9.4.3 Infrastructure Design Code

9.4.3.1 Application

This code applies to development identified as requiring assessment against the Infrastructure Design Code by the tables of assessment in **Part 5 Tables of Assessment**.

9.4.3.2 Purpose

(1) The purpose of the Infrastructure Design Code is to ensure that the infrastructure that is provided meets Council's accepted standards of service for development and protects premises and natural processes during its construction and operation.

(2) The purpose of the code will be achieved through the following overall outcomes:

(a) Infrastructure provides for the protection of the amenity of the locality;

(b) Infrastructure is located to ensure it is convenient for users and maintenance, and is protected from potential damage;

(c) Infrastructure minimises adverse effects on the wellbeing of the community and the environment;

(d) Development provides the infrastructure necessary to deliver a standard of service that is equitable and affordable;

(e) Development does not diminish the safety, efficiency or integrity of the existing infrastructure network;

(f) Disruption of the community during construction and maintenance of infrastructure is minimised;

(g) Infrastructure results in minimal whole of lifecycle cost to the community by providing for a suitable design life, ease of maintenance and ease of replacement; and

(h) Infrastructure provides for an *aesthetic landscape* by incorporating natural elements or by blending with the landscape.

9.4.3.3 Assessment Benchmarks

Table 9.4.3.3.1—Assessable Development

Performance Outcomes	Acceptable Outcomes
Infrastructure Access and Maintenance	
PO1 Infrastructure is designed and constructed to provide easy access for maintenance and to minimise maintenance costs.	**AO1.1** All elements of the stormwater drainage network are provided with access and allow for maintenance in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.

Performance Outcomes	Acceptable Outcomes
	AO1.2 *Local government infrastructure* on private property is provided with access easements in accordance with the **Planning Scheme Policy 1: Infrastructure Design**.
	AO1.3 Trenches for underground services are in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
Stormwater Infrastructure	
PO2 The stormwater network is designed to: (1) result in no net increase in stormwater leaving the site; or (2) contribute towards a catchment wide quantity control system.	**AO2** No acceptable outcome is prescribed.
PO3 The stormwater network is designed to improve stormwater quality and minimise stormwater quality deterioration.	**AO3.1** Stormwater quality improvement devices are provided on all car parking areas with a capacity greater than 8 vehicles.
	AO3.2 Stormwater quality is controlled through the provision of features designed to reduce contaminants such as excess nutrients and petrochemicals.
PO4 Stormwater infrastructure is designed and constructed: (1) in accordance with natural channel design principles instead of a constructed channels where there is no natural flow path; (2) to minimise erosion; (3) to not locate major overland flow paths on private property in urban areas; (4) to prevent obstruction of the drainage network; (5) to preserve public safety; and (6) to connect to the stormwater network where available.	**AO4** Stormwater infrastructure is designed and constructed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design.**
Allotment Drainage	
PO5 In urban areas, development provides for allotment runoff to be: (1) connected to the stormwater network where the lot drains to the road and/or occupiable lot; or (2) discharged to a gravel pit where the lot drains to a park or drainage reserve.	**AO5** Inter-lot drainage is provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
Pavements and Road Works	
PO6	**AO6**

Performance Outcomes	Acceptable Outcomes
Road pavements are of sufficient depth to provide a minimum 20 year design life based on design traffic speeds and traffic capacity.	Road pavements are provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
PO7 Development obtains access from a road and transport route which ensures the safe, efficient and comfortable operation of external roads having regard to: (1) the number and types of vehicles generated by the development; (2) ensuring pavement design, standard and width can carry the additional number and types of vehicles generated by the development without undue physical impact on the road or pavement life; (3) ensuring road and access driveway design caters for anticipated vehicles and vehicle use in the development, enabling suitable manoeuvrability and safety, and avoiding congestion; (4) the functional classification of the road from which it gains access; (5) the location of access points; (6) the potential for conflict between vehicles, pedestrians, cyclists and other road users; (7) the design of pedestrian access along roads giving access to the site; and (8) the desired speed environment.	**AO7** Road design and construction is in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
PO8 Development minimises conflict points when locating and designing intersections.	**AO8** Development is undertaken in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
PO9 Development provides traffic management to ensure the safe operation of the intersection.	**AO9** Intersections, including uncontrolled intersections, round-a-bouts, signalised intersections and grade separated intersections are designed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
PO10 The design and design capacity of a pavement: (1) is adequate for the role the pavement will play in the transport network for vehicle, pedestrian or other traffic; (2) prevents pooling of water on a pavement in other than a major flood event; (3) provides that line marking, including crossings, is designed and applied to ensure the safe movement of traffic; (4) provides guideposts and road signage that adequately warn all road users of hazards to traffic movements and delineate the course of the road; and (5) ensures services, including electricity, water,	**AO10** Design and construction of pavement is in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.

Performance Outcomes	Acceptable Outcomes
sewerage and communications, are not located beneath the pavement other than where necessary to cross the pavement and: (a) at a right angle to the road boundary; or (b) at an angle not greater than 45 degrees to the road boundary.	
PO11 A sealed surface is provided to pavements to minimise dust, maximise pavement longevity and minimise maintenance based on the function of the road or surfaced area.	**AO11** Design and construction of pavement surface is in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
PO12 Edging is provided to sealed surfaces where traffic volumes are significant or there are significant vehicle movements from off the sealed surface onto the sealed surface to prevent erosion of the sealed surface.	**AO12** Design and construction of pavement edging is in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
PO13 Kerb and channel is provided within all urban areas.	**AO13** Kerb and channel is provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design** in all land within the: (1) Low-Density Residential Zone; (2) Low-Medium Density Residential Zone; (3) Major Centre Zone; (4) District Centre Zone; (5) Local Centre Zone; (6) Township Zone; (7) Mixed Use Zone; and (8) Industry Zone.
PO14 Kerb and channel is provided where stormwater flows in table drains will result in the erosion of the table drain.	**AO14** Development is undertaken in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
PO15 Upright kerb is provided in all locations where lot access is not to be provided but kerb and channel is to be provided.	**AO15** Kerbs are designed and constructed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
PO16 Verges to roads are adequate to accommodate: (1) safe and efficient movement of all users, including pedestrians and cyclists; (2) on-street parking; (3) street tree planting; and (4) utility infrastructure, including stormwater management and run-off from road surfaces.	**AO16** Verges are designed and constructed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
PO17 Table drains are provided where roadside stormwater	**AO17** Table drains are designed and constructed in

Performance Outcomes	Acceptable Outcomes
flows can be contained within the road reserve, stormwater flows are insufficient to cause significant erosion of the table drain and a grass cover can be maintained within the table drain.	accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
PO18 Cross drainage is managed so to retain the functionality of the road or paved surface.	**AO18** Development provides: (1) cross drainage to roadways and paved surfaces in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**; or (2) diversion of cross drainage around the roadway or paved surface.
PO19 Development provides for on-street parking considering: (1) safety; (2) the functional classification of the road; and (3) the location of any intersections or access points.	**AO19** On-street parking is provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**. ***Note*** *- The provision of on-street parking is in addition to any parking required under the* ***Parking and Access Code****.*
PO20 The road network is designed to: (1) maximise vehicular, pedestrian, cycle and other transport network user safety; and (2) maximise the efficiency of the network considering construction cost and maintenance and operating costs.	**AO20** The road network is designed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
Electricity and Communications	
PO21 Development provides electricity and communications infrastructure. Such infrastructure is located and designed to: (1) minimise the visual impact of the infrastructure; (2) be located for ease of maintenance; and (3) provide warning tape to enable detection of underground cables when excavating.	**AO21** Services are provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
External Works	
PO22 Where access to the external infrastructure network is to be provided development must construct the connection of the premises to the external infrastructure network.	**AO22** No acceptable outcome is prescribed.
PO23 The design of the infrastructure network and any connection to the external network is constructed to an appropriate standard and does not diminish the safety and efficiency of the infrastructure network.	**AO23** Connection to external infrastructure is undertaken in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
Bridges	
PO24 Development provides for bridges to be:	**AO24** Bridge design and construction is undertaken in

Performance Outcomes	Acceptable Outcomes
(1) safe for all users; (2) minimise the accumulation of debris on the bridge or its supporting structures; and (3) provided instead of culverts where there is a significant risk of clogging.	accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
PO25 Development provides for bridges to equitably provide space for all likely users.	**AO25** Development provides for bridges which: (1) provide for separate pedestrian space where the road class provides for a pathway and/or bikeway in the road profile in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**; (2) provide the opportunity for the future addition of separate pedestrian space; and (3) prevent access for vehicles where the bridge has not been designed to carry vehicles.
PO26 Where the infrastructure network designs require infrastructure to cross waterways, bridges are designed to make provision for the carriage of: (1) water supply pipes; (2) sewerage pipes; and (3) electricity or telephone cables.	**AO26** No acceptable outcome is prescribed.
Local Area Traffic Management Devices	
PO27 Development provides for local area traffic management devices to be designed and constructed to ensure devices: (1) do not become a traffic hazard; (2) result in a diminished speed environment; (3) do not incorporate elements which would reduce visibility of hazards for traffic below that limits for the speed environment; (4) are removable at low cost; (5) are incorporated into an area that there is a clear delineation between main traffic routes and minor local streets; and (6) do not result in a traffic hazard at the local area traffic management device due to traffic storing at an intersection.	**AO27** Development is undertaken in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
Street Furniture	
PO28 Development provides for street furniture to be: (1) designed and constructed to ensure they do not become a traffic hazard; (2) designed and constructed to be safe for users and passing pedestrians; (3) designed to a consistent theme used in, or intended for, the locality; (4) designed to ensure they do not impede the	**AO28** Street furniture is provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.

Performance Outcomes	Acceptable Outcomes
maintenance of services located within the road verge; (5) designed to provide an aesthetic streetscape and incorporate landscaped elements; and (6) designed, located and constructed so that pedestrian and bicycle movement is not impeded.	
Parks	
PO29 Where development provides recreation space, the design of the recreation space and any furniture or recreation equipment or facilities is safe and accessible for all users.	**AO29.1** Development provides that the design of recreation space conforms to the principles of crime prevention through environmental design (CEPTD).
	AO29.2 Development provides that recreation spaces, including all furniture or recreation equipment, are in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
	AO29.3 Development provides for recreation spaces designed in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
Lighting	
PO30 Lighting infrastructure: (1) is consistent with the expected capacity of the use; (2) upgrades existing networks where current capacity is insufficient for the needs of the use; and (3) is in keeping with the character of the location.	**AO30** Lighting infrastructure is provided in accordance with the standards in **Planning Scheme Policy 1: Infrastructure Design**.
Landscaping of Public Areas	
PO31 Landscaping of parks, streets and future public places is designed to: (1) enhance and soften the built form; (2) enhance the streetscape character; (3) contribute to attractive streets and public spaces; and (4) be in keeping with the character of the location.	**AO31** Landscaping of future public lands is provided in accordance with the standards in **Planning Scheme Policy 6: Landscaping for Public Areas**.