

City of Wanneroo

INSTRUCTIONS

FOR

THE USE OF CITY OF WANNEROO DESIGN SPECIFICATIONS

EXPLANATORY NOTES

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1.0 Background

These Guidelines outline the City of Wanneroo's standards and expectations for the development and subdivision of land within the City.

In adopting the Aus Spec#1 Design Guidelines as the foundation document and assimilating traditional standards used throughout the Municipality, the City has sought to provide subdividers with a comprehensive set of specifications for the development of land that will;

- Be based on recognised industry design standards and technical guidelines
- Provide uniformity across the Western Australian land development industry and
- Allow flexibility for designers to incorporate unique features into their subdivisional layouts.

These Guidelines recognise both current design practice and industry standards as outlined in,

- Recognised Design Guidelines such as AUSTRROADS and Australian Rainfall and Runoff.
- Australian Standards
- W.A Guidelines and Codes of Practice such as,
 - IMEA (W.A) Guideline to Subdivisional Development (now known as Institute of Public Works Engineering Australia, IPWEA),
 - WA Transport (Bikewest) Guidelines for the Design of Bicycle Facilities and
 - Utility Provider, Code of Practice
- Planning Policies and Codes of Practice such as the Western Australian Planning Commission's "Liveable Neighbourhoods"
- Technical Reports such as John Argue - Australian Road Research Board Special Report 34, "Stormwater drainage design in small urban catchments: a handbook for Australian practice".

These Guidelines do not seek to re-establish or alter the requirements of the above documents which arguably represent current industry best practice, but seek to refer designers to these documents as a primary means of establishing uniformity of design across the industry.

The City of Wanneroo has been the subject of continuous and intense subdivisional activity for many years and has successfully applied subdivisional standards that have stood the test of time in terms of their design life and ongoing economic maintenance.

Designers and developers need to be aware that the community has an ongoing interest and commitment to the economic maintenance of infrastructure provided by developers. As such, the City, being the management authority for the infrastructure needs to be completely satisfied with the long term performance of the subdivisional design presented to it for approval.

2.0 Continuous Improvement

Given the complexity and the comprehensive nature of information provided in the Guideline, and the cross referencing to other documents, standards and policies it is likely that amendments will occur from time to time. The City encourages innovation and improvement in all aspect of the development process and it is hoped that future adjustments to the Guideline reflect such.

The current Guideline lists aspects of the AusSpec document that don't reflect current Western Australian practice. These aspects are incorporated into addenda at the front of each subsection within the document. The addenda further highlight those items within the AusSpec document that have alternative requirements specific to the City's needs.

3.0 Guidelines Structure

The Guideline is structured into three Sections which enables the subdivider to access relevant information to meet varying needs at each stage of the development process.

Section 1 - General Guidelines for the Development and Subdivision of Land

Section 2 - Quality Assurance of Design (DQS & WDQS)

Section 3 - Design Standards (D1 to D10, WD1 to WD15)

Section 1 General Guidelines (with green pages inserted)

This Section provides general information about the processes and requirements for the subdivision and development of land, progressively guiding the reader from the initial stages following the decision to commence development to the stage where the land can be sold.

This section of the Guideline is divided into 5 subsections.

Subsection **I** Introduction
 Subsection **A** Application Process
 Subsection **R** Council **R**quirements
 Subsection **E** Engineering Requirements
 Subsection **S** Provision for **S**ale of Allotments

The AusSpec documentation (white pages) primarily reflects current Western Australian practice, however adjustments that have been made are outlined on the addenda sheet at the start of each subsection. Specific requirements of the City of Wanneroo (green coloured pages) relevant to each subsection are also incorporated at the start of each subsection. Comment on each of these items are included in the addenda sheets also.

Section 2 Quality Assurance (DQS & WDQS with yellow pages inserted)

The Guideline contains quality assurance specifications, however it should be noted that while the City supports Quality Assurance principals it has not formally adopted the quality assurance process outlined in this document.

Section 3 Design Standards (D1 to D10, WD1 to WD15 with yellow pages inserted)

This Section incorporates the following specifications.

Specification No.	Specification Title	Specification No.	Specification Title
D1/WD1	Geometric Road Design (Urban and Rural)	WD11	Vehicular Crossover Design
D2/WD2	Pavement Design	WD12	Road Furniture
D3	Structures/Bridge Design	WD13	Landscape Design (Not yet available)
D4	Subsurface Drainage Design	WD14	Reserves and Public Open Space (Not yet available)
D5/WD5	Stormwater Drainage Design	WD15	Property Development Design
D6/WD6	Site Re-grading		
D7	Erosion Control and Stormwater Management		
D8/WD8	Waterfront Development		
D9/WD9	Cycleway and Pathway Design		
D10	Bushfire Protection		

As indicated previously, specifications D1/WD1 to D10 use the AusSpec Western Australian document as the foundation for the technical requirements. In addition to the AusSpec requirements, these specifications also incorporate standards that have been traditionally used within the municipality. The structure of the specifications provides developers with the flexibility to provide designs that can meet both accepted design practice and the City's traditional standards.

Specifications WD11 to WD15 outline standards that are not in the AusSpec (W.A.) document but are standards for elements of the subdivision and development process that have traditionally been used throughout the City of Wanneroo Municipality.

Traditional standards are outlined on the yellow coloured pages at the start of the AusSpec documentation. Amendments to the AusSpec document to reflect W.A. practice are included in the addenda schedule. Sections within the specifications that have requirements detailed in both the AusSpec documentation (white pages) and Wanneroo's traditional standards (yellow pages) will also be listed as part of the addenda.

4.0 Traditional Standards

The development of these design specifications reflects a desire by the City to move from the traditional 'Prescriptive' approach for design standards to a consultative approach that permits flexibility in design outcomes, provided the designer can clearly demonstrate compliance with nominated performance indicators.

As mentioned previously, the design specifications (*Section 2 & 3 of these documents*) incorporate both AusSpec #1 design documentation and the City's traditional standards. Traditional standards are detailed in separate Wanneroo documents prefixed by the letters WD. This document is provided on yellow paper and the requirements for each design element should be read in addition to the AusSpec documents.

Performance Criteria

The City is keen to ensure that designers are permitted the flexibility they require to develop unique solutions for land development or subdivisional design objectives, while still maintaining acceptable design standards.

To assist developers and designers in this area, the City encourages a collaborative approach to the design process and seeks to promote close consultation between the designer and City staff in the early stages of the development process.

Developers and designers may choose to meet the traditional standards outlined in the specifications or present alternative designs. Each alternative proposal will be assessed on its merits and in conjunction with the Western Australian Planning Commission's (WAPC) guidelines and policies.

Where alternative design specifications are put forward, designers must clearly demonstrate that the design will meet acceptable industry standards in the following criteria.

- Technical Standards (Australian Standards & Industry Guidelines)
- Safety
- Environmental Compatibility
- Amenity
- Accessibility and Convenience
- Economy (Efficient Capital Development, Effective Asset Management)

These elements are the primary performance indicators against which all proposed design criteria are to be measured.

Designers must be able to provide objective, quantitative evidence that desired outcomes for each of the above criteria have been sustained over an acceptable period of time.

5.0 How to use the Guideline

5.1 Terminology

Throughout the document there is various references to The City, Council, City Engineer, Municipal engineer etc. Users of the document should note that the development process is managed by the City's officers under delegated authority. As such the Guideline needs to be read with this in mind.

Where officers are required to refer matters to the body of Council for approval, development applicants or their consultants will be advised of the reporting processes and the likely time lines for response.

5.2 Addenda Schedules

A schedule of addenda is provided at the front of each section of the AusSpec (white pages) design document. The addenda schedule outlines amendments made to the AusSpec document and also any additional or alternative City of Wanneroo requirements.

This document will provide readers with a quick guide as to the current status of the relevant section or specification

5.3 General Guidelines (*Section 1*)

In the section dealing with General Guidelines, the City's requirements have been outlined on green pages. These pages reflect the City's specific requirements in respect to each section of the General Guidelines and where there is a conflicting requirement with the AusSpec document, the City's requirements shall take precedence.

5.4 Design Specifications (*Section 2*)

The design specification documents are made up of the AusSpec documents (white pages) and City of Wanneroo traditional standards (yellow pages). The AusSpec documents principally reflect accepted engineering design practice and as such should be the primary reference for developers and designers.

The City's traditional standards provide developers and designers with an insight as to what has been acceptable practice throughout the City for many years and these requirements should be read in addition to the AusSpec requirements.

Where designers wish to present proposals that do not meet these traditional standards, but comply with engineering design standards outlined in the AusSpec document, they must justify their design objectives in terms of the performance indicators outlined in 4 above.

6.0 City Of Wanneroo Standard Drawings And Standard Forms

A list of the City's standard drawings is included in Table 1 (Provided as electronic images on CD-ROM). Standard Forms are included at the back of the Explanatory Notes.

6.1 Standard Drawings

These drawings reflect the requirements of traditional standards applied throughout the Municipality over several years. Where developers have chosen to apply the traditional standards to elements of their subdivision, these drawings should be referenced in the plans and specifications submitted to the City for approval. A list of the City of Wanneroo's standard drawings are included in Table 1 at these notes. These drawings are available as image files (TIF images) in a CD-ROM attached with this document.

6.2 Standard Forms

This section will include a list of standard forms to be used as part of the subdivision design drawing approval and construction clearance process. New forms will be developed from time to time and will be included here together with any future amendments.

- FORM 1 : Application For Bonding Outstanding Subdivisional Works - *version 2*
- FORM 2 : Subdivisional Drawings Submission Checklist & Report References - *version 1*
- FORM 3 : Site Preparation, Earthworks & Infrastructure Works Checklist - *version 1*
- FORM 4 : Asset Data Capture Form - *version 1*
- FORM 4.1 : RoMan Road Asset Data Capture Form (2 pages) - *version 1*
- FORM 4.2 : Stormwater Drainage Asset Data Capture Form - *version 1*

TABLE 1 : City of Wanneroo List of Standard Drawings

Fencing	TS 01-1-0 - Post And Rail / Bollard TS 01-2-0 - Sump Security TS 01-3-0 - Road Frontage / Rural TS 01-4-0 - Track / Pathway TS 01-5-0 - 1.2m Link Mesh TS 01-6-0 - Drainage Sump Site Sign
Bus Facilities	TS 02-1-0 - Bus Embayments – Setting Out Details TS 02-2-0 - Bus Shelters – Type 1, Type 2 and Type 3 TS 02-3-0 - Bus Shelters Layout and Kerb Feedbacks
Drainage	TS 03-1-0 - Outlet Structure Details TS 03-2-0 - Headwall Details TS 03-3-0 - Junction Pit Construction Details TS 03-4-0 - Sump and Storm Outfall Details TS 03-5-0 - Gully / Junction Pit Modified Trapped and Untrapped Gullies TS 03-6-0 - At Grade Table Drain – Inlet / Outlet Structure TS 03-7-0 - Side Entry Pit – Type 1 (Chain Slab) TS 03-8-0 - Side Entry Pit – Type 2 (Drain or Slab) TS 03-9-0 - Side Entry Pit – Type 3 (Combination Side Entry Pit and Grated Entry) TS 03-10-0 - Side Entry Pit – Type 4 (Combination Side Entry Pit and Flush Entry)
Landscaping	TS 04-1-0 - Median Land – Tree Well Installation TS 04-2-0 - Verges Bollards for 60kph Speed Zone
Kerb and Kerb Ramps	TS 05-1-0 - Caded Sections – Mountable / Semi-Mountable (Type 1 & Type 2), Barrier, Flush, Reinforced Flush and Mountable with Key TS 05-2-0 - Modified Mountable and Semi-Mountable for Roundabouts TS 05-3-0 - Kerb Ramp for Dual Use Paths and MRWA Freeway Ramps – Modified and Semi-Mountable Kerbs
Signs & Street Name Plates	TS 06-1-0 - Street Name Plate for Local Roads TS 06-2-0 - Street Name Plate for Primary and District Distributor Roads

TABLE 1 : City of Wanneroo List of Standard Drawings (cont'd)

<p>Crossovers & Verge</p>	<p>TS 07-1-0 - Residential – Width & Wing Alternatives TS 07-2-0 - Residential – Concrete Crossovers TS 07-3-0 - Residential – Concrete & Brick Paved Crossover TS 07-4-0 - Residential – Brick Paved Crossover TS 07-5-0 - Residential – Verge Grades & Rises at Road Reserve Boundary TS 07-6-0 - Residential – Driveway Gradings with Standard 2% Verge (Maximum level above and below Kerb) TS 07-7-0 - Residential – Driveway Gradings with Standard 2%/10% Verge (Maximum level above Kerb) TS 07-8-0 - Residential Brickpaved Crossover – Approved Laying Patterns TS 07-9-0 - Residential Verge Hardstanding – Layouts and Sections TS 07-10-0 - Standard Rural Crossover – Detail TS 07-11-0 - Industrial / Commercial Concrete Crossovers TS 07-12-0 - Brickpaved and Concrete Residential Bay Pads – Layout and Details TS 07-13-0 - Crossover at Cul-de-sac Heads – Typical Arrangement</p>
<p>Traffic Control Devices</p>	<p>TS 08-1-0 - Guide Posts – Location and Details</p>
<p>Pedestrian and Bicycle Facilities</p>	<p>TS 09-1-0 - Footpaths – Layouts for Distributor and Local Roads TS 09-2-0 - Dual Use Pathway – Layouts for Arterial Roads, Junctions and Bays TS 09-3-0 - Dual Use Pathway – Continuation on Joint Strip TS 09-4-0 - Dual Use Pathway – Layout for Public Access Ways TS 09-5-0 - Access Lane Pathway, Bollards and Reflective Tape TS 09-6-0 - Handrails in Median Island, Verge & Public Accessway</p>
<p>Junction Treatments</p>	<p>TS 10-1-0 - District Distributor to Local Distributor – Type 1 TS 10-2-0 - District Distributor to Local Distributor – Type 2 TS 10-3-0 - District Distributor to Local Distributor – Kerbing and Lane Details TS 10-4-0 - District Distributor to Local Distributor – Truncations TS 10-5-0 - District Distributor/ Local Distributor Access for Shopping Centres and Services Stations TS 10-6-0 - Local Road Median Island Set Out Details TS 10-7-0 - Keep Left Sign Installation Details</p>
<p>Traffic Management</p>	<p>TS 11-1-0 - Pedestrian Refuge Island – Set Out Details TS 11-2-0 - Road Hump for Walkways and Carparks TS 11-3-0 - Road Hump – Asphalt Watt's Profiles</p>
<p>Parking Facilities</p>	<p>TS 12-1-0 - Disabled Bay – Layout and Pavement Marking TS 12-2-0 - Flush Kerb Transitions in Carparks for ACROD Bays TS 12-3-0 - Tree Wells for Carparks</p>

TABLE 1 : City of Wanneroo List of Standard Drawings (cont'd)

<p>Road Cross-Sections</p>	<p>TS 13-1-0 - Rural Road TS 13-2-0 - Rural Road and Bridle Path for 12m Road Reserve TS 13-3-0 - Controlled Access District Distributor – Ultimate 3 Lane Dual Carriageway 52m Formation and Staging TS 13-4-0 - Controlled Access District Distributor – Ultimate 2 Lane Dual Carriageway 45m Formation and Staging TS 13-5-0 - Controlled Access District Distributor - Alternative Road Reserve</p>
<p>Underpasses</p>	<p>TS 15-1-0 - District Distributor – Locations on Arterial Roads TS 15-2-0 - District Distributor – Typical Plans and Section TS 15-3-0 - District Distributor – Typical Details and Cross Sections</p>
<p>District & Regional Distributor Roads</p>	<p>TS 16-1-0 - Profile Coordination with Superelevation Transitions</p>
<p>Retaining Walls & Stone Paving</p>	<p>TS 17-1-0 - Stone Paving up to 2.0m – Typical Details</p>
<p>Commercial & Strata Development</p>	<p>TS 18-1-0 - Typical Carpark Layout Commercial/ Office Development TS 18-2-0 - Typical Crossover and Driveway Construction for Vacant Lot Strata Development TS 18-3-0 - Reversing Bays for Long Driveways</p>
<p>Lighting Facilities</p>	<p>TS 19-1-0 - Lighting for Carparks</p>