Melton City Council

Off-Street Car Parking Guidelines

Melton City Council

Version Number	Date	Approved by	Position
1.0	February 2015	Voltaire David	Infrastructure Planning Coordinator

CONTENTS

1. INTRODUCTION

The provision of car parking is a key element of a variety of developments and Council capital projects. This document, *Off-Street Car Parking Guidelines – Melton City Council*, has been produced to provide some guiding principles and minimum design guidelines required for commercial, industrial, public and large residential development car parks.

Conventional car park designs are generally vehicle focused providing for efficient vehicle storage and movement within the car parking areas. These guidelines however provide a more integrated approach giving priority to pedestrians, cyclists and public transport over vehicles, including cars and delivery vehicles. These guidelines also consider Council's urban design and landscape objectives for both the car parking area and the broader development, address minimum requirements for good landscape design, and provide sound engineering and traffic principles and standards in the design of car parks.

These guidelines should be used in conjunction with the Melton Planning Scheme, relevant State planning documents and Australian Standards.

Figure 1 – Example of an integrated car park design

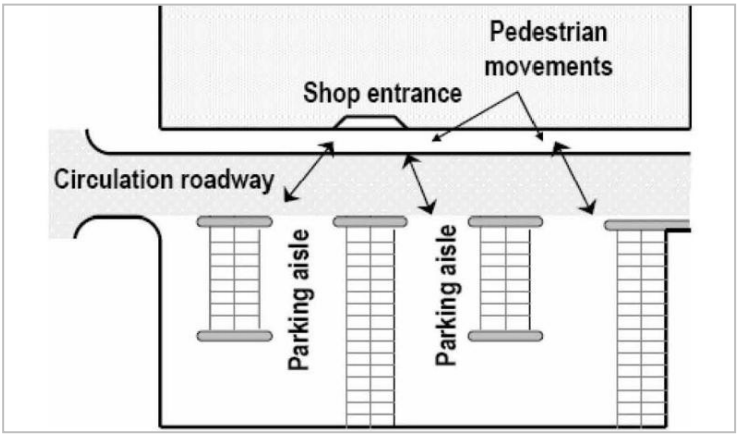

Figure 2 – Example of a conventional car park design

2. RELEVANT DOCUMENTS

Car parking proposals will be considered and assessed against the following documents:

- Melton Planning Scheme and Precinct Structure Plans (PSP), including Urban Design Frameworks (UDF)
- Melton City Council's Off-Street Parking Guidelines
- AS 2890, AS1158 and other relevant Australian Standards
- Car Parking Empirical Assessment and Traffic Reports
- Other relevant documents.

3. DESIGN ASSESSMENT PROCESS

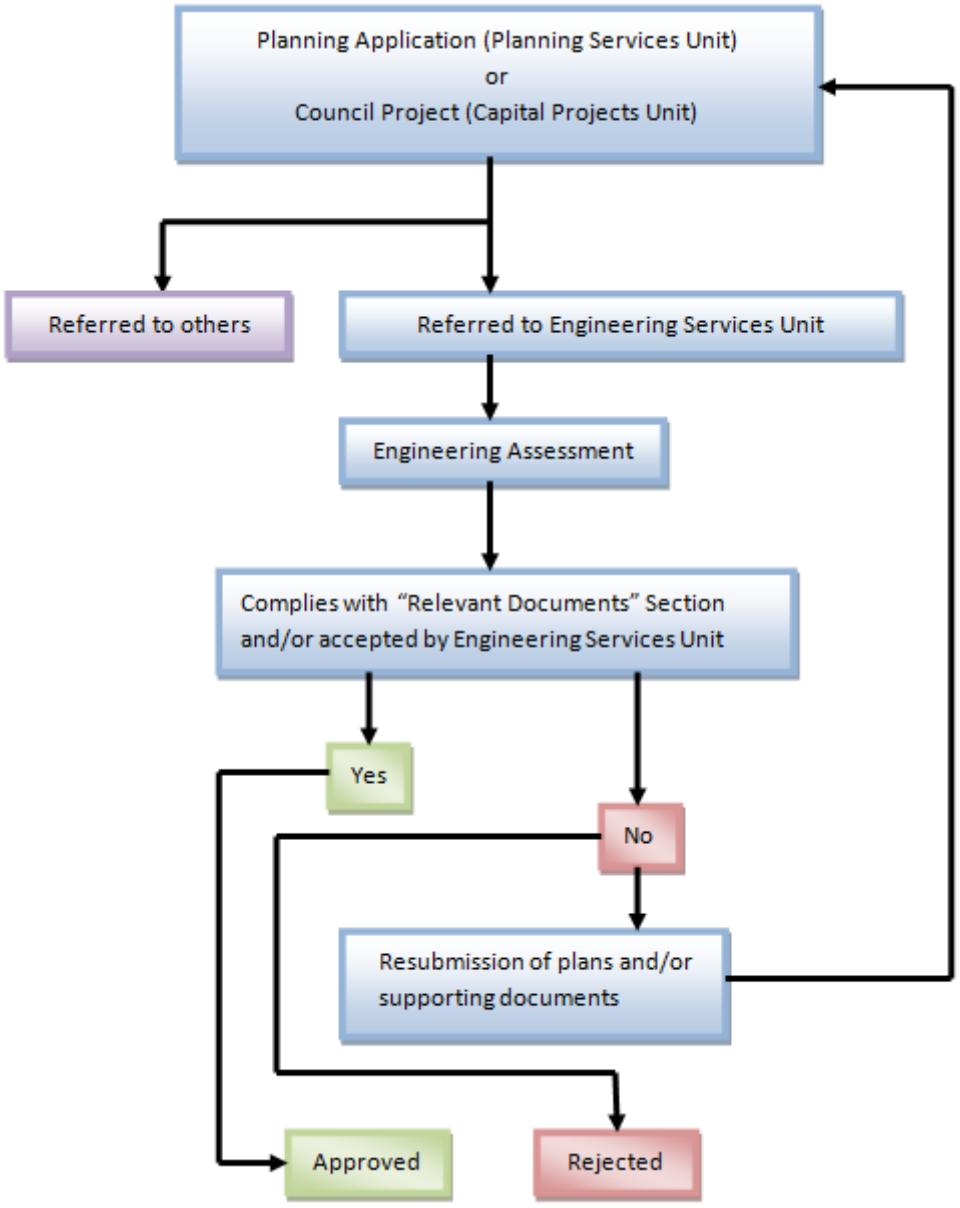

Figure 3 – Submission flowchart

The above flow chart excludes approvals required from other Council departments through the planning application process.

Submissions should be accompanied with a cover letter, attention the relevant Council Business Unit and addressed to:

Melton City Council
PO Box 21
Melton, VIC, 3337

4. DESIGN GUIDELINES

4.1 Design Objectives

The conventional way of designing car parks tends to concentrate on the number of spaces being provided with other aspects being ancillary or an afterthought to the provision of these car parking bays.

These guidelines seek to change that focus to meet amenity, urban design and landscaping objectives.

Off-street car parking areas should make a positive contribution to their surrounds as well as serve a functional capacity. The following design objectives outline Council's expectations on how safety, streetscape, landscape and pedestrian and cycle users be considered in the design of car parks.

Safety

- Provide clear and safe pedestrian paths between car parking areas and the use/s on the site.
- Minimise visual obstructions in parking areas for both vehicles and pedestrians.
- Provide passive surveillance of parking areas by ensuring they are not out of public view. Opportunities for passive surveillance should be maximised.
- Ensure lighting is provided throughout parking areas and to pedestrian paths for night safety within the car park and to enhance passive surveillance from the street and buildings on the site.

Streetscape

- Avoid large concentrated car parking areas as these degrade the site's amenity and reduce passive surveillance opportunities.
- The primary use of the site, i.e. built form should have the most direct and prominent interface not the car park.
- Provide pedestrians a clear and direct link, including a dedicated pedestrian path, which connects to building entries or the street through any car parking area.
- Consider sharing parking between uses to increase efficiency and to avoid an over-supply of parking spaces. Within Activity Centres, car parking should be provided on a centre wide basis where possible, rather than a site by site basis.

Landscaping

- To have well integrated hard and soft landscape treatments provided consistently throughout the car park.
- To have landscaping considered at the inception of the car park design to ensure it is accommodated appropriately to perform its purpose.
- To have sufficient space allocated to landscaping to ensure it does not impede on pedestrian and vehicle requirements, safety or other entities.

Bicycle Parking

- Provide clearly visible bicycle parking facilities within accessible and convenient locations with adequate passive surveillance.

4.2 Pedestrian Path Guidelines

Pedestrian paths that connect the use on the site with both the car park and the external footpath network should be a primary focus of the car park design. It should consider:

- A connected pathway network, including pedestrian priority crossings across vehicle aisles;
- Clear, prominent and direct pathways to key access points such as to building entries and from key locations external to the site;
- Safe pathway design, including:
  - Path surface having distinct colour contrast and texture from vehicle paths,
  - Path at a consistent level,
  - Kerb outstands used at crossing points,
  - Use of appropriate signage and line markings,
  - Slip resistant hard surfacing,
  - Vehicle overhang not to encroach onto pathway and
- A minimum path width of 1.5 metres.
- It must be compliant with the Disability Discriminations Act (DDA).

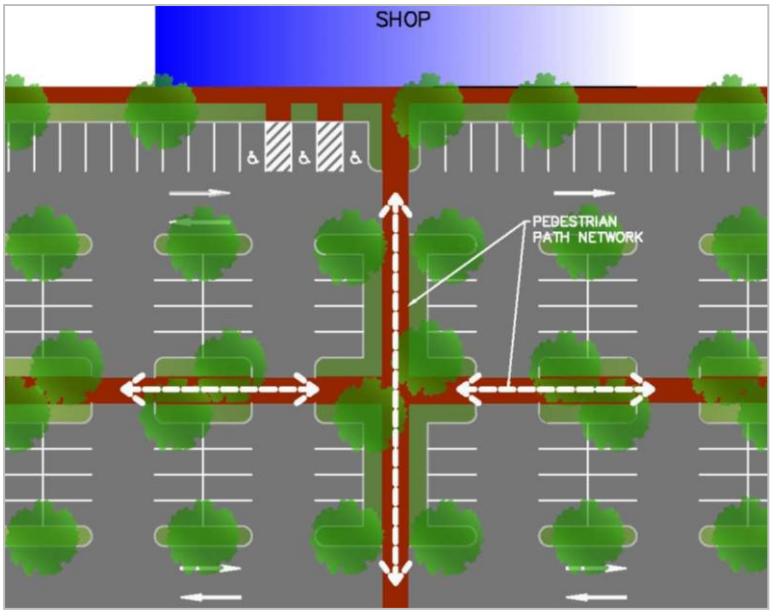

Figure 4 – Clearly defined pedestrian paths within car parking area

Figure 5 – Unsafe pedestrian path

Figure 6 – Pedestrian path not clearly defined and poor sight lines

4.3 Landscaping Guidelines

Landscaping should be an integral part of the car parking area and consider the following:

- Design of landscaping should be integrated with pedestrian, car parking and all other items pertaining to the function of the car park.
- Elements including but not limited to vehicle overhang, ability to access car doors, access to pedestrian paths, provision of lighting and signage should not impact upon landscaping or give cause to reduce landscaping.
- Landscaping should not obstruct pedestrian or vehicle view lines.
- Soft landscaping (ground covers and trees) should be provided along pedestrian priority pathways, throughout the car park and areas where screening is considered required.
- Trees should be provided with sufficient space to promote healthy growth and protection. See Figure 8 and Figure 9 for minimum tree planting area.
- Soft landscaping should be provided with passive irrigation and adequate drainage.
- A minimum 15% of the car parking area should be landscaped.
- A target of 35% shaded area should be provided by trees.
- Tree species should have a clear singular trunk form.
- Groundcovers should be hardy and grow to a mature maximum height of 500mm, except where vehicle overhang occurs. In this case appropriate groundcover needs to be used.
- Garden beds without trees should be a minimum of 400mm in width.
- Shrubs are generally not accepted and should only be used where considered appropriate, i.e. screening walls or fences.

Landscape designs for off-street car parking should take into account Council's Landscape Guidelines.

Figure 7– Landscaping within car parking area

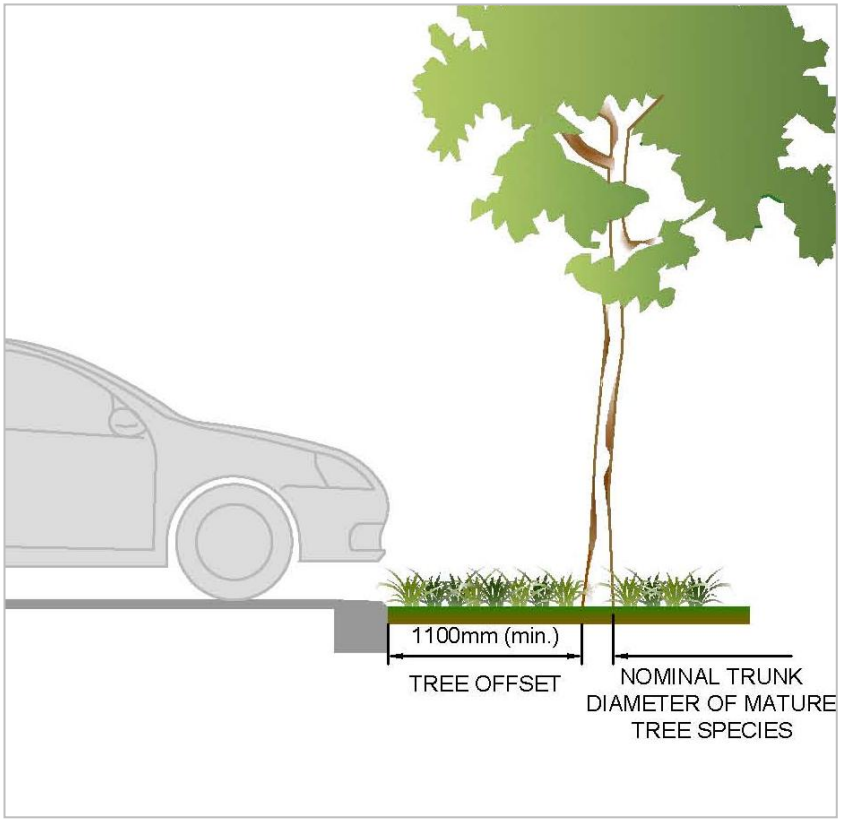

Figure 8 – Minimum vehicle (front or back) clearance to trees

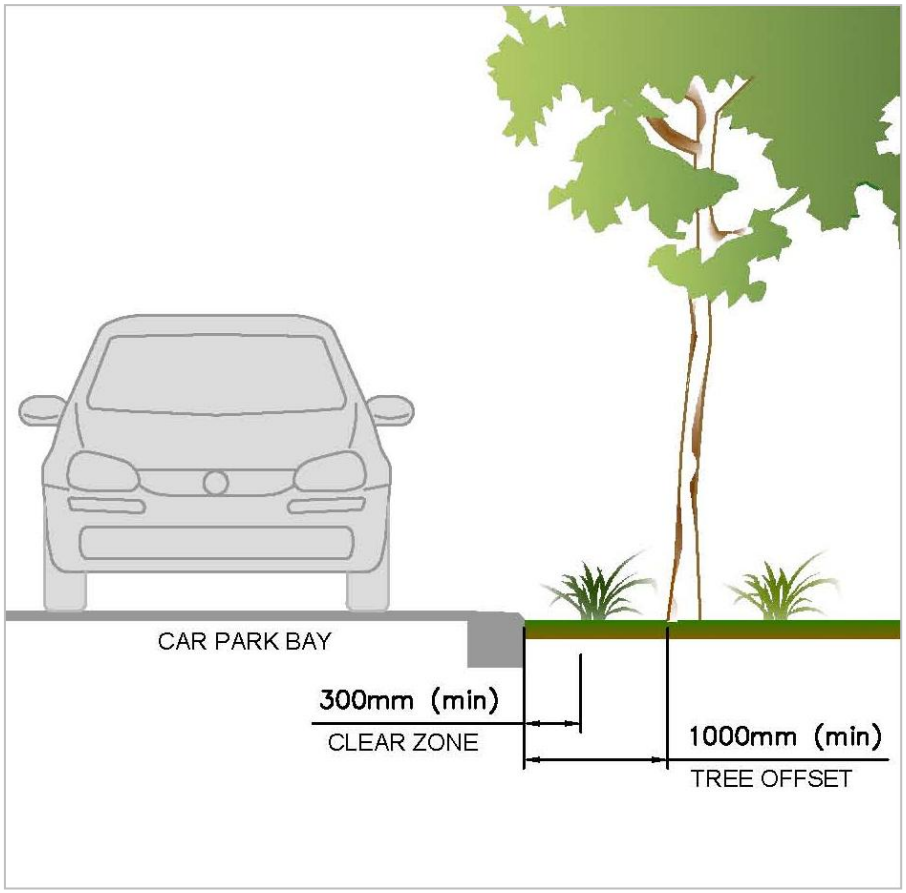

Figure 9 – Minimum vehicle (side) clearance to trees and car door clear zone to planting

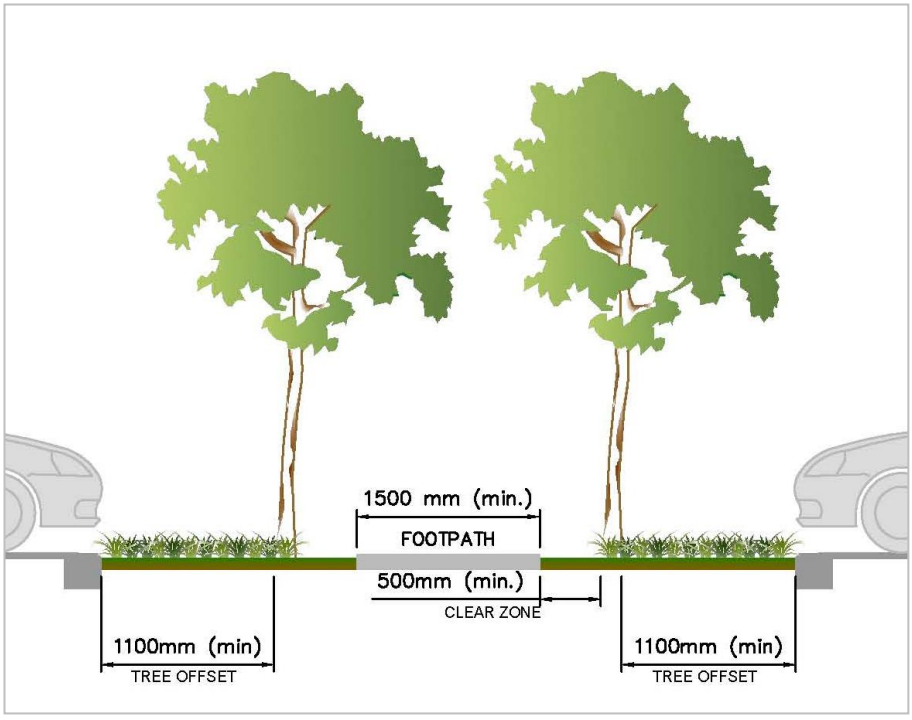

Figure 10 – Minimum footpath clear zone to trees

Figure 11 – Tree planting area too small

Figure 12 – Narrow landscaping area does not allow for vehicle overhang

4.4 Bicycle Paths and Facilities Guidelines

Standards and rates for bicycle facilities are contained in Clause 52.34 of the Melton Planning Scheme, and should be adhered to. Where the use is not listed or where the applicant wishes to apply for a reduction in the number of bicycle spaces for the specific use, the applicant should submit a report containing an empirical assessment justifying their proposal.

- Safe bicycle travel paths should be provided within the car parking areas and connect to the external bicycle path network.
- Bicycle paths should be a minimum 2500mm (2.5 metres) wide when shared with pedestrians.
- Bicycle facilities should be located near building entrances.

Figure 13 – Bicycle facilities near building entrance

4.5 Public Transport Facilities Guidelines

The requirements for public transport facilities are discussed in Clause 52.36 of the Melton Planning Scheme and should be considered as part of the application.

- For large commercial developments, bus bays and bus interchanges should be located within the car parking area and in close proximity to a main entrance of the building.

- The travel path and intersections used by buses to access and exit the bus facility should be safe, be clear of car parking spaces and avoid causing undue delay to the bus service.

- Bus shelters should also be included in the design.

4.6 Car Park Lighting Guidelines

- Car parks that have operating hours beyond winter daylight hours require lighting fixtures, and should be designed to a minimum category P11 standard, as per AS1158.

- Extra lighting fixtures should be provided along pedestrian and cycle paths, crossing points, intersections and other conflict points to ensure pedestrians and cyclist are clearly visible (i.e. vertical recognition) during night time hours.

- Aero-screen type luminaires should be incorporated into the car park lighting design to minimise spill light to adjoining allotments.

- Energy efficient lighting should be used.

- Light pole and tree locations should be planned holistically to ensure one does not adversely impact upon the other, that each are provided with adequate space to perform their function and not give cause to reduce either item.

Figure 14 – Car park lighting that minimises spill light

5. CAR PARKING RATES, TYPES AND ARRANGEMENTS

The car parking rates are outlined in Clause 52.06 of the Melton Planning Scheme. Where the applicant wishes to apply for a reduction in the car parking rate for a specific usage, a report must be provided containing an assessment of the car parking demand to justify the reduction.

5.1 Parking Bay Arrangement and Dimensions

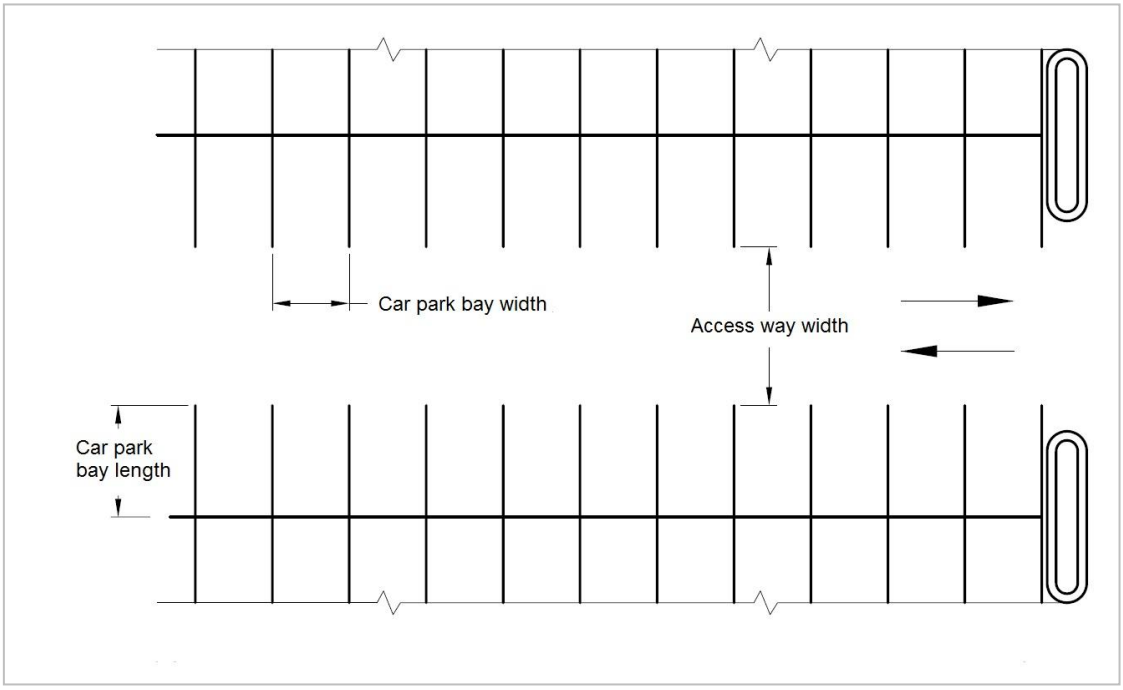

Figure 15 – Perpendicular (90 degrees) parking bay arrangement

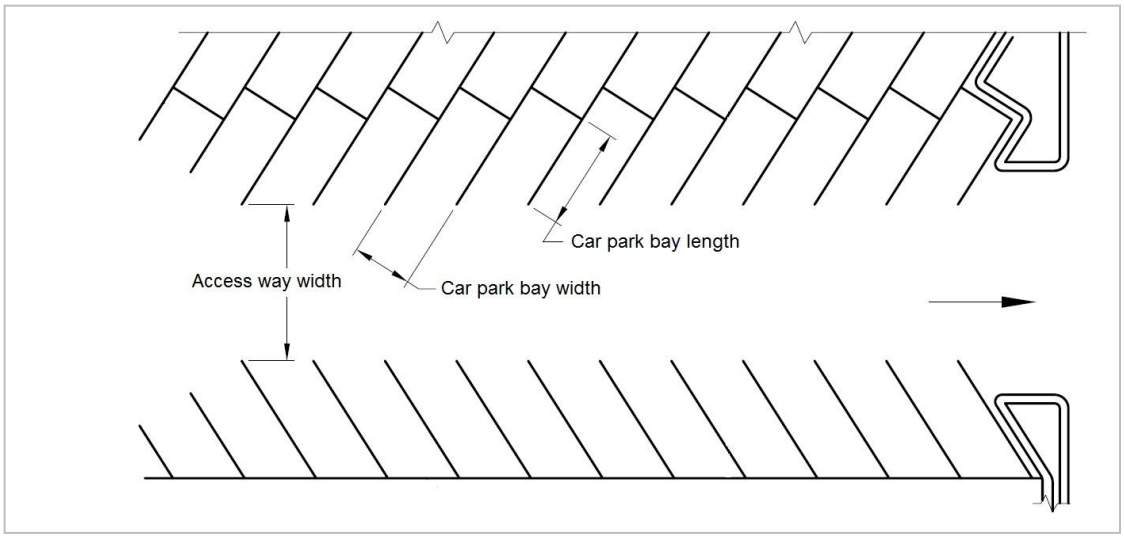

Figure 16 – Angled (45 or 60 degrees) parking arrangement

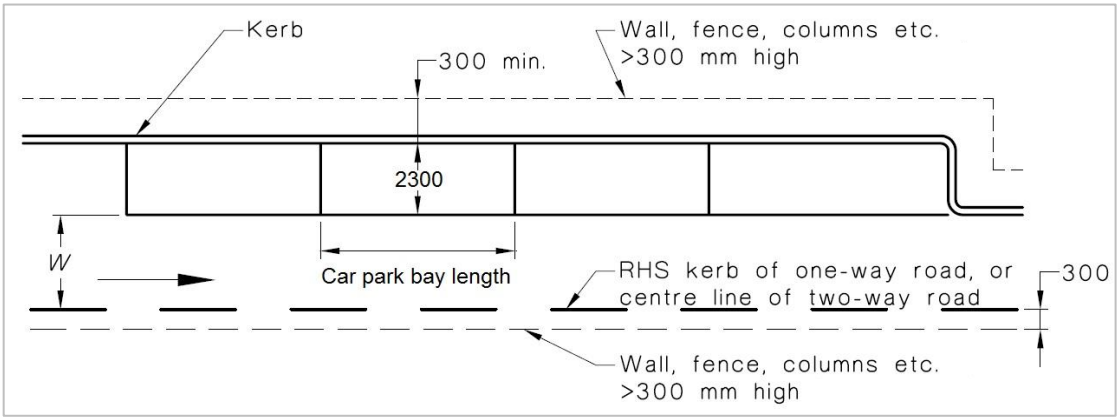

Figure 17 – Parallel parking arrangement

Angle of car parking spaces to access way	Access way width (m)	Car park bay width (m)	Minimum car park bay length (m)	Desirable car park bay length (m)
Parallel	3.6	2.3	6.7	6.7
45 degrees	3.5	2.6	4.9	5.4
60 degrees	4.9	2.6	4.9	5.4
90 degrees	6.4	2.6	4.9	5.4
	5.8	2.8	4.9	5.4
	5.2	3.0	4.9	5.4
	4.8	3.2	4.9	5.4

Table 1 – Parking bay dimensions

Where the Melton Planning Scheme dimensions cannot be achieved the dimensions in the Australian Standards may be allowed at the discretion of Council's Engineering Services Unit.

5.2 Dead End (Blind) Aisles

Dead end aisles are permissible provided the maximum length is equal to the width of six 90 degree spaces plus one metre (refer to Figure 18), unless provision is made for vehicles to turn around at the end and drive out forwards.

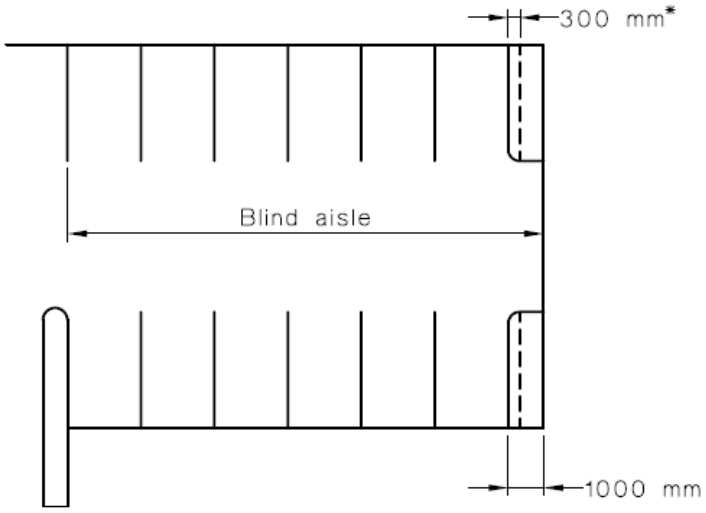

Figure 18 – Blind aisle arrangement

5.3 Small Car Spaces

Smaller than standard car parking spaces may be incorporated into the design to meet environmental sustainability targets.

The small car spaces should be:

- A minimum 2300mm (2.3m) wide and a minimum 4900mm (4.9m) long [desirable 5400mm (5.4m) long] for 90 degree and angled parking
- Kept to no more than 10% of the total car parking spaces
- Clearly identified and marked as small car parking bays.

Figure 19 – Perpendicular small car parking bays

5.4 Disabled Parking Spaces

Disabled parking spaces should comprise a combination of areas, as specified in AS2890.6:

- A dedicated non-shared space 2400mm (2.4m) wide by 5400mm (5.4m) long
- A shared area on one side of the dedicated space 2400mm (2.4m) wide by 5400mm (5.4m) long. It may be entirely on the left or right side of the dedicated space
- A shared area 2400mm (2.4m) long by 2400mm (2.4m) wide at one end of the dedicated space. It may be entirely at the front or entirely to the rear of the dedicated space
- The dedicated space and the shared area shall be at the same level
- Bollards shall be provided in the position shown below
- If angled-parking is proposed and permitted by Council's Engineering Services Unit, it should be between 45 degrees and 90 degrees.

AS2890.6 must be referred to for information not specified above or shown in Figure 20 and Figure 21.

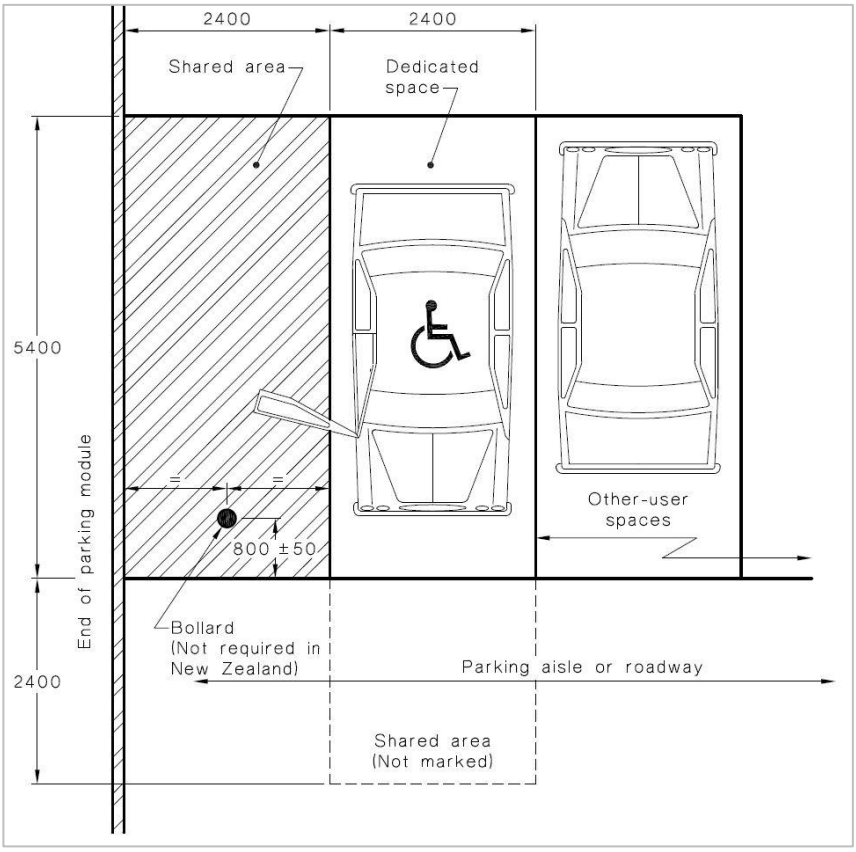

Figure 20 – Single disabled parking bay

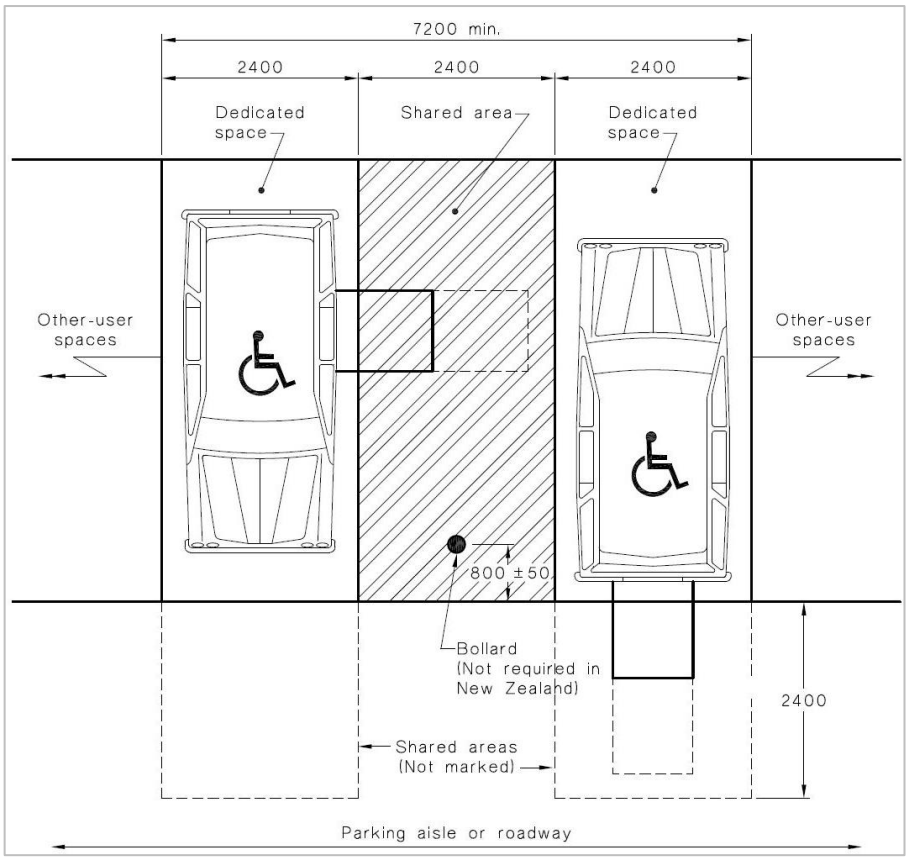

Figure 21 – Double disabled parking bays

5.5 Motorcycle Spaces

Motorcycle spaces should measure a minimum 1200mm (1.2m) wide by 2500mm (2.5m) long, and be on a near level surface.

5.6 Tandem Parking

Tandem parking is not permitted for patron or customer parking. Tandem parking spaces are only allowed for staff parking where the car park provides for one use and not multiple uses, and where it can be managed by the tenant.

6. ACCESS

6.1 Delivery Vehicle Access and Routes

The access points and/or internal roadways used by delivery vehicles that lead to the loading bays within the site should be separate from the car parking area.

The internal roadways should be designed to cater for the largest vehicle using each part of the site in accordance with the relevant Australian Standards guidelines.

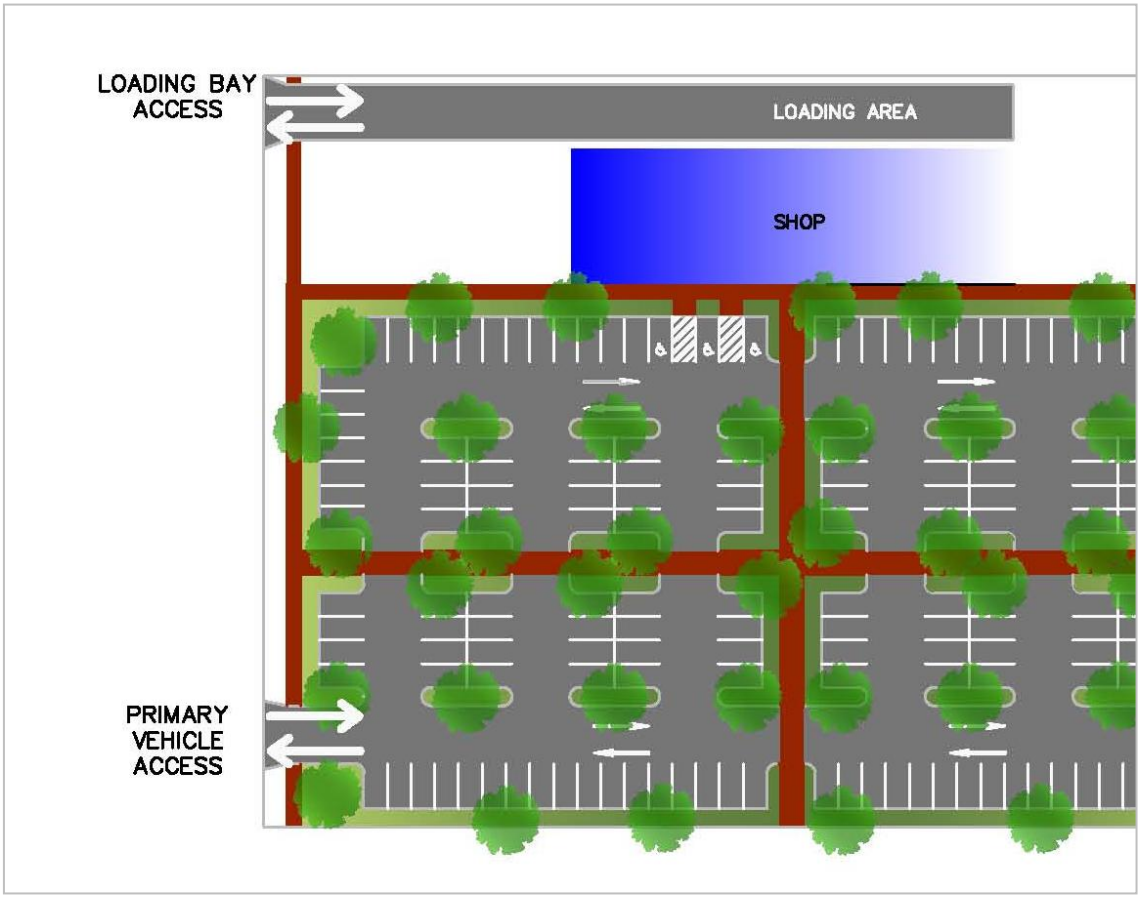

Figure 22 – Separate loading bay and parking bay access points

6.2 Access to Site from Roads

Car park applications may require an accompanying traffic report to analyse the traffic generated from the development site with the broader road network so that appropriate intersection treatments at the access points function without long delays and queue lengths.

Figure 23 – Signalised intersection treatment to a site

- Access points that are via a vehicle crossing should be in accordance with Council's current standard drawings (available at www.melton.vic.gov.au).

Figure 24 – A vehicle crossing used to access a site

6.3 Roads Internal to Car Parks

- Road widths of internal roads within car parks should allow for two way traffic.
- Intersection treatments internal to the car parks should be designed to minimise driver confusion and provide clearly define traffic priority.
- Open cross intersections are discouraged and, for pedestrian safety, use of roundabouts should be minimised.
- To maintain a low speed zone, appropriate traffic calming measures should be located along straight sections of road that have a length greater than 100m.

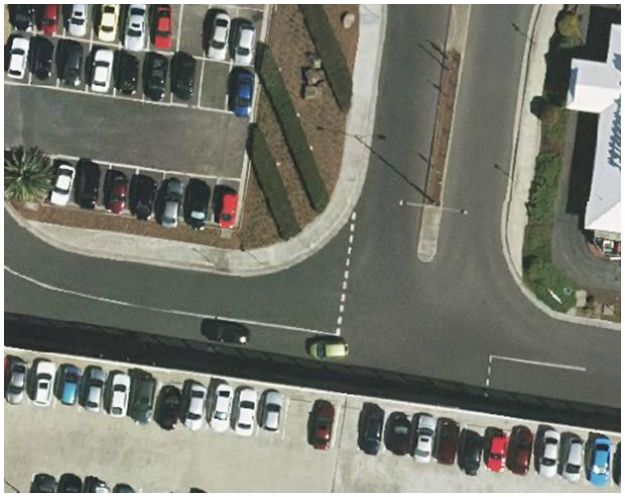

Figure 25 – Use of line marking to change traffic priority is inadequate, particularly when line marking fades

Figure 26 – Modification of T-intersection provides clear traffic priority removing ambiguity.

7. STRUCTURAL DESIGN AND DRAINAGE

7.1 Car Park Pavement

The car park pavement should be built with a minimum design life of 40 years.

A traffic loading report and geotechnical report should be used to determine the actual design depth of the pavement.

- A **flexible asphalt pavement**, as a minimum, should comprise of the following material:
  - Wearing Course: Asphalt
  - Prime
  - Base Layer: Class 2 Fine Crushed Rock (> 98% Modified compaction)
  - Sub-base Layer: Class 3 Fine Crushed Rock or Crushed Concrete (> 98% Modified compaction)
  - Capping Layer [%CBR > 5%, %swell < 1.5%, permeability < 5 x 10^{-9} m/s] (>95% Modified compaction).

- A **rigid concrete pavement**, as a minimum, should comprise of the following material:

  - Concrete with steel reinforcement
  - Class 3 Fine Crushed Rock or Crushed Concrete (> 98% Modified compaction)
  - Capping Layer [%CBR > 5%, %swell < 1.5%, permeability < 5 x 10^{-9} m/s] (>95% Modified compaction).

The surfacing of a car park pavement within Activity Centres should be in line with the broader urban design colour palette for the area.

7.2 Car Park Drainage

- Drainage of the car park should be directed to the Legal Point of Discharge.

- Water should not be left to pool on the surface of the car park pavement during minor rainfall events.

- Materials generally used for the underground pipes can include PVC, polypropylene or steel reinforced concrete pipes.

- Laying of the drainage pipes should be to the manufacturer's specifications.

7.3 On-site Stormwater Detention

- Depending on the drainage design of the original estate development wherein the allotment lies, an on-site stormwater detention system may be needed to control discharge flows.

- Prior to submitting design plans, seek confirmation of on-site stormwater detention requirements from Council's Engineering Services Unit.

- On-site stormwater detention design requirements are found in Council's On-Site Stormwater Detention Guidelines.

7.4 Storm Water Quality and Reuse

- Stormwater quality systems should be included as part of the drainage design.

- Best practice should be met, with the removal of:

    - 80% typical urban annual load of Total Suspended Solids
    - 45% typical urban annual load of Total Phosphorus
    - 45% typical urban annual load of Total Nitrogen
    - 70% typical urban annual load of Gross pollutants (litter).

  Otherwise if within a Development Services Scheme a financial offset should be paid to the Regional Water Authority.

- No more than 5 parts per million of Hydrocarbons should generally be discharged into Council drains.

- Bio-retention systems and swales may be used as well as stormwater pollutant separators, or a combination of both.

- Stormwater reuse is encouraged for irrigating or passive irrigation of landscaped areas within the site or other uses provided it meets the water quality standard for that use.

Figure 27 – Bio-retention system and swales

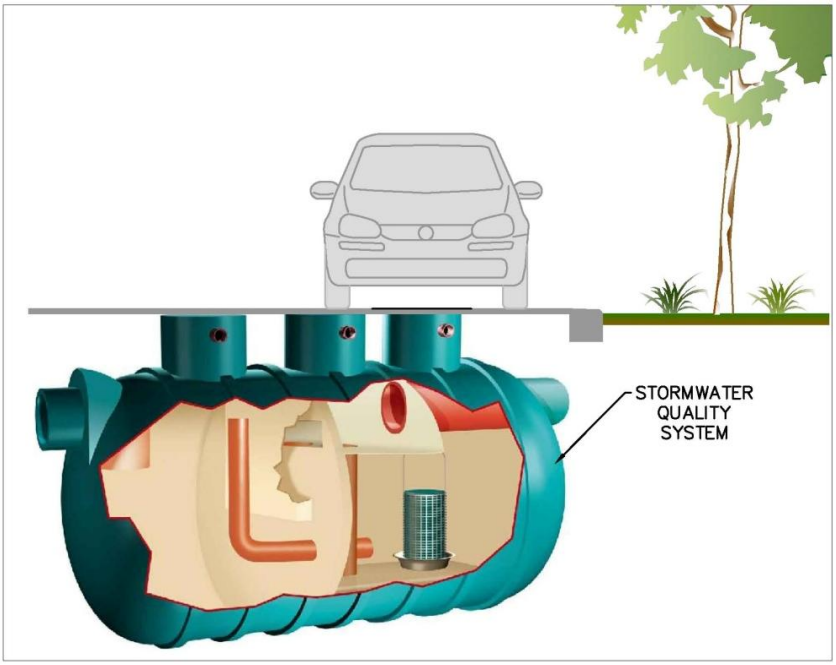

Figure 28 – Stormwater pollutant separator for uses with large hydrocarbon discharge

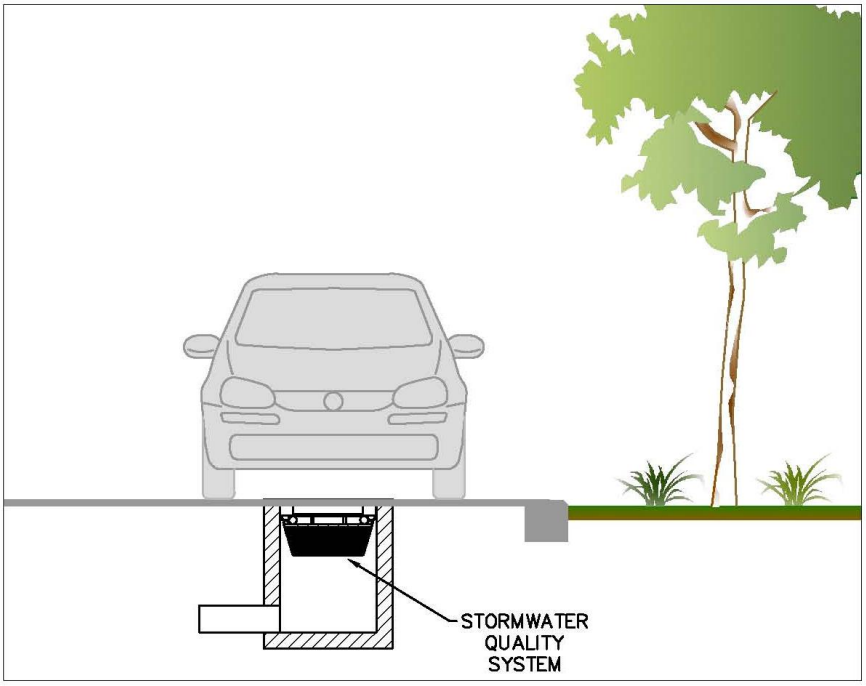

Figure 29 – Stormwater pollutant separator for uses with small hydrocarbon discharge

8. SUBMISSION CHECKLIST

TICK

- Detailed car park layout plan, including the following, where applicable:
  - Pedestrian paths and pedestrian priority crossing points between the street frontage/s, car parking areas and the use on the site ☐
  - Bicycle paths and facilities ☐
  - Public transport facilities ☐
  - Dimensions and number of parking bays (including disabled bays) ☐
  - Disabled parking bays ☐
  - Small car parking bays ☐
  - Dead end (blind) aisles ☐
  - Motorcycle bays ☐
  - Tandem parking bays (if allowed) ☐
  - Access roads details ☐
  - Internal roads details ☐
  - Signage and line marking ☐
  - Drainage plans (including on-site stormwater detention, stormwater harvesting and stormwater quality systems) ☐
- Copy of Melbourne Water Corporation's acceptance of a monetary offset for stormwater quality measures (where applicable). ☐
- Detailed landscape plans including car park lighting ☐
- Car parking rate calculations or empirical assessment report ☐
- Traffic generation report (including traffic treatments at access points) ☐

9. GLOSSARY

Activity Centre	A term used in urban planning and design for a mixed use urban area where there is a concentration of commercial and other land uses
Aero-screen luminaires	Types of luminaires that produce a direct spread of light and reduces light spill
Bio-retention system and swales	Stormwater infrastructure that captures, reduces nutrients loading and temporarily detains stormwater runoff before releasing the water to the environment
Capital Project	An infrastructure project that is delivered by Melton City Council
Capping Layer	Clay material used in road construction that moderates the moisture egress and ingress to or from the in-situ earth material
Car Park Empirical Assessment	A data base assessment of the car parking demand of a proposed use by comparing it to same or similar uses within, neighbouring or like municipalities
Cross intersections	A four legged intersection
Energy efficient lighting	Types of lighting that are low in wattage, example LED
Fine Crushed Rock	Crushed rock having structural properties used in the construction of roads
Groundcovers	Low growing or spreading plants used to cover the ground surface
Kerb outstand	A section of kerb that protrudes beyond the car parking bays to allow good visibility for pedestrians at crossing points

Legal point of discharge	Drainage discharge point to Council drains
Melton Planning Scheme	A town planning scheme relating to the municipality of Melton. It is a legal document that confers rights on land by specifying how this land may be used and developed
On-site stormwater detention	A system that retards the discharge of the peak flow into Council drains to prevent localised flooding
Passive irrigation	A method whereby plants are watered without an external cause or mechanism, example by garden hose
Passive surveillance	Passive or natural surveillance occurs by designing the placement of physical features, activities and people in such a way as to maximize visibility and foster positive social interaction.
Planning Application	An application for a town planning permit that gives permission for a use or development on a land parcel. It is a legal document that contains conditions associated with the development
Precinct Structure Plan	Precinct Structure Plans (PSPs) are master plans for whole communities of generally up to 30,000 people and are designed to create balanced new communities rather than just housing estates. They lay out roads, shopping centres, schools, parks, housing, employment, and connections to transport
Tandem Parking	A pair of parking spaces accessed via one location
T-intersections	A three legged junction where the minor road intersects at right angle to the continued road

Traffic calming measures	Treatments to reduce the speed of vehicles. Examples include speed cushions, speed humps, blister islands etc.
Urban Design Framework	A Framework Plan is an urban design tool that provides the conceptual basis for the re-development of a place over a set period of time. It is inherently a flexible document that seeks to marry workable proposals with contextual constraints and is formulated specifically to provide reasoned guidance for rational expenditure. The aim is to promote the creation of built outcomes that will contribute positively to the urban fabric
Vehicle overhang	The amount the front or rear of a vehicle extends outside the parking bay dimension

10. REFERENCES

1. Melton Planning Scheme
2. Urban Design Guidelines for Victoria (DPCD)
3. Australian Standards AS2890, AS1158
4. Guide to Traffic Generating Developments (RTA)
5. Design Guide for Off-Street Car Parks
6. Guide to Pavement Technology (Austroads)