
3. To provide employment opportunities that significantly contribute to economic activity within Wollondilly Shire.
4. To provide controls for industrial development that will encourage the use of land for sustainable and viable industrial activities.
5. To ensure the most efficient use of industrial land that is consistent with the existing amenity of the area.
6. To ensure the orderly provision of services and infrastructure.
7. To ensure good vehicular access, circulation and loading facilities on industrial sites to avoid impacts on pedestrian and vehicular mobility in the locality.
8. To ensure adequate on-site car parking is provided.
9. To ensure access to adequate services is provided for the disposal of waste.
10. To promote high standards of architecture, landscaping and building design that is visually attractive in form, design, colour and scale.
11. To ensure that industrial developments are suitably designed and landscaped without restricting their viability through over regulation.
12. To ensure industrial development is undertaken in a manner that minimises land use conflicts.
13. To ensure buildings do not adversely affect views from adjoining zones, classified roads (Picton Road and Remembrance Driveway) or other public spaces.
14. To ensure soil conservation and sediment control measures are implemented during and post-construction.
15. To permit development which serves the daily convenience needs of persons working within industrial areas.
16. To encourage the integration of land use and transport, and provide for environments that are highly accessible and conducive to walking, cycling and the use of public transport.

PART 2 – General Requirements for all development

2.1 Building setbacks

Objectives

(a) To provide satisfactory separation between industrial buildings,
(b) To mitigate land use conflict between industrial land uses and other land uses,
(c) To provide sufficient setbacks along major roads for the planting of landscaping elements so as to visually screen industrial development, and
(d) To provide safe and efficient ingress and egress in and around industrial properties.

Controls

1. Setbacks for buildings erected on industrial zoned land shall be in accordance with the following table:

	Setback requirements
Front setback	30 metres from an arterial road 10 metres all other roads
Side and rear setback	Nil setback required except as provided by this table and subject to bushfire and water course separations
Setbacks from boundaries adjacent to zones other than industry zones IN2 and IN3.	10 metres from adjoining residential, commercial or open space zones.

2.2 Building design

Objectives

(a) To encourage attractive design that is both functional and considers the surrounding streetscape,
(b) To ensure that industrial development does not have adverse impacts on the amenity of the area, and
(c) To encourage the provision of employee facilities such as canteens, lunch parks, child-minding centres and recreation facilities.

Controls

General

1. Buildings must not occupy more than 50% of the site area.
2. Office floor space and associated rooms used for administrative purposes must occupy no greater than 30% of the gross floor area.
3. Street facades and visually prominent elements of any structure must be articulated to minimise their impact on the streetscape.
4. Loading areas, driveways, rubbish, storage and roof-top equipment must not be located adjacent to residential zones
5. External and security lighting should be positioned to avoid light spillage to nearby non-industrial development.

2.3 Parking and access

Objectives

(a) To ensure that adequate provision is made for off street parking, appropriate to the volume and turnover of traffic generated by the development,
(b) To ensure that adequate manoeuvring areas are available on-site to permit forward entry and exit of vehicles,
(c) To enable the efficient functioning of parking areas, loading bays and access driveways,
(d) To ensure that parking areas and access ways are constructed with a smooth trafficable surface and to avoid conflict between pedestrians and vehicles, and
(e) To ensure parking areas are visually attractive and designed and constructed to encourage safe usage.

Controls

1. Car parking, manoeuvring areas, driveways, access, signposting and loading bays must be designed in accordance with Council's Design Specification.
2. Vehicles are to enter and leave the subject site in a forward direction.
3. Where through vehicle travel paths are not able to be provided (for example, where a zero setback is proposed) all lots must provide sufficient level space on-site for rigid and articulated vehicle turning areas. This space must be unobstructed and clear of drainage lines, power poles and parking spaces.
4. The number of parking spaces required for industrial uses is detailed below in Table 1. The RMS Guide to Traffic Generating Developments will also be referred to when determining traffic requirements for certain uses.

Table 1. Parking and Loading Requirements

Use	Requirements
Industrial Development Ancillary office space	1 space per 70m^2 of net floor area with a minimum of 3 spaces per industrial unit 1 space per 35m^2 of net floor area
Depot, Freight transport facility, Transport depot, Truck depot, Rural industries	Traffic Study required unless low scale (will be determined by the assessing officer)
Vehicle repair workshop or station	3 spaces per work bay, except where more than 2 work bays are proposed and a Traffic Study is required to determine the number of spaces
All Industrial Developments Access space for disabled persons Loading Bays	 Minimum 1 space per 100 spaces. If less than 100 spaces then at least 1 space 3m wide, clearly marked and close as practicable to building entrances Number and size required will be dependent on the type and scale of development and the range of trucks,

Use	Requirements
	heavy vehicles or special vehicles accessing the site

- A Traffic/Parking Study may be required to establish requirements for large scale uses which generate additional traffic or uses which have a range of parking, access or loading requirements. Where developments require a study the applicant will need to undertake an assessment of a similar type of development in a similar location to determine the appropriate access and number of parking spaces and/or related facilities required. The Roads and Maritime Services have guidelines available in relation to undertaking a traffic impact assessment.
- When calculating the number of car spaces required any part spaces must be rounded up to the nearest whole number.
- All loading and unloading must be undertaken within the curtilage of the site and in the designated loading areas.

2.4 Signage

Note
Reference must be made to any relevant state policy which applies to advertising and signage.

Objectives
(a) To ensure that signage is carefully designed and used as a positive design element,
(b) To permit the display of information concerning the identification of premises and the name of the occupier and activity conducted on the site,
(c) To ensure a coordinated approach to advertising where multiple sites are occupied, and
(d) To minimise the negative visual impact of cluttered and untidy advertising signs.

Controls
1. All signage must be contained within the subject site and must be limited to information that directly relates to the use of the site.
2. The number and content of signs is to be minimised to prevent visual clutter and in this respect multi-unit developments must contain one free standing sign at the front of the development which details all relevant information about the premises.
3. Signage must be designed as an integral part of the design of the overall development.
4. Directory boards at the entrance to a multi-unit industrial development is preferred to individual signage.

2.5 Open storage areas

Objectives
(a) To minimise the visual impact of open storage areas on the streetscape, and
(b) To assist in making vehicle and pedestrian entrances discernible from the street for anyone looking for a particular business.

Controls
1. Land between any road and the façade of any building or visible from a public road, must not be used for the storage, sale or display of goods.
2. Areas used for storage must be suitably screened.
3. Dedicated open storage areas must be appropriately drained and constructed in suitable materials to prevent soil disturbance.

4. External storage of unregistered vehicles, vehicle parts, used building materials, scrap materials or other industrial waste is not permitted, except for sites which support emergency services facilities or tow truck storage yards.

2.6 Landscaping

Objectives

(a) To minimise the impact of any development on the amenity and streetscape of the area through the use of landscaping, without compromising bushfire safety, and
(b) To encourage landscaping that enhances the industrial locality and provides a natural/functional/pleasant outdoor area for employees and visitors.

Controls

1. All new development must provide a minimum 2.5 m wide landscape strip which must be suitably landscaped and maintained, across the street frontage of any site (excluding access ways).
2. Edging is to be provided to retain mulch, enable mowing if necessary and to protect the landscaping from damage by vehicles.
5. All landscaping areas must be installed and with an appropriate management regime in place prior to use of the site.
6. Additions to existing industrial buildings or new ancillary buildings and works are not permitted to encroach on landscaping.
7. Provision must be made for shade trees in outdoor off-street parking areas and be planted to a minimum of 1 shade tree per 10 car spaces. Landscaping areas for these trees must be a minimum of 2 metres wide and allow for deep soil planting.
8. For rear and side setbacks, where a development directly adjoins a zone other than industrial (known as the interface zone) a 2.5 metre landscaped area must be provided.
9. Where practical utilise species that are endemic to the local area. Refer to Council's Recommended Planting Species List in Volume 1 of this DCP (Section 11.2, Table 1 - 7).

2.7 Fencing

Objectives

(a) To ensure that the impact of fences on the streetscape and public places is minimised,
(b) To allow reasonable enclosure of yard areas for privacy and security,
(c) To ensure the safe movement of vehicles does not adversely impact on gateways and street intersections,
(d) To protect drainage easements from the effects of fencing, and
(e) To ensure that adjoining owners are not adversely affected by fencing on the front yard of the adjoining property.

Controls

1. Fencing within industrial areas must be no greater than or equal to 1.8 m in height along property boundaries and within properties.
2. Where provided, front fencing must be located behind the required landscaped area setback.

2.8 Waste management

Industrial developments typically produce a diverse range of waste products. Some of these waste products may be hazardous and require compliance with established laws/protocols that are additional to this Section. Other waste products are similar in nature to commercial and domestic waste streams. Mixing waste products limits potential reuse and recycling opportunities and may distribute toxic material through a larger volume of wastes. The purpose of these requirements is to ensure new developments and changes to existing developments are designed to maximise

resource recovery (through waste avoidance, source separation and recycling) and to ensure appropriate, well-designed storage and collection facilities are accessible to occupants and service providers.

The following requirements apply to industrial development including changes of use requiring a development application. In addition, there are general requirements for all land uses contained within volume 1 of this plan.

Objectives

(a) To ensure appropriate waste storage and collection facilities,
(b) To maximise source separation and recovery of recyclables,
(c) To ensure waste management facilities are as intuitive for occupants as possible and readily accessible to occupants and service providers,
(d) To ensure appropriate resourcing of waste management systems, including servicing,
(e) To minimise risk to health and safety associated with handling and disposal of waste and recycled material and ensure optimum hygiene,
(f) To minimise adverse environmental impacts associated with waste management, and
(g) To discourage illegal dumping by providing on site storage, and removal services.

Controls

1. Every development must include a designated general waste/recycling storage area or room(s) constructed in accordance with the requirements of the Building Code of Australia (BCA) and designed in accordance with the requirements below), as well as designated storage areas for industrial waste streams (designed in accordance with specific waste laws/protocols).

<u>Location and appearance</u>

1. Waste/recycling storage areas must be integrated into the design of the overall development. Materials and finishes that are visible from outside should be similar in style and quality to the external materials used in the rest of the development.
2. Waste/recycling storage areas must be located and designed in a manner that reduces adverse impacts upon neighbouring properties and the streetscape. The location and design of the areas should minimise adverse impacts associated with:
   - the proximity of the area to dwellings
   - the visibility of the area
   - noise generated by any equipment located within the area
   - noise generated by the movement of bins into and out of the area
   - noise generated by collection vehicles accessing the site; and
   - odours emanating from the area.

<u>Size</u>

1. Waste/recycling storage areas must be of adequate size to comfortably accommodate all waste and recycling bins associated with the development.
2. The waste/recycling storage room/areas must be able to accommodate bins that are of sufficient volume to contain the quantity of waste generated (at the rate described below) between collections.

<u>Layout</u>

1. The gradient of waste/recycling storage area floors and the gradient of any associated access ramps must be sufficiently level so that access for the purpose of emptying containers can occur in accordance with WorkCover NSW Occupational Health and Safety requirements.

2. Within waste/recycling storage areas, containers used for the storage of recyclable materials should be kept separate from (but close to) general waste containers — so that the potential for contamination of recyclable materials is minimised.

Access: waste/recycling collection

1. There must be convenient access from each tenancy and/or larger waste producing area of the development to the waste/recycling storage room(s) or area(s). There must be step-free access between the point at which bins are collected/emptied and the waste/recycling storage room(s) or area(s).
2. The development must be designed to allow access by collection vehicles used by the nominated waste contractor. Wherever possible, the site must be configured to allow collection vehicles to enter and exit the site in a forward direction and so collection vehicles do not impede general access to, from and within the site. Access driveways to be used by collection vehicles must be of sufficient strength to support such vehicles.
3. Servicing arrangements for the emptying of bins must be compatible with the operation of any other loading/unloading facilities on-site.
4. Access for the purpose of emptying waste/recycling storage containers must be able to occur in accordance with WorkCover NSW Occupational Health and Safety requirements.

Access: general

1. Vermin must be prevented from entering the waste/recycling storage area.

Surfaces

1. Waste/recycling storage areas must have a smooth, durable floor and must be enclosed with durable walls/fences that extend to the height of any containers which are kept within the area.

Doors/gates

1. Doors/gates to waste/recycling storage areas must be durable. There must be a sign adjacent to the door/gate that indicates that the door/gate is to remain closed when not in use. All doors/gates are to be openable from both inside and outside the storage area and must be wide enough to allow for the easy passage of waste/recycling containers.

Services

1. Waste/recycling storage areas must be serviced by hot and cold water provided through a centralised mixing valve. The hose cock must be protected from the waste containers and must be located in a position that is easily accessible when the area is filled with waste containers.
2. The floor must be graded so that any water is directed to a sewer authority approved drainage connection located upon the site. In the Sydney Metropolitan Area (SMA) this is Sydney Water.

Signage

1. Waste/recycling storage areas must include signage that clearly describes the types of materials that can be deposited into recycling bins and general garbage bins.

Management

1. Arrangements must be in place for the regular maintenance and cleaning of waste/recycling storage areas. Waste/recycling containers must only be washed in an area which drains to a sewer authority approved drainage connection. In the Sydney Metropolitan Area (SMA) this is Sydney Water. The Better Practice Guide for Waste Management in Multi-Unit Dwellings (Department of Environment and Climate Change, 2007) gives detailed information about waste recycling/storage rooms and facilities.
2. Depending upon the size and type of the development, it might need to include separate waste/recycling storage room/area for each tenancy and/or larger waste producing areas.
3. Bins must be stored in the designated waste/recycling storage room(s) or area(s).

4. Arrangements must be in place in all parts of the development for the separation of recyclable materials from general waste. Arrangements must be in place in all parts of the development for the movement of recyclable materials and general waste to the main waste/recycling storage room/area.
5. The type and volume of containers used to hold waste and recyclable materials must be compatible with the collection practices of the nominated waste contractor.
6. Waste management storage rooms/areas must be suitably enclosed, covered and maintained so as to prevent polluted wastewater runoff from entering the stormwater system.
7. A waste/recycling cupboard must be provided for each and every kitchen area in the development. Each waste/recycling cupboard must be of sufficient size to hold a minimum of a single day's waste and to hold separate containers for general waste and recyclable materials.
8. Premises that discharge trade wastewater must do so only in accordance with a written agreement from the local sewer authority. In the SMA this is Sydney Water. Sydney Water defines trade wastewater as 'any liquid, and any substance contained in it, which may be produced at the premises in an industrial and commercial activity, but does not include domestic wastewater (e.g. from hand-basins, showers and toilets).'
9. Arrangements must be in place regarding the regular maintenance and cleaning of waste management facilities. Tenants and cleaners must be aware of their obligations in regards to these matters.

2.9 Stormwater management

The following documents will be used by Council (but not limited to) in assessing any development application:

- Managing Urban Stormwater: Soils and Construction (Volume 1 – The Blue Book provides guidance during the construction of urban subdivisions and is available from Landcom. Volume 2 provides guidance for erosion and sediment control for a range of other activities) *www.environment.nsw.gov.au/stormwater/publications.htm*
- Model Code of Practice for erosion and sediment control (A resource guide for local Councils – Landcom)
- Managing urban stormwater: harvesting and reuse www.environment.nsw.gov.au/stormwater/publications.htm
- Australian Runoff Quality www.ncwe.org.au/arq

Objectives

(a) To minimise the volume of stormwater flows and demand for water and sewer infrastructure by encouraging and facilitating opportunities for water reuse and recycling,
(b) To ensure that industrial developments are designed to prevent pollutants entering the stormwater disposal system,
(c) To ensure that the quality of water discharged from a development is treated appropriately to avoid adverse impacts on receiving waters,
(d) To ensure post-development peak stormwater runoff from frequent storm events does not exceed that which occurred prior to development taking place, and
(e) To ensure stormwater runoff is collected and disposed in an appropriate manner.

Controls

1. For all development in existing or proposed urban areas consent must not be granted for development unless the assessing officer is satisfied that:
   (a) the stormwater management system includes all reasonable management actions to minimise impacts on and contribute to the achievement or protection of relevant environmental values,
   (b) Water sensitive urban design principles* are incorporated into the design of the development, and

(c) The stormwater management system complies with Council's requirements.

* For the purposes of clause 1 (b) above, the principles of water sensitive urban design can be summarized as follows:

(a) Protection and enhancement of natural water systems (creeks, rivers, wetlands, estuaries, lagoons, groundwater systems etc.),
(b) Protection and enhancement of water quality, by improving the quality of stormwater runoff from urban catchments,
(c) Minimisation of harmful impacts of urban development upon water balance and surface and groundwater flow regimes,
(d) Integration of stormwater management systems into the landscape in a manner that provides multiple benefits, including water quality protection, stormwater retention and detention, public open space and recreational and visual amenity, and
(e) Reduction in potable water demand by using stormwater as a resource.

2.10 Ecological sustainability and Energy conservation

Objectives

(a) To ensure built form, landscape and site planning embodies energy efficiency and ecologically sustainable development principles,
(b) To encourage development that demonstrates appropriate use of energy efficient materials in construction wherever possible, and
(c) To encourage development that demonstrates appropriate solar access, natural ventilation and use of landscape elements for micro-climate control, and
(d) To reduce potable water mains demand of non-residential development by promoting water-efficient appliances, fit for purpose alternative water use.

Controls

1. Any development application for industrial development on land affected by this DCP must be supported by documentation which identifies how the proposed land use will meet the objectives of cleaner production, conservation and minimisation of resources and waste production.
2. A Sustainability Assessment is required to demonstrate where viable ecologically sustainable measures are proposed, which may incorporate some or all of the following in the building design:
   - Potential for effluent re-use
   - Water minimisation techniques, including water recycling
   - Waste minimisation techniques, including recycling
   - Incorporate water efficient design principles. Rainwater must be collected and stored for re-use as on-site irrigation
   - Use porous paving materials to minimise runoff
   - Use drainage swales to slow down stormwater runoff and increase on-site infiltration
   - Salinity hazard investigations
   - Comfort levels and reduction on artificial lighting and ventilation. Orientate buildings to the North with overhang measures to protect from summer sun
   - A selection of an energy efficient heating/cooling system
   - Heating/cooling systems must target only those spaces which require heating or cooling and ensure efficient distribution/redistribution of warm/cool air.
   - Where a space heating or cooling system is installed, it must be selected for maximum energy efficiency
   - Light switches at room exits, dimmer switches, motion detectors for lighting doorways, entrances or outdoor security lighting, automatic turn-off switches used for outdoor purposes

- If evergreens are planted within the northern quadrant of the building, they must be spaced well away from the building so as not to obstruct the winter sun of any building.

3. Where necessary demonstrate adequate site restoration, rehabilitation or remediation measures for the site.
4. Connection to recycled water is required if serviced by a dual reticulation system for non-potable uses (i.e. toilet flushing, irrigation, car washing, firefighting and certain industrial purposes where applicable).
5. Installation of 3 star WELS rated water efficient showerheads, 6 star WELS rated water tap outlets, 5 star WELS rated urinals and 4 star WELS rated toilet cisterns are required for all amenities.

2.11 Noise

Objectives

(a) To ensure the intensification and expansion of existing industrial facilities and construction of new industrial development does not adversely impact on surrounding rural and residential development, and

(b) To ensure that appropriate traffic management measures are applied to direct traffic from industrial sites onto the arterial network.

Controls

1. Noise sources must be located away from residential areas and noise mitigation measures such as fencing, earth mounding and other acoustic measures will be considered within the development. These measures must not compromise any other provision in this Development Control Plan or on the achievement of minimum solar access requirements of neighbouring properties.
2. Development is required to comply with the NSW Industrial Noise Policy and may require noise attenuation measures specified by an independent acoustic consultant.

2.12 Open Space

Objectives

(a) To promote accessible, functional and safe open space for employees within industrial developments.

Controls

1. Where an individual premises or an industrial complex (or equivalent) is employing 5 or more staff in total, an area of open space must be provided:
   - which is readily accessible, and
   - contains seating, solar access and shade.
2. The open space area provided in accordance with control 1 above can be included as part of any landscaped area of the site.

PART 3 – Specific land use controls

3.1 Rural industry and Depots (including Transport depots and Truck depots)

Objectives

(a) To provide development guidelines for the sustainable development of rural industries, and
(b) To ensure colours used are complimentary to the surrounding landscape and blend into the rural character of the Shire.

Controls

Location and building setbacks

1. Buildings used for rural industries must not to be located in visually prominent locations such as ridgelines and must not be erected on slopes in excess of 15 degrees.
2. Certain industries may require a more significant setback to be determined by the assessing officer.
3. Where industries are proposed in rural zones the minimum requirements are (as per igloos).

Building colour

1. The colour of a building used for the purpose of a rural industry must match or blend with the colour of existing structures and buildings on the property and must be in keeping with the natural features of the surrounding environment.

Parking and Access

1. Site access roads in rural areas may need to be sealed depending on the nature of the proposal.

3.2 Self storage units

Objectives

(a) To ensure there is adequate area on-site to allow for vehicle manoeuvring,
(b) To ensure that any sites in the vicinity of residential areas are managed appropriately to minimise disruption to residents, and
(c) To ensure that the site is managed appropriately.

Controls

1. Access into and throughout the site and egress from the site must be in a forward direction.
2. Sufficient access width must be provided to allow for the loading and unloading of goods into units without impeding through traffic on-site.
3. Hours of operation must be determined in relation to the location of the site and must be restricted on sites in the vicinity of residential areas.
4. Premises must be designed and managed to reduce potential noise and lighting impacts on nearby residential areas.
5. The storage of hazardous, flammable or toxic materials is prohibited in the self storage units. Notice must be given to tenants of units to this effect.
6. All deliveries must take place within the site and not in adjoining streets.
7. Sales of manufactured goods, products or services to the general public is prohibited direct from the approved self storage units.

3.3 Warehouse or Distribution centre

Objectives

(a) To ensure the development does not compete with development in local commercial centres,
(b) To maintain separation between the warehouse and distribution uses, and
(c) To ensure there is adequate area on-site for movement of goods and manoeuvring of vehicles safely.

Controls

1. No retailing directly to the general public shall be undertaken from the premises.
2. The distribution/office/display area of the site must not comprise more than 30% of the net floor space.
3. Buildings must comprise two functional elements: an office/display component which is usually a public access zone; and an industrial /storage activity area which is a private zone. These areas must be clearly delineated and signage must be provided to prevent public access to private areas.
4. The site must be provided with a loading dock and goods handling area to serve the intended use. Development of new sites where the end user and product are not known must provide loading facilities adequate for prime mover and trailer.

3.4 Vehicle body repair workshops and Vehicle repair stations

Notes

- A spray painting booth is classified as a work bay for the purposes of calculating car parking provision.
- An activity such as a car oven for drying paint cannot be classified as a car space.
- Environmental guidelines for development of motor vehicle repair premises and any licensing requirements are provided by the NSW Office of Environment and Heritage at www.environment.nsw.gov.au and Sydney Water Corporation at www.sydneywater.nsw.gov.au

Objectives

(a) To ensure that vehicle repair developments do not have a detrimental impact on the amenity of surrounding areas,
(b) To ensure that premises are maintained satisfactorily, and
(c) To ensure that all vehicular parking is catered for on-site.

Controls

Facilities

1. Proposals and equipment for spray painting should be detailed in the development application.

Management

1. The premises must be maintained in a clean and tidy state at all times.
2. All materials, trade waste and equipment must be stored wholly within the factory building and not in adjacent forecourts, access ways, car parking areas or on Council's footpaths.
3. All work must be carried out within the property and not in adjacent foyers, yards, access ways, car parking areas or on Council's footpaths.
4. All sealed surfaces accessible to vehicles, including standing areas access ways and work bays, are to be fully drained and comply with the requirements of the Protection of the Environment Operations Act 1997 and related regulations.
5. Water discharges from car wash bays are to comply with any Trade Wastewater permit required from Sydney Water Corporation.

Parking

1. Motor vehicles awaiting repair; under repair or awaiting pick up either by tow truck or customer; being stored or parked, must be accommodated within the site or building. Any proposed or required customer parking area must not be used for the storage of vehicles.
2. No vehicle brought to premises for maintenance, servicing, repair, detailing or painting is to stand or park in adjacent or nearby streets whilst under the control of the manager or staff of the premises.
3. On-site provision is to be made for the delivery of vehicles to the site.
4. Vehicles including tow trucks are to enter and leave in a forward direction so as not to disrupt the flow of on-street traffic.

3.5 Freight transport facilities and Passenger transport facilities

Definitions

parking space *means a space dedicated for the parking of a motor vehicle, including any manoeuvring space and access to it, but does not include a car park. [as defined in the Standard Instrument]*

Objectives

(a) To ensure that there is minimal impact on the surrounding locality from increased levels of traffic and manoeuvring of large vehicles.

Controls

1. The number of vehicle parking spaces provided must be based on one space for each vehicle present at the time of peak vehicle accumulation on the site.
2. Under no circumstances is the parking of vehicles on a public street acceptable.
3. Provision must be made for both fleet vehicles and contract/operator vehicles.
4. Provision on-site for heavy vehicle parking bays in addition to parking spaces will require separate assessment.
5. In addition to the above, 3 vehicle spaces per 2 service bays must be provided for ancillary services conducted on the site (servicing, repairs and the like).

3.6 Waste or Resource management facilities

Objectives

(a) To minimise the overall environmental impacts of waste,
(b) To maximise, through design, the opportunities to deal with industrial waste and reduce the demand on waste disposal by providing detailed criteria for the consideration of design and management of recycling, composting and waste storage and collection,
(c) To provide industrial waste management systems that allow for ease of use by occupants and ease of service by collection contractors,
(d) To encourage building designs and construction techniques that will minimise waste generation,
(f) To assist in achieving Federal and State Government waste minimisation targets and promote development design that is appropriate and provides convenient waste storage, recycling and collection facilities on site,
(g) To encourage the orderly and economic development of waste management facilities in appropriate locations, and
(h) To encourage the minimisation of human and environmental health impacts from the location and operation of waste management facilities.

Controls

Location

1. The waste operations area of a landfill or organic waste processing facility must be sited:
   - at least 500 metres from the boundaries of the allotment and
   - at least 500 metres from the nearest dwelling, shop, office, public institution or other building designed primarily for human occupation
   - at least 250 metres from a public open space reserve, forest reserve, national park, conservation zone or policy area
   - at least 100 metres from the nearest surface water (whether permanent of intermittent and
   - entirely outside of any 1 in 100 year average recurrence interval flood event area
2. The waste operations area of a landfill must not be located on land that is subject to land slipping and/or with ground slopes greater than 10%, except where the site incorporates a disused quarry.
3. The waste operations area of an organic waste processing facility must not be located on land that is subject to land slipping and/or ground slopes greater than 6%.
4. The waste operations area of an organic waste processing facility must not be located on land where the interface of engineered landfill liner and natural soils would be within any of the following:
   - 15 metres of unconfined aquifers bearing groundwater with less than 3000 mg/L total dissolved salts
   - 5 metres of groundwater with a water quality of 3000 to 120000 mg/L total dissolved salts
   - 2 metres of groundwater with a water quality greater than 12 000mg/L total dissolved salts
5. Applications for development are to be accompanied by a Waste Management Plan (WMP). The WMP accompanying the application must demonstrate appropriate design of facilities and on-going management techniques that minimise waste and the WMP will include the following details:
   - type of future use for the development
   - types of waste to be generated
   - estimated volume of waste to be generated per week
   - show on plans and describe on-site storage and/or treatment facilities for waste
   - state the destination for waste produced to licensed facilities
   - provide for ongoing monitoring and auditing of the site in accordance with licensing requirements under the Protection of the Environment Operations Act 1997

   A Trade Wastewater permit may be required from Sydney Water Corporation for the disposal of wastewater.

Storage

1. Adequate storage for waste materials must be provided on site. Ideally waste storage containers must be kept inside a building or buildings.
2. All waste must be removed at regular intervals and not less frequently than once per week.
3. All waste storage areas must be screened from view from any other adjoining residential or rural zoned property or public place.

Noise/Odour/Litter

1. Waste management facilities must be located and designed to minimise adverse impacts on both the site and surrounding areas from the generation of surface water and groundwater pollution, traffic, noise, odours, dust, vermin, weeds, litter, gas and visual impact
2. Separation and/or noise attenuation must be used to ensure noise generation associated with the waste management operation does not unreasonably interfere with the amenity of sensitive land uses.

3. The development must comply with the NSW Industrial Noise Policy.
4. Litter control measures that manage wind blown litter must be provided to the satisfaction of Council.

Drainage

1. Sufficient area must be provided within the waste operations area for the:
   - maximum expected volume of material on the site at any one time
   - containment of potential groundwater and surface water contaminants
   - diversion of clean stormwater away from the waste and potentially-contaminated areas

   Where required, a leachate barrier must be provided between the operational areas and underlying soil and groundwater.

Access

1. Waste management sites must be accessed by appropriately constructed and maintained roads.
2. Chain wire mesh must be erected on the perimeter of a waste management facility to prevent access other than at entry points.
3. Plant, equipment or activities that could cause a potential hazard to the public must be enclosed by a security fence.

Sustainable gas emissions

1. Landfill activities that have a total capacity exceeding 230 000 cubic metres must make sustainable use of landfill gas emissions. For smaller landfill activities, if the sustainable use of the landfill gas emissions is not practical or feasible, flaring must be used to avoid gases being vented directly into the air.

   Environmental guidelines for development and any licensing requirements are provided by the NSW Office of Environment and Heritage at www.environment.nsw.gov.au and Sydney Water Corporation at www.sydneywater.nsw.gov.au

3.7 Telecommunications facility

Objectives

(a) To apply a precautionary approach to the deployment of telecommunications infrastructure,
(b) To minimise Electromagnetic Radiation (EMR) exposure to the public by ensuring telecommunications facilities are not located near sensitive land uses including dwellings, educational establishments, child care centres and hospitals, where practicable and reasonable,
(c) To encourage the provision of telecommunications facilities to provide access to meet current and future servicing needs for telecommunications for the general public and local communities, and
(d) To provide a consistent approach that benefits council, the community and carriers.

Controls

Servicing needs

1. Any telecommunications facility must include measures to restrict public access to the antenna(s) and associated infrastructure. Approaches to the antenna(s) must contain appropriate signs warning of EMR and providing contact details for the facility manager.
2. Where relevant, proposals must comply with the BCA for the purposes of construction and the relevant exposure levels as directed by the Australian Communication Authority (ACA) and the Australian Radiation Protection and Nuclear Safety Authority.
3. Development Applications must also consider each of the following:
   - Minimizing transmitter power to that required to achieve coverage requirements;

- Choosing or designing antennae which minimise emission in directions not required for coverage;
- Selecting the option that results in the lowest exposures (if alternative sites are available or if there are different options for mounting antennae on a single site).

4. The applicant must provide a mapped analysis of cumulative EMR effect with the Development Application.
5. The applicant is responsible for the maintenance and upgrading of infrastructure and site.
6. Should any emissions other than electromagnetic radiation arise from the installation and operation of the infrastructure, the operator must notify Council and the Department of Environment and Climate Change and recommend a preferred strategy of amelioration.
7. Council must be notified when infrastructure and associated screening structures are to be removed when it is no longer in use, and the allotment must be restored.
8. Each development must provide a legible weatherproof sign visible to the public in the immediate location of the telecommunications facility.

Visual amenity

1. Antennas and supporting infrastructure must be designed to ameliorate the visual or cumulative visual impact from the public domain and adjacent area ensuring that the development as carried out is in keeping with the streetscape or the surrounding environment, or both.
2. It must be ensured that the scale of the development is in keeping with the locality, bearing in mind that the scale may be affected by the intended coverage of the network or facility.
3. Planting and landscaping of the site must be provided to minimise the impact of structures.
4. The facility must be integrated with the design and appearance of any building or structure on or within which it is located screening, where practical, any equipment associated with the development so as to reduce its visibility.
5. The development must not obstruct views of significant vistas, landmarks or heritage items
6. Buildings must be an appropriate colour and texture to match the colour and pattern of the background.

Location

1. An application for a Telecommunications Facility must demonstrate particular consideration of likely sensitive land uses. Sensitive land uses may include areas where occupants are located from long periods of time (e.g. residences); and that are frequented by children (e.g. schools and child care centres).
2. The design of antennas and supporting infrastructure should minimise or reduce the cumulative visual impact from the public domain and adjacent areas.
3. Within the local context, the infrastructure design must take into account: colour, texture, form, bulk and scale.
4. Broadband and other cabling must be located underground
5. Telecommunications infrastructure, including mobile base stations must be setback from residential zones, dwellings, educational establishments, child care centres, hospitals or other sensitive land uses to the satisfaction of the assessing officer.
6. Details are also to be submitted with the Development Application on proposed monitoring to ensure compliance with exposure levels.
7. An applicant must demonstrate that in selecting a site for a communications facility (not including a domestic satellite dish), it has adopted a precautionary approach to minimise the EMR exposures to the public by:
   - providing written confirmation that the proposed facility complies with the relevant Australian exposure standard as prescribed by the Australian Communications Authority
   - providing a site locality analysis plan
   - providing a 360 degree prediction map and illustrating the EMR exposure levels and cumulative impact of a proposed facility
8. A communications facility (not including a domestic satellite dish) must not be located:

- on a heritage item;
- in the vicinity of a heritage item;
- in an area of heritage significance; or
- in an area that will impact on endemic flora and fauna

9. A written statement is to be prepared and must explain how the proposed telecommunications facility has responded to the site analysis and the objectives of this DCP.
10. For facilities covered by the LIF Determination, the carrier is to consult with affected community, irrespective of Council boundaries, as required by the ACIF Code.
11. The application must provide Council with the results of its community consultation undertaken for facilities covered by the LIF Determination.

Co-location

Co-location is the practice of locating a number of different telecommunication facilities, often owned by different carriers, on one facility or structure.

1. Telecommunications facilities should be co-located with other utilities wherever this is technically practical, commercially viable and achieves the best environmental outcome and, in particular:
   - telecommunications lines should be located within an existing underground conduit or duct, and
   - antennae (and similar structures) should be attached via the use of combiners to existing utility poles, towers, structures, buildings or other telecommunications equipment so as to minimise clutter.
2. Efforts made to co-locate are to be demonstrated by the carrier and if co-locating is not proposed it must be demonstrated why it is not viable in the vicinity.
3. The carriers' network master plan for the subject infrastructure type must be included to identify opportunities for co-location or sharing of facilities within or between carriers. Co-location is not a desirable option where:
   - Cumulative emissions are significant,
   - The infrastructure is visually unacceptable,
   - There are physical and technical limits to the amount of infrastructure that structures are able to support; or
   - The required coverage cannot be achieved from the location.
4. Any application must demonstrate a precautionary approach and effective measures to minimise any negative impacts of co-location.

Health

1. Telecommunications facilities must be designed, installed and operated to comply with standards relating to human exposure to electromagnetic energy appearing in any applicable codes or standards made under any applicable law of the Commonwealth.

Installation

1. Steps are required to be taken to minimise any obstruction of pedestrians and traffic, and disruption to the enjoyment of adjoining properties, while the facility is being installed.

2. Work shall be carried out during times that cause minimal disruption to public access and the enjoyment of adjoining properties.
3. Traffic control measures shall be taken during construction in accordance with AS 1742.3—1996 Manual of Uniform Traffic Control Devices open trenching should be guarded in accordance with AS 1165—1982 Traffic Hazard Warning Lamps.
4. Steps shall be taken to minimise soil erosion arising from the siting and installation of telecommunications facilities.
5. Threatened species and critical habitats shall be avoided, and disturbance to vegetation should be minimised and. At the conclusion of the work, impacted vegetation should be restored by the carrier to the satisfaction of the relevant landowner and, if the work is being carried out under a development consent, to the satisfaction of the consent authority.
6. Street furniture, paving and other existing facilities removed or damaged during construction is to be reinstated or rectified by the carrier and the costs of doing so should be borne by the carrier.

Part 5 – Maldon Employment Generating Lands - Special Provisions

5.1 Introduction

These provisions are additional to the controls outlined in Volume 7. Reference should also be made to applicable controls in Volume 1 – General which applies to all development in Wollondilly Shire.

5.2 Objectives for Development

The following objectives and controls are based on the specialist studies which were undertaken for the rezoning of the above land to IN1 General Industrial and E2 Environmental Conservation.

Overall Objectives

a) To ensure development is serviced adequately by water and sewer.
b) To achieve the provision of a sustainable water supply.
c) To ensure the efficiency of Picton Road is maintained.
d) To encourage alternate modes of transport to the site.
e) To ensure hazards such as bushfire, flooding and mine subsidence are managed effectively.
f) To ensure noise and dust emissions are controlled effectively.
g) To ensure cultural heritage is conserved.
h) To ensure biodiversity is managed effectively.
i) To ensure native vegetation is maintained and improved.
j) To retain the overall rural landscape character.
k) To provide an attractive landscaped entrance to Picton township.

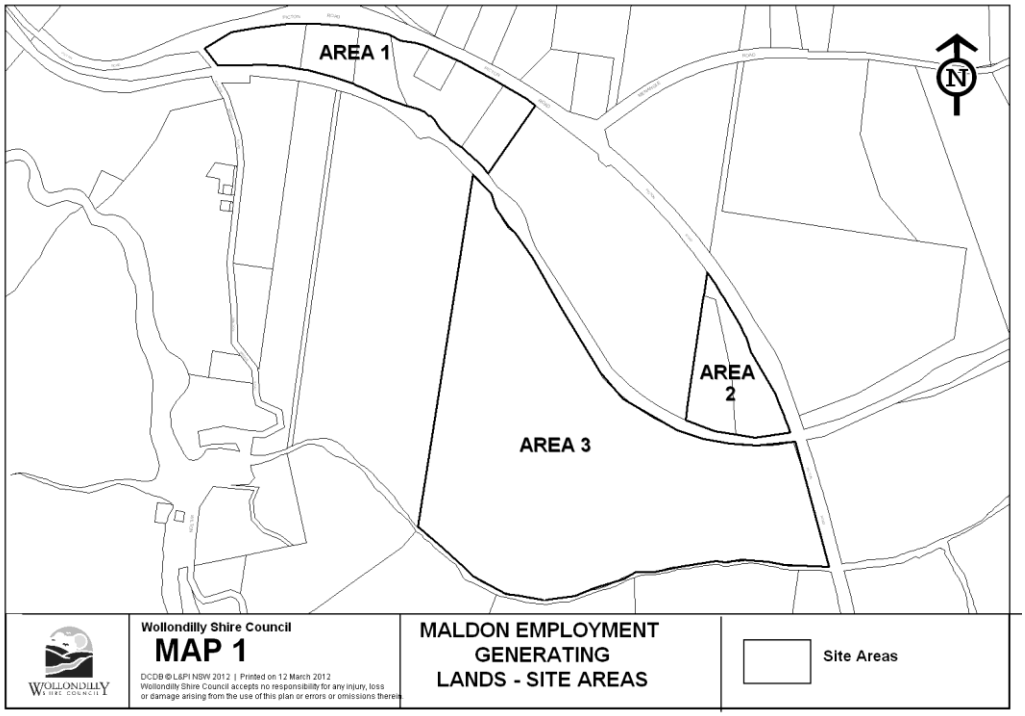
5.3 Location

Maldon Employment Generating Lands are located at Picton Road, Maldon and include the following properties:

Address	Cadastre (Lot and Deposited Plan)
200 Picton Road	Lot 2 DP 818975
240 Picton Road	Lot 1 DP 732582
250 Picton Road	Lot 2 DP 732582
270 Picton Road	Lot 1 DP 105348
290 Picton Road	Lot 3 DP 732582
300 Picton Road	Lot 31 DP 731012
Part of 330 Picton Road	Part of Lot 1 DP 1128013
390 Picton Road	Lot 30 DP 826690
400 Picton Road	Lot 31 DP 826690

The employment lands comprise three areas which are outlined on Map 1 below:

Map 1 – Site Map



5.4 Special Provisions for Development

5.4.1 Subdivision

Objectives

a) To ensure subdivision is undertaken sustainably
b) To ensure vehicular access minimises impact on Picton Road.
c) To ensure there is adequate road infrastructure to maintain efficient traffic flow on Picton Road.

Controls

1. Subdivision is only permitted in association with a nominated land use and a demonstrated satisfactory water supply and wastewater management assessment.

2. A plan detailing vehicular access that incorporates internal road links to service all proposed and future lots shall be submitted with any future development application for subdivision of the land.

3. No access into Area 1 (indicated on the map) shall be permitted from Maldon Bridge Road.

4. Vehicular access across the Aboriginal Heritage Conservation Zone at 330 Picton Road, Maldon being Lot 1 DP 1128013 shall only be provided if approval to modify consent DA-318-12-2004 from the Minister for Planning and concurrence from the Office of Environment and Heritage and the Tharawal Local Aboriginal Land Council and the Cubbitch Barta Native Title Claimants Aboriginal Corporation is submitted with the development application for subdivision.

5. Access into the site shall be provided by a roundabout which is able to cater for traffic movement from B Double trucks and shall be funded by developers of the site.

6. Vehicular access into any future subdivision of land in Area 1 shall include provision of a bridge over Carriage Creek and shall be funded by agreement with all landowners/developers in Area 1.

7. Vehicular access including a bridge over the Main Southern Railway into Area 3 shall be funded by the landowner/developer of Area 3.

8. Road widening of Picton Road required to provide access and or improve traffic movement into and from the site shall be funded by the developer.

9. The subdivision plan shall detail an on-site PMF refuge to provide an evacuation point during sudden severe storm and flooding events.

5.4.2 Water Supply

Objectives

a) To ensure potable and non-potable water supplies are adequate to satisfy all needs of the proposed development including fire fighting.
b) To minimise the reliance on Sydney Water's water supply infrastructure to achieve water supply objectives.
c) To promote environmentally sustainable water supply solutions to potable and non-potable water supply through the collection, treatment and reuse of site stormwater and wastewater resources.
d) To ensure protection of surface and groundwater resources.
e) To minimise risk to health and safety associated with the supply of potable and non-potable water resources.

Controls

1. Development shall only be permissible in association with a satisfactory water supply assessment.

2. A water supply assessment shall be required to:
   - investigate and report on water supply requirements (potable, non-potable and fire protection) for the proposed development;
   - investigate and report on available potable and non-potable resources (Sydney Water Feasibility application to be conducted as part of this assessment);
   - nominate a water supply strategy and provide sufficient security modelling utilising local climate records;
   - assess environmental impact / nominate recommendations for minimising impact on surface and groundwater resources with respect to water supply (i.e. water balance modelling).
   - assess fire protection requirements including fire hydrant and onsite fire storage and booster system design for the proposed development.

3. The water supply assessment shall be undertaken to satisfy relevant Council and industry guidelines and Australian Standards regarding potable and non-potable water supply and fire protection.

4. Stormwater harvesting management solutions shall be sustainable and shall not lessen levels of surface water and groundwater required for sustaining adjoining bushland and riparian areas.

5. Non-potable supply sources such as roof water collection, necessary on-site stormwater detention infrastructure and treated on-site wastewater shall be used to satisfy requirements for non-potable uses such us toilet flushing, irrigation, cleaning and industrial processes where applicable.

5.4.3 Wastewater Management

Objectives

a) To ensure on-site wastewater management solutions are adequate to satisfy all needs of the proposed development.
b) To conserve and reuse resources (water, nutrients and organic matter)
c) To minimise the risk to public health and safety associated with on-site sewage management.
d) To ensure the protection of surface and groundwater resources
e) To ensure the protection of land and native flora and fauna through implementation of sustainable on-site sewage management solutions.
f) To protect community amenity
g) To promote ecologically sustainable development.

Controls

1. Development shall only be permissible with a demonstrated satisfactory wastewater management strategy.

2. An on-site wastewater and geotechnical assessment shall be submitted to -
   - Investigate and report on sewage generation rates from the proposed development.
   - Investigate and report on environmental and geotechnical constraints to on-site sewage disposal.
   - Nominate minimum standards of acceptable on-site sewage treatment.
   -Determine minimum effluent disposal/irrigation requirements based on moisture and nutrient modelling and incorporating buffer/setback requirements to relevant site features.
   - Provide specifications for the nominated treatment and disposal system including a site location plan.

3. The on-site wastewater and geotechnical assessment shall be undertaken in accordance with relevant Australian Standards, State government policy and Council's "On-site Sewage Management Systems and Greywater Re-use Policy."

4. Wastewater management systems shall be ecologically sustainable and shall not impact on adjoining bushland and riparian areas or surface water and groundwater resources.

5. On-site sewage management systems shall be designed and managed to ensure they do not interfere with the quality of life or reduce the amenity of surrounding rural residents.

5.4.4 Stormwater Management

Objectives

a) To provide standards for achieving the sustainable use of stormwater.
b) To ensure water quality is maintained and improved.
c) To ensure there is sufficient water available for environmental purposes.

Controls

1. A Stormwater/Water Quality Management Plan (SMP) with detailed design of all stormwater management measures shall be undertaken for each development and be in accordance with Council's Engineering Design Specifications.

2. A maximum of 50% impervious site coverage including buildings and hardstand areas shall be permissible.

3. On- Site Detention (OSD) tanks shall be provided with a minimum Specific Site Storage Requirement (SSR) of 125 KL/ha (with a 50% impervious site cover) to achieve a specified Permissible Site Discharge of 230 L/s/ha.

4. Each development shall have a rainwater tank with all roof runoff being directed to this tank and collected rainwater shall be re-used on-site for non-potable purposes such as toilet flushing and irrigation.

5. Each development shall have a raingarden filter unit with a minimum size of 59.5 m^2/ha and raingarden filters shall consist of a 0.5 m deep sand filter with underdrain.

6. Each development shall have an appropriately sized Gross Pollutant Trap (GPT) for removal of gross pollutants prior to discharge of hardstand runoff to raingardens and OSD tanks.

7. Stormwater runoff from the proposed road reserve shall be directed to appropriately sized GPT(s) prior to discharge from the site.

8. Stormwater runoff from the proposed road reserve shall be directed from GPT(s) to an outlet swale prior to discharge from the site. Outlet swales are to have a minimum area of 150 m^2/ha road reserve.

9. A report detailing proposed ongoing maintenance of on-site detention facilities shall be submitted with any application for development.

10. Details of individual lot on-site stormwater detention and drainage design and ongoing maintenance for such shall be detailed in Section 88B instruments submitted with subdivision plans and then registered on the title of each lot.

5.4.5 Transport Management

Objectives

a) To provide infrastructure to service alternative modes of transport.

Controls.

1. A shared pathway shall be provided for each development along Picton Road in accordance with the Wollondilly Bike Plan prior to release of the Occupation Certificate.

2. An assessment of public transport infrastructure requirements to service the area shall be submitted with each development application.

5.4.6 Bushfire Hazard Protection

Objectives:

a) To afford occupants of any building adequate protection from exposure to a bushfire;
b) To provide for a defendable space to be located around buildings;

c) To provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition;
d) To ensure that safe operations access and egress for emergency service personnel and residents is available;
e) To provide for ongoing management and maintenance of bushfire protection measures, including fuel loads in the Asset Protection Zone [APZ];
f) To ensure that utility services are adequate to meet the needs of firefighters and others assisting in bushfire fighting

Controls

1. An assessment of the level of hazard posed to future development by the land or adjacent land and how the hazard may change as a result of the development shall be incorporated in a Bushfire Management report submitted with an application for development.

2. The Defendable Space setback detailed in Table 1 shall be provided to the future General Industrial buildings located adjacent to the bushfire prone vegetation around the Nepean River and Carriage Creek:

Table 1 – Defendable Space Setbacks

Aspect	Vegetation within 140m of development	Predominant Vegetation Formation Class[Table A2.1 Planning for Bushfire Protection 2006]	Effective Slope of Land for 100 metres from buildings	Available width of Defendable Space to proposed building
South of development within Area 3	Western Sandstone Gully Forest in the Nepean River corridor	Forest	> 25 degrees downslope into the Nepean River	Defendable Space of more than 50 metres to be provided to buildings adjacent to the Nepean River vegetated corridor / buffer zone.
West of development within Area 3	Shale Sandstone Transition Forest in the Carriage Creek corridor	Forest	10 - 18 degrees downslope to the west	Defendable Space of more than 50 metres to be provided to buildings adjacent to the Carriage Creek vegetated corridor / buffer zone.
South of development on Lot 3 in DP 732582 & Lot 31 in DP 731012	Shale Sandstone Transition Forest on the adjoining land to the south	Forest	< 10 degrees downslope to the south	Defendable Space of more than 31 metres to be provided to the south of buildings located to the north of the adjoining land

2. Management of the defendable spaces/landscaped areas shall comply with the following:
   - Maintain a clear area of low cut lawn or pavement adjacent to the building;
   - Keep areas under shrubs and trees raked and clear of combustible fuels;
   - Utilise non-flammable materials such as Scoria, pebbles and recycled crushed bricks as ground cover to landscaped gardens in close proximity to buildings;

- Non-flammable material shall not contain substances which are likely to impact on the adjoining environmental conservation zone and riparian corridors or leach into waterways and groundwater.
- Trees and shrubs should be maintained in such a manner that tree canopies are separated by 2 metres and understorey vegetation is not continuous [retained as clumps];

3. Future buildings located adjacent to any bushfire hazard shall be constructed to comply with BAL 40 standards pursuant to A.S. 3959 – 2009 – 'Construction of Buildings in Bushfire Prone Areas'. The following construction standards are also recommended in addition to the specifications of BAL 40 – A.S. 3959 - 2009:
   - Access doors both pedestrian and vehicular to the buildings shall be fitted with seals that seal the bottom, stiles and head of the door against the opening/frame to prevent the entry of embers into the building. Particular attention shall be paid to the gap at the head of the curtain of the roller doors, where mohair type seals can be used;
   - Any external vents, grilles and ventilation louvres shall have stainless steel mesh with a maximum aperture of 2mm square fitted to prevent the entry of embers into the building or be fitted with a louvre system which can be closed in order to maintain a maximum aperture or gap of no more than 2mm.
   - Roof ventilators shall be fitted with stainless steel flymesh [2mm aperture] to prevent the entry of embers into the building or be fitted with a louvre system which can be closed in order to maintain a maximum aperture or gap of no more than 2mm.
4. The fire-fighting water supply to the future buildings and for bushfire prevention shall comply with the Building Code of Australian [BCA], Australian Standard A.S. 2419.1 – 2005 and Planning for Bushfire Protection 2006.
5. Public Road access shall comply with, as a minimum, the deemed-to-satisfy provisions of Section 4.2(1) of Planning for Bushfire Protection 2006.
6. An Asset Protection Zone comprising an inner protection zone and an outer protection zone shall be located outside of the environmental conservation and riparian areas.
7. A perimeter road of minimum 8.0 metre formed width shall be provided to the southern and western aspect of the future development adjoining the Nepean River and Carriage Creek corridors within Area 3 for fire safety purposes. This perimeter road shall be designed to provide a two-way loop road which connects to the main access road across the railway line. Internal connector roads shall be provided to permit safe evacuation from the perimeter road to the main access road to Area 3.
8. A Bushfire Evacuation Plan shall be submitted with any development application for buildings located within 100 metres of the bushfire prone vegetation.

5.4.7 Flood Prone Land

Objectives

a) To ensure development does not increase flood levels along Picton Road in the vicinity of Carriage Creek.
b) To ensure development does not increase flood levels on adjoining properties.

Controls

1. Any future proposed development shall not adversely affect flood behaviour on-site or on adjoining properties.
2. Provide an assessment of the impact of development on changes in flood behaviour (flow, flow-paths, velocity, etc.) by defining the floodway and flood storage areas on each lot and determine whether compensatory works and/or management measures are required to offset these increases for the full range of flooding.

3. Prepare an emergency response plan which shall provide safe flood evacuation and shall ensure limited impact on critical infrastructure.
4. No building is permissible within the high hazard flood areas.
5. Provide minimum Flood Planning Levels for proposed buildings and infrastructure located within flood affected areas outside of the high hazard areas.
6. Flood proofing of buildings shall be undertaken in areas affected by floodwaters.

Note: For further detail on the location of flood prone land refer to Figure 11 in the Hydrology Study prepared by Martens Consulting Engineers (March 2011).

5.4.8 Noise and Lighting impact management

Objectives

a) To ensure potential noise impacts from development are mitigated for existing rural residential sensitive receivers.
b) To provide a framework for assessing the cumulative impact of noise from new development
c) To ensure the lighting of development does not impact on surrounding rural residents and the habitat of nocturnal native fauna.

Controls

1. A noise assessment shall be lodged for each development which demonstrates that the sound power level within each of the areas outlined in Map 2 would not exceed the noise emission limits identified in Table 2.

Map 2 – Noise Emission Limits Areas

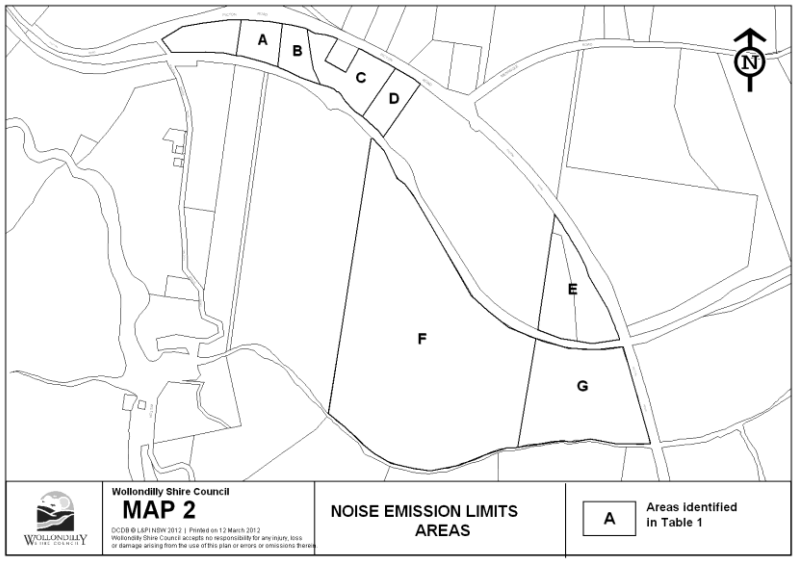


Table 2 – Noise Emission Limits

Area	Noise Limits – Sound Power Level dB(A)		
	Daytime	Evening	Night-time
A	101	101	101
B	100	97	97
C	103	98	98
D	100	96	96
E	102	102	102
F	106	106	106
G	102	102	102

Footnote: The development has been divided into seven land packages to define the appropriate noise criteria. The noise assessment has considered the cumulative noise impact of all existing industrial developments in addition to those proposed in this development. The noise emission limits are the maximum allowable limit for each parcel of land to achieve the appropriate noise criteria at nearby receivers. The existing go-kart track property has been excluded as it would currently exceed these requirements.

2. Sleep disturbance shall be assessed individually for each development at the Development Application stage to ensure rural residential sensitive receivers would not be adversely impacted as a result of the proposal.

3. Noise attenuation and noise management procedures if required shall be detailed to ensure sensitive receivers are not adversely impacted.

4. Noise emissions shall be assessed by each proposal at the development application stage to ensure compliance with the criteria provided in the Maldon Employment Lands rezoning Noise Impact Assessment by AECOM dated 23 March 2012.

5. All reasonable and feasible noise mitigation measures shall be installed by each development to ensure the potential noise impacts on nearby existing rural properties are minimised. If the proposal is to be operational during the night-time period from 10pm to 6 am, the development must be able to show that it would not result in sleep disturbance at nearby properties.

6. A plan of proposed lighting of the development shall demonstrate that light spill will not impact on the amenity of surrounding rural residents or the habitat of native fauna in nearby bushland areas.

5.4.9 Air Quality Management

Objectives

a) To ensure air quality is not impacted by hazardous emissions or odour from new development.
b) To ensure existing industries are not impacted by emissions from new development.

Controls

1. A separate air quality impact assessment for those uses which are likely to emit odour or hazardous chemicals or heavy metals shall be submitted with each development application.

2. A report outlining detailed management practices to ensure the reduction and control of dust and odour emissions shall be submitted with each development application.

5.4.10 Aboriginal Heritage Conservation

Objectives

a) To ensure potential areas of high and moderate archaeological sensitivity are investigated prior to development.

Controls

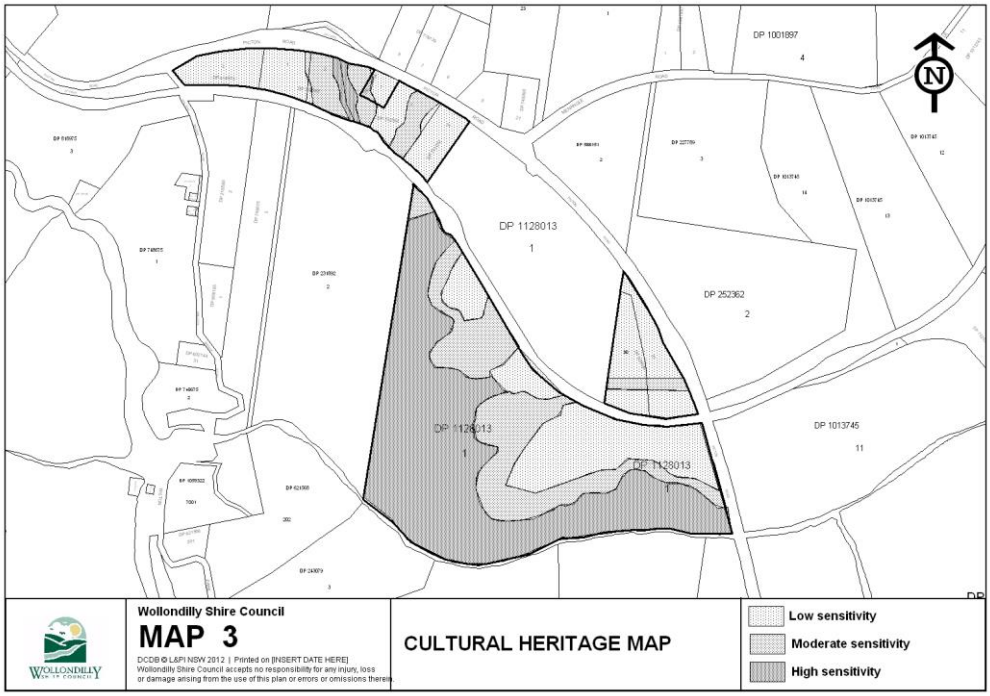
1. Archaeological test excavations shall be undertaken within areas of low and moderate (archaeological) sensitivity within Area 3 detailed on Map 3 prior to any future development to provide certainty about the presence, extent and significance of subsurface archaeological deposits.

2. Archaeological test excavations shall be undertaken within areas of moderate (archaeological) sensitivity within Area 1 and Area 2 detailed on Map 3 prior to any future development to provide certainty about the presence, extent and significance of subsurface archaeological deposits.

3. Archaeological test excavations must follow the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (the Code) (DECCW 2010).

4. Any aboriginal archaeological deposits found on-site shall be recorded and with the approval of the Tharawal Local Aboriginal Land Council and the Cubbitch Barta Native Title Claimants Aboriginal Corporation and the Office of Environment and Heritage, placed in the Aboriginal Conservation Area located on the north western end of Lot 1 DP 1128013 (see Map 3).

Map 3 – Cultural Heritage



Note: For additional detail on the areas identified in Map 3 see Figure 6 of the Aboriginal and Non-Aboriginal Heritage Study by Biosis dated March 2011.

5.4.11 Mine Subsidence Building Design

Objectives

a) To provide design parameters for industrial buildings to mitigate the potential impact of mine subsidence.

Controls

1. Proposed buildings, structures, plant, equipment and associated services and infrastructure should be designed to meet the design requirements of the Mine Subsidence Board. The Board will provide the developers of the employment sites with design parameters, which normally include maximum values of vertical subsidence, tilt, strain and curvature that need to be accommodated in the design of the buildings and associated structures and services. The Mine Subsidence Study design parameters for buildings and structures for the Maldon land were identified as follows:

    - Maximum vertical subsidence 900 mm
    - Maximum tilt 6 mm/m
    - Maximum tensile strain 2 mm/m
    - Maximum compressive strain 2 mm/m
    - Minimum radius of curvature 7.5 km

2. The building design should be certified as satisfactory by the Mine Subsidence Board and this certification submitted with the development application.
3. Design guidelines recommended for industrial buildings potentially affected by mine subsidence are attached as Appendix 1.

5.4.12 Biodiversity Conservation

Objectives

a) To ensure consistency with the principles of total catchment management.
b) To maintain and improve riparian and habitat corridors
c) To maintain water quality and aquatic ecology in the river system.
d) To minimise fragmentation of environmentally significant land.
e) To ensure fire management regimes do not impact on environmental conservation areas and riparian corridors.

Controls

1. Any future subdivision and associated infrastructure shall be designed to ensure riparian and environmental conservation zones are not impacted.

2. Stormwater management features such as open drainage, retention or detention basins and permanent ponds shall be designed to include habitat features which may include rock armoured drainage lines with low cascades, voids and cavities and permanent ponds with habitat features such as roosting/resting islands and margins with dense plantings of sedges, rushes and reeds.

3. Groundwater and Groundwater Dependant Ecologies shall be assessed as part of any development in accordance with Clause 7.3 (3) (e) of the WLEP.

4. A Vegetation Management Plan (VMP) for all retained native vegetation and restored or reconstructed riparian areas of the site shall be submitted with each development application and shall be based on the document *Controlled activities - Guidelines for Vegetation Management Plans by DECCW (2010)*.

5. In any future subdivision land within Area 3 zoned E2 Environmental Conservation along the Nepean River and Carriage Creek shall be retained in one landholding and maintained in accordance with the Vegetation Management Plan. Note: There may be options for biobanking this E2 land which may be considered by any future landowner.

6. Asset Protection Zones (APZ's) shall be located outside of environmental conservation zones and riparian corridors.

7. Any future development application shall provide details of permanent markers installed by survey around the boundary of the environmental conservation zone to delineate the limit of the Asset Protection Zones.

8. A Section 88B instrument with a Restriction on the Title to require the ongoing maintenance of Asset Protection Zones, weed control and restoration of environmentally degraded areas in the environmental conservation zoned land shall be placed on the title of any lots containing bushfire hazard and/or environmental conservation zones.

5.4.13 Landscape and Scenic Protection

Objectives

a) To maintain the rural cultural character.
b) To ensure an urban industrial landscape does not eventuate.
c) To ensure the scale and bulk of new development does not increase the visual impact of existing development.
d) To provide landscaping buffers to soften the impact of industrial development.

Controls

1. A fully integrated landscape master plan shall be prepared for future development proposals and shall include street tree plantings with limited connectivity to reduce the risk of bushfire hazard.

2. Revegetation works including street tree plantings shall consist of locally occurring native species (see 11.2 Landscaping of Volume 1, WDCP).

3. Large scale and bulky buildings and structures shall be sited to minimise additional visual impact on the rural landscape character.

4. Buildings and hardstand areas (parking, storage, roads and access etc) shall comprise a total of no more than 50% of the lot size.

5. Natural colours and muted tones shall be used for the exterior of buildings.

6. Development shall be restricted to existing cleared areas to protect the scenic quality of the riverine corridor.

7. A 20m landscape buffer to Area 3 along the Picton Road frontage shall be provided within the building setback to be consistent with that provided to the current Allied Mills development and shall incorporate 4 rows of large trees, on a mound of approximately 1m in height.

8. A 10m landscaping buffer shall be provided for Areas 1 and 2. (Buffer areas between the road and lot boundaries are highly important in softening the visual impact of industrial development).

9. Future development shall maintain and enhance existing vegetated areas around the riverine corridor.

5.4.14 Electricity Supply

Objectives

a) To ensure development does not impact on the security of electricity supply.

Controls

1. Any future proposed development on sites affected by transmission lines should detail compliance with Endeavour Energy requirements and demonstrate that the development and use of the site will not impact on the security of the supply.

Appendix 1

Mine Subsidence Design Principles for Industrial Buildings

- The principles adopted for the design of buildings on reactive clay sites can be used in situations where mining induced ground curvature has to be accommodated.
- The recommendations given in AS 2870-2011 should be followed and it should be remembered that mining induced movements have to be accommodated in addition to all normal design requirements.
- A thorough geotechnical survey at design stage is required particularly where the building is to be founded directly on rock.
- Building directly over or close to a fissure or fault should always be avoided.
- Stepping of buildings may be required where it is not possible to avoid a fissure or fault.
- A more rigorous analysis of the foundation to soil interaction should be undertaken when designing any large rigid structure.
- Rigid foundation beams should be designed to span a distance of half their length or cantilever one third of their length.
- The transfer of ground strains into a structure can occur due to friction beneath or alongside foundations and by earth pressures on the sides of foundations. The foundations should therefore be detailed to reduce the friction between the ground and the foundation and separate the foundation structure from the soil.
- This can be achieved by designing slabs and footings to be as smooth as possible on the underside and by providing a sliding layer of sand at least 150 mm thickness beneath the footings with a polythene membrane on top. On reactive clay sites the sand layer should be omitted. Compressive fillers or void formers can be used alongside footings in the ground to reduce the effect of compressive strains but should also be avoided on reactive clay sites.
- Alternatively the building may be founded on piers or independent footings but in such cases slabs should be designed as suspended slabs with void former beneath them and with sliding joints where they are supported on the piers or footings. Where strains are high greater attention to the design of sliding joints may be necessary and proprietary joints may be useful in some instances to minimise frictional forces.
- Buildings should also be split into smaller sections where appropriate with suitable movement joints carried through the superstructure and this will also assist in accommodating ground curvature.
- Care should be taken to ensure that drainage pipes and other services are free to move where they are built into a structure. This can be achieved using protective sleeves with compressible filler surrounding the pipe or service.
- Buildings should be designed to articulate and hence should be provided with joints to separate the building into smaller elements. Useful guidance for the design of articulated

walling is provided in the Cement and Concrete Association's Technical Note 61. Flexible forms of construction are desirable and storey height openings can be a convenient way of creating vertical joints in the structure.

- Masonry arches should be avoided but if these are required they should be tied at foundation level and across the top of the arches and should be rigidly supported on a reinforced concrete foundation. Alternatively, they can be articulated by the provision of vertical joints in the columns between adjacent arches.
- Internal linings are normally the first to suffer as subsidence occurs with cracking at wall to wall junctions, wall to ceiling junctions and sometimes at board joints. Suspended ceilings are therefore advantageous but where conventional linings are used, provision for movement should be made by introducing movement joints. These can be provided between cornice and wall and to coincide with any points of articulation or weakness in the linings such as at the head of door or window openings.
- Brickwork or masonry should be used in shorter panels where possible and the spacing between vertical joints should not exceed 6 metres. The spacing and width of joints will be determined by the subsidence parameters making due allowance for expansion, brick growth, shrinkage and reactive soil movements. In extreme cases it may be necessary to consider providing cavity walls internally to coincide with articulation joints so that greater freedom of movement can be provided.
- When the shape in plan of the building is complex it may be difficult to accommodate the differential movements and twisting of the structure and in such cases it would be advantageous to split the building into separate elements joined by a flexible link.
- Generally tilts will be quite small and the residual tilt on completion of mining will in most cases still be within acceptable limits. When the mining plan is known it is possible to be more specific about the probable residual tilt for a particular site but at the time of design it is likely that a conservative approach will be necessary. Some provision should therefore be made in the design of a building for future relevelling of the structure should this be required.
- Buildings with suspended floors can be more easily relevelled by jacking than those built on ground bearing slabs. If, however, the slabs are designed with future jacking in mind it is possible to build in provisions for future adjustment.
- Some industries have equipment that must be kept perfectly level and would be adversely affected even at low levels of tilt. Equipment can be designed with a provision for relevelling, so that the equipment can be adjusted as subsidence occurs.
- Some of the more sensitive structures, such as radar systems, satellite antenna towers, turbines and larger tanks can be designed in such a way that they can be adjusted in level as subsidence occurs.

High racking systems in warehouses can also be designed so that they can be adjusted in level, though any tilt in the floor slabs greater than 0.5 mm/m could present operational difficulties for high-lift fork lift trucks.