# **Territory and Municipal Services Reference Document 6**



# REQUIREMENTS FOR DESIGN ACCEPTANCE SUBMISSIONS

Issue 2 Revision 5

#### **APPROVED FOR ISSUE**

Approved by:

Fay Steward
Executive Director
Land Management and Planning
Date: August 2010

Document No. AA-REF-06

Date of issue: 1 July 2010

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# TERRITORY AND MUNICIPAL SERVICES REQUIREMENTS FOR DESIGN ACCEPTANCE SUBMISSIONS Document No. AA-REF-06



#### 1 PURPOSE

This document establishes the Territory and Municipal Services (TAMS) mandatory design requirements (Requirements) to be included in any Submission requesting Design Acceptance (Submission) for proposed public infrastructure works (Works).

#### 2 SCOPE

These Requirements apply to any formal Submission for all Works.

#### 3 OBJECTIVES

The Requirements are issued to:-

- define the information required by TAMS for any Submission to be accepted, reviewed, assessed, and ultimately endorsed.
- encourage high quality Submissions with complete supporting documentation that complies with these Requirements.

#### 4 DEFINITIONS, TERMS AND ABBREVIATIONS

#### **Developer**

In the private sector, the organisation nominated in the Deed of Agreement as the 'Developer' including its employees, contractors, successors and agents.

In the public sector, the Land Development Agency (LDA) or any other ACT Government agency responsible for development of public infrastructure works in the ACT including its employees, contractors, successors and agents.

#### Coordinator

The Developer, the Head Consultant or the agent nominated by the Developer as being responsible for the coordination of all disciplines of design and documentation prepared and certified by the relevant Consultant/s and for the superintendence of the construction of the Works. The Coordinator shall be responsible for the lodgement of the Submission with TAMS and shall be the sole point of contact between Asset Acceptance, through the Project Lead, and the Developer throughout the life of the development. Asset Acceptance is not required to meet or communicate directly with any other entity or individual other than the nominated Coordinator on issues relating to the Submission.

#### **Head Consultant**

The organisation responsible on behalf of the Developer for the overall design and/or site superintendence of the whole of the Works and certification that the design and/or construction of the Works comply with these Requirements and the Standards.

#### Consultant

The organisation responsible for the overall design and/or site superintendence of part of the Works and certification that the design and/or construction of that part of the Works for which it is responsible comply with these Requirements and the Standards. A Consultant may also act as the Head Consultant.

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#### Asset Acceptance (AA)

Asset Acceptance is the section of TAMS responsible for coordinating the Asset and nominated capital works design and construction acceptance process on behalf of TAMS.

#### **Asset Acceptance Project Lead (Lead)**

The Manager who will act as a single point of contact for the life of the project.

#### **Chartered Engineer**

An engineer who has the chartered status of Chartered Professional Engineer (CPEng) and is registered as such on the National Professional Engineers Register (NPER) administered by Engineers Australia. The Chartered Engineer must also be acceptable to, and meet the requirements of, the ACT Government and be suitably experienced in the type of engineering work involved in this project.

#### **Standards**

All Australian Standards, applicable written ACT Government standards, codes and guidelines and all statutory and regulatory requirements governing the design of the works.

The public infrastructure works for which TAMS will become the ultimate owner and operator on behalf of the ACT Government.

#### Parks Conservation and Lands (PCL)

PCL is the section of TAMS responsible as Asset Owners for the maintenance of all public lands and parks other than the road reserve areas.

#### **Asset**

The completed Works.

#### Works Area (Area)

The area bounded by the approved Works boundaries and all road reserves, street verges, public open spaces and unleased Territory land adjacent to, and within ten metres of, the Works boundaries.

#### **Design Acceptance**

Acceptance by TAMS that the design of the Works is acceptable to the extent that it complies with the plans, specifications and Requirements and has been satisfactorily completed. All documentation necessary for the construction of the Works shall be certified by the Consultant as appropriate and endorsed by the Coordinator as complying with the Requirements and the Standards and is fit for purpose. The issue of a Design Certificate does not transfer the responsibility for the integrity of the design to TAMS, nor does it in any way absolve the Coordinator, Head Consultant and Consultant from all care and responsibility for the integrity of the design and its compliance with the Requirements and the Standards.

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#### **6 GENERAL REQUIREMENTS**

#### Introduction

The request for Design Acceptance shall be submitted under cover sheet AA-SCS-06 Design Acceptance Submission Cover Sheet (refer Attachment A) and shall include the completed and endorsed checklist AA-DCL-06(ext) Design Acceptance Submission Checklist (refer Attachment B).

#### **6.1 Documentation**

The Submission shall be in the form of a **Design Report** and providing the following information:

- 1. **Certification** by the Consultant, endorsed by the Coordinator, that each design element prepared by the Consultant complies with the design criteria and the Standards and is suitable for end use.
  - The Consultant shall certify, and the Coordinator endorse, that the design complies with the Standards and all previous approvals .i.e. Estate Development Plans, Development Applications and Deed of Agreement. Any departure from the Standards will require documenting with justification from the Coordinator that the design element still meets the design criteria.
- 2. **The lodgement of the Submission by the Coordinator** shall include a clear unambiguous confirmation that the Submission satisfies the safety, operational and maintenance requirements for the Works together with a recommendation that the Submission be endorsed by TAMS.
- 3. **Final Design Drawings and Specifications** shall be individually signed by the responsible Chartered Engineer/Architect/Landscape Architect as applicable, as confirmation that the documents comply with the design criteria and the Standards. These documents shall then be endorsed by the Coordinator as fit for purpose.
- 4. The completed **Design Checklists** listed in the Attachment C verifying that all design work has been checked against the design criteria and complies with the Requirements and Standards.
- 5. A **list of all drawings** submitted including document numbers and revisions formatted in excel as per the example below:
- 6. Provide Dilapidation Report on Territory Land and Assets in the vicinity of the project site.

Doc. Ref. No:	Revision No:
C-0474-1E-DO1	С
L-0475-1E-DO2	С

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#### **6.2 Design Report Components**

#### **6.2.1** Index

Index all sections of the Design Report so that records can be easily traced and located.

#### 6.2.2 Project description

The Project Description shall commence with the reason for the proposed works: the intent of this is to make the Design Report self-explanatory without the need for recourse by TAMS to previous studies or other reports.

This shall be followed by a Synopsis of the Works-to-date recording all preparatory events leading to the Submission and include all reports developed and submitted during the Works definition stages.

The Design Report shall include and cross reference the DA and the Coordinator shall certify that the detailed design complies with the approved EDP and/or the Development Application and any conditions of the approval.

The Design Report shall then elaborate on the details of the Works including, but not limited to:

- the **Scope** of the Works;
- a **Site plan i**ncluding the **Proposed Staging** and indicating the relationship with other stages as addressed by their Block and Section, Suburb and Street name(s);
- the Works Title;
- the Works Number, and
- any other references.

List all **key parties** involved in the project including:

- Client
- Developer
- Project Manager
- Project Director
- Coordinator (the Developer or Head Consultant or the agent of the Developer)
- Consultant/s
- Proposed Superintendent (if known)
- Principal Contractor(s) (if known)
- Nominated Sub-contractors and Suppliers (if known)

#### 6.2.3 Design Standards

The Coordinator shall provide a list of Standards used by the Consultant together with the methodology employed to validate that they are appropriate to the Works. Any interpretation of the Standards that deviate from the intent of the Standards, including sensitivity analysis, must be listed and provided together with specific reasons for not fully complying with the intent of the Standards.

#### 6.2.4 Verification and Validation

The Coordinator shall advise the verification and validation processes used by the Consultant and provide written evidence that they have been undertaken in accordance with the Consultant's Quality Management System.

#### **6.2.5 Draft Construction Surveillance Plan**

Irrespective of which party is to undertake the construction supervision, the final design shall include a draft Construction Surveillance Plan including checklists and hold points prepared to comply with TAMS standard format.

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#### **6.2.6 Consultation**

Include details of any consultation with stakeholders and the general public identifying any issues raised and the actions/outcomes proposed to address those issues.

#### 6.2.7 Products

The Coordinator shall provide a list of all new and/or customer supplied products identified by makers name, model and model number together with certification that the product complies with the Standards.

#### **6.2.8 Exception Clause**

The Coordinator shall prepare and submit a list of any variances from, and/or noncompliances with, the requirements of this document and the Standards.

- Detailed design calculations such as hydraulic grade lines and structural calculations are not generally required to be submitted as part of the Design Report, however, TAMS may request such calculations as part of the detailed design assessment.
- The Submission must be complete and include all Civil, Landscape, TCDs and Street Lighting, and any other design elements of the Works.
- TAMS will not accept incomplete Submissions or Submissions from individual Consultants for separate design elements of the Works. Where TAMS considers the Submission to be incomplete, the Coordinator will be advised to this effect within one working day (i.e. by close of business the next working day following receipt of the Submission) and will be requested to collect the Submission from TAMS offices. Assessment will not commence until a complete Submission has been received. Upon receipt of the complete Submission, within one working day TAMS will acknowledge receipt confirming the date of Submission and nominating the Lead responsible for the progression of the Submission through the review and approval process: all communication by the Coordinator with TAMS shall be through the Lead.

#### 6.3 Design Drawings and Specification

As part of the detailed design assessment, drawings shall be provided in all of the following formats:

#### 1. Electronic formats:

One full set of AutoCAD drawings compliant with the latest version of 'Ref-11 TAMS Drafting Standard'.

One full set of drawings in Adobe® PDF format created at a minimum size of A3 with a resolution of 600 DPI or higher. These drawings shall be oriented correctly with respect to the original.

2. Hardcopy formats (to be provided upon request from TCCS)

One full set of A3 hardcopy drawings. (Drawings originated at A1 size and reduced to A3 for inclusion in the Submission are not acceptable).

Hardcopies shall be legible at the supplied scale and shall comply with the provisions of AS 1100.

Drawings depicting temporary works shall be included in a separate section of the Design Report.

The Design Report shall demonstrate that the proposed Works are consistent with the existing conditions by extending cross sections and long sections sufficiently onto any adjacent infrastructure such that the consistency can be recognised.

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The following design drawings and specifications shall be included in the Design Report:

- Plan Index and/or Key Plan
- Landscape Management and Protection Plan (LMPP)
- **Project Site Plans** showing the precise location of new road boundaries and/or the extent of the site requirements including access provisions, construction compound and spoil dumps. The Plans shall also indicate all existing and altered landforms, paved areas and planting, and the location of main services with floor plans.
- **General Arrangement Plans** showing all work, irrespective of type, illustrating in a simple and legible manner exactly what is involved in the Works.
- Where the design calls for the retention of existing works and services within the Area, or where adjacent property and assets are likely to be affected by the Works, a **Preconstruction Condition Survey** of existing works and services shall be provided.
- Location Plan showing the relationship of the Works site to existing buildings and landscape features.
- Staging Plan.
- Survey and Setting Out details.
- Typical Cross-sections and Construction Details.
- Standard Details of all civil and landscape infrastructure works.
- Use of Recycled Materials.
- Details of work resulting from **Sub-surface Investigations**.

A full list of drawings for each type of development is included at Appendix D.

#### 6.4 Operation and Maintenance - Technical Information

In addition to the design information required for the construction of the Works, the Design documentation shall include a separate report/ drawings containing information vital to the safety, operation and maintenance of the Works at its optimum performance. This refers to such matters as:

- landscape and irrigation system design operation and maintenance manuals;
- pumping stations normal operating schedules, emergency procedures, special maintenance;
- GPT maintenance manuals and instructions for cleaning;
- playground information including details, specifications and product information;
- proprietary products repair, replacement and maintenance instructions, and
- WSUD Systems operation and maintenance manual.

#### 6.5 Supplementary Submissions

Any supplementary Submissions, whether initiated by a request from TAMS or by a change of strategy by the Coordinator, must contain all the elements identified in Clause 6.1 together with reasons for the changes. In the event that the resubmission is a response to a request from TAMS, the Coordinator shall address point by point all the issues raised by TAMS in its request for changes.

Changes to any drawing submitted by the Coordinator shall be clearly highlighted by 'clouding' the areas changed and the inclusion of a table identifying the changes made and their sequence. The Submission will not be assessed until this information has been provided

#### 7 ASSET SPECIFIC REQUIREMENTS

Where applicable to the specific asset, the following information shall be provided:

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#### 7.1 Roads

- If a Road Safety Audit is available for the Works, a copy of the audit report on the design shall be provided as part of the Submission.
- Pavement Design Report including options study and whole of life costing analysis where ESA>10<sup>6</sup>.
- Pavement Plans showing all pavement types and materials including traffic category and design CBR.
- Longitudinal sections, typical cross sections and detailed cross sections.
- Horizontal alignments, intersection details, rear lane access, driveways, bus routes, bus stops, indented on-street parking and kerb details.
- Noise and Acoustic analysis and design if requested by the Project Brief or by Deed of Agreement.
- Maintenance access tracks and fire trails.
- Retaining walls.
- Street furniture.
- Guide posts.

#### 7.2 Pedestrian and Cycle Facilities

- Compliance with Chapter 13 of the *Design Standards for Urban Infrastructure*, *Pedestrian and Cycle Facilities and Transport Master Plans*.
- Details of on-road cycle lanes.
- Paths geometry and widths.
- Pedestrian crossings and access covering kerb ramps, cross-overs, access ramps, rest rails, access lanes and access to buildings.
- Path continuity through driveways.
- Tactile paving
- Green surface treatment for cyclist conflict areas on road.
- Signage for community paths.
- Path linkages with adjacent stages/suburbs and main activity nodes such as schools and shops.

#### 7.3 Carparks

• On and off-street geometry including provision for disabled and service vehicle parking.

#### 7.4 Street lighting

- A lighting layout of the scheme at 1:500 or 1:200, depending on size of the Works, showing in A1 size sheet the location of the Electricity Supply Authority (ActewAGL) substation, connection points, proposed cable routes.
- Connection point with Electricity Supply Authority (ActewAGL) Connection Approval Number shall be clearly marked on the plans and a copy of the "Electricity Supply Authority (ActewAGL) Design Information Approval Letter" included in the design report.
- Provide Iso lux diagrams as requested by TAMS for V category road lighting and both horizontal and vertical Iso lux diagrams for car park designs or wherever it is deemed to be required due to possible spill lighting from the proposed design.
- Provide selected lighting spacing table information to TAMS for P category lighting designs plan.

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- Asset Numbers issued by Street Light Maintenance Contractor (ActewAGL) to be clearly and unambiguously marked on the plans adjacent to the relevant assets.
- Certification by the lighting designer that layout conforms to required lighting levels and is in accordance with Chapter 12 of the Design Standards for Urban Infrastructure and AS 1158.
- Completed form from Attachment A to *Electricity Networks Management System Procedure No: En 4.04 P16 New Streetlights Design Information Requirements for Power Supply Connections*, ActewAGL 2004.

#### 7.5 Bridges and Associated Structures

- Bridge number obtained from the TAMS Asset Information unit including location of bridge number plates. (The bridge number shall be included in all Drawing Title-blocks).
- Structural and geotechnical design report and certification.
- General arrangement information e.g. form and dimensions of all major structural elements.
- Foundation details.
- Special foundation details such as the type of pile foundations.
- Detailed setting out.
- Reinforcement information.
- General arrangement for the provision of services in the structure.
- Detailed information regarding bridge guardrail.
- Bearing and expansion joint types.
- Surface finishes and sample board.
- Method of construction.
- Means of access to voids and bearings for inspection and maintenance.
- Draft maintenance and inspection manual.

#### 7.6 Stormwater

- Stormwater master plans on A1 and A3 size sheets showing contours, catchment boundaries and areas, cut-off drains, estimated flows and flow paths.
- Details of drainage proposals including cover levels, inverts, grades and sizes for any piped network.
- GPT detail design information and access track and work platform design detail.
- Water Sensitive Urban Design initiatives.
- Hydraulic structures.
- Easements

#### 7.7 Traffic Control Devices and Traffic Signals

- Design of permanent traffic control devices including signs and lines.
- Where new roads are to be provided, details of the opening of new road works to traffic.
- Traffic signal layout including post and lantern configuration, loop layout controller position and supply connection point.
- Guide sign inventory forms and asset numbers.

A formal submission of Traffic Control Devices shall include the following:

- a transmittal notice;
- one A1 hardcopy of the drawing;

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- two A3 hardcopies of the drawing, and
- a CD of the drawing in AutoCAD and pdf format.

### 7.8 Waste Management

For Works that include any Waste Management component, including bin collection pads, waste enclosures or changes in the number or arrangement for collections, the Consultant must certify the Submission as complying with the requirements of the *Development Control Code for Best Practice Waste Management in the ACT*.

#### 7.9 Landscape

#### 7.9.1 Soft landscape

- Landscape Management Protection Plan (LMPP).
- Cut and Fill Plan where trees are impacted.
- Readable Composite coloured Verge Plan on A1 size sheet including the itemising of all Landscape elements including tree location and canopy extent.
- Landscape plans and supporting drawings showing in detail the plant species
- Vegetation surveys undertaken by an accredited arborealist including vegetation condition and indicating vegetation proposed to be removed.
- Visual impact assessment if not previously assessed at the Planning or EDP Stage;
- Soft landscaping adjacent to open space.
- Treatment of mounds, verges, medians and batters, and a schedule of plant species.
- Clearances from other infrastructure and details of root barriers.

#### 7.9.2 Hard landscape

- Readable composite coloured Verge Plan on A1 size sheet including footpaths, driveways, all services, service ties, mini pillars, sumps, manholes, streetlights, parking and waste pads.
- Landscape plans and supporting drawings showing in detail the area and type of fencing, the paving areas and materials to be used, external lighting and associated water services.
- Irrigation, pedestrian paving, playground equipment, vehicle barriers, drainage and fencing adjacent to open space.
- Street and Park Furniture.
- Special structures such as barbeque areas.

#### 7.10 Buildings

- Drawings showing the structural system.
- Plans, elevations and sections of the proposed building types clearly showing ceiling and roof heights, construction methods and indicating typical details.
- Show all floor areas calculated to outside walls. Net floor areas shall also be provided for client information.
- Roof plan showing slopes, materials and penetrations.
- Plan showing any awnings or other encroachments over the adjacent land.
- Sections through the overall scheme to a scale of 1:100 or 1:50.
- Services point of entry for gas, water, electrical and data cabling.

#### 7.11 Services

• Site servicing drawings showing all hydraulic services, ground levels, floor levels, location of sumps and overland water flow, etc.

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- Confirmation from the service authority that the existing infrastructure can accommodate the new development.
- Location of existing trees relative to existing and proposed services.
- Show the location of all utility services, survey marks, structures, etc.
- Identify services to be relocated and/or abandoned as a consequence of implementing the Works.
- Details of alteration to existing services and the appropriate timing for these alterations in order to allow the Works to proceed on schedule.
- Existing public infrastructure and landscape dilapidation report.

#### 8 RISK ANALYSIS

Where specifically requested by TAMS, any risk analysis included in a Submission shall be submitted in accordance with the recommendations of AS4360: 2004.

#### 9 FINAL DESIGN APPROVAL

If the design elements are assessed as not complying with these Requirements, the Coordinator will be notified to this effect and the non-complying elements identified. The Coordinator may make the necessary changes to rectify the non-complying elements and resubmit the Submission. If the Coordinator is of the opinion that those elements identified as non-complying are in fact in accordance with sound engineering design principles and/or best engineering practices, the Coordinator may submit a report supporting and substantiating the original design.

Upon completion of the review process and the Submission being assessed as complying with these Requirements and the design elements complying with the Standards, a Certificate of Design Acceptance will be issued to the Applicant.

The Certificate will list the elements of the design that have been assessed and list the drawings and other documentation that comprise the Submission, including their revision status.

#### 10 REFERENCES

Development Control Code For Best Practice Waste Management In The ACT Urban Services September 1999. Available online at

http://www.tams.act.gov.au/\_data/assets/pdf\_file/0003/12495/wastemanagementplan.pdf

Design Standards for Urban Infrastructure Urban Services. Available online at <a href="http://www.tams.act.gov.au/work/standards">http://www.tams.act.gov.au/work/standards</a> and procedures/design standards for urban infrastructure)

*Ref-11 TAMS Drafting Standard*, Territory and Municipal Services. Available online at <a href="http://www.tams.act.gov.au/\_data/assets/pdf">http://www.tams.act.gov.au/\_data/assets/pdf</a> file/0003/34698/Ref-

11 TAMS Drafting Standard.pdf

Ref-04 Guidelines for the Protection of Public Landscape Assets adjacent to Development Works Territory and Municipal Services. Available online at

http://www.tams.act.gov.au/ data/assets/pdf file/0020/34706/Ref-

04 Protection of Public Landscape Assets.pdf

AS 1100 Technical Drawing Standards Australia

Think Water Act Water, ACT Government. Available online at <a href="http://www.thinkwater.act.gov.au/">http://www.thinkwater.act.gov.au/</a>
Electricity Networks Management System -Procedure No: En 4.04 P16 New Streetlights - Design Information Requirements for Power Supply Connections, ActewAGL 2004

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The Sustainable Transport Plan for the ACT, ACTPLA. Available online at <a href="http://www.tams.act.gov.au/move/sustainable">http://www.tams.act.gov.au/move/sustainable</a> transport/sustainable transport plan actions

#### **ATTACHMENTS**

Attachment A: Design Review Submission Cover Sheet – AA – SCS - 06

Attachment B: Document No. AA-DCL-06 Design Acceptance Submission Checklist

Attachment C: Design Checklists

Document Nos.AA-DCL-Roads-01(ext) Road Design Checklist

AA-DCL-Roads-02(ext) Pavement Plan Design Checklist

AA-DCL-Roads-03(ext) Traffic Safety and Amenity Design Checklist AA-DCL-Roads-04(ext) Bus Routes and Bus Stop Design Checklist AA-DCL-SW-01(ext) Stormwater Master Plan and Final Design

Checklist

AA-DCL-Waste-01(ext) ACT Waste Design Checklist

Attachment **D**: Documentation Requirements

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### **ATTACHMENT A:**



# Design Review Submission Cover Sheet - AA-SCS-06

# Requirements for Design Review Submissions Attachment A

Project Title											
Description											
Developer's/Client's details											
Name of the entity											
Address											
ontact person											
E-mall		Tel. nur	mber								
	Applicant	's detalls									
Company name		Contact	t person								
Company address											
E-mail		Tel. nur	mber								
These documents are sub	omitted for audit and comments or endorsement.										
	rdance with the design brief and have been prepared submission Requesting Design Acceptance (Ref 06		with the Requirem	ents detailed in Refe	rence Document AA-						
Note: The Submission must be complete and include all Civil, Landscape, TCD's and Public Lighting, and any other design elements of the Works. TCCS will not accept incomplete Submissions or Submissions from Individual Consultants for separate design elements of the Works. Where TCCS considers the Submission to be incomplete, the Applicant will be advised to this effect within five working days following receipt of the Submission and will be requested to collect the Submission from TCCS offices. Assessment will not commence until a complete Submission has been received.  Privacy Statement: Transport Canberra and City Services adheres to the ACT information Privacy Act 2014. As a general rule, the personal information that is provided to us is not passed on to other organisations or third parties without your written consent. However, your information may be provided to the ACT Civil and Administrative Tribunal or another court or tribunal if required by law. You can view our privacy policy on the About Us page of the Directorate's website (https://www.tccs.act.gov.au/about-us/privacy-policy-statement)											
Prepared by		Date									
Index			Yes	No O	Office use only						
Index			0	0	0						
•	levant consultants (Clause 6.1.1 and Clause 6.1.2)		0	0	0						
Project description (clause 6.2.2)											
Design standards (clause 6.2.3)											
Validation and verifica	ation of the design (clause 6.2.4)		0	0	0						
Draft construction sur	vellance plan (clause 6.2.5)		0	0	0						
Dilapidation report (cl	ause 6.1.6)		0	0	0						
Completed relevant to	o design checklists (clause 6.1.4)		0	0	0						
Drawing list and revis	ion (clause 6.1.5)		0	0	0						

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s per "Fees and charges Guideline to the industry" fees apply for the assessment of the 3rd and the following submissions.  Iffice use only  ompliance with documentation requirements of Reference Document 06								
t								
t								
t								
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### ATTACHMENT B: DESIGN ACCEPTANCE SUBMISSION CHECKLIST

Certifier:	Consultant:		
CHECK ELEMENTS	Compiles - Yes Compiles - No Not applicable	CHECK ELEMENTS	Provided - Yes Provided - No Not applicable
Design Reports Executive Summary provided Reason for the work clearly stated Location Plan provided List of Options evaluated Recommendation justified Design Assumptions listed Input factors detailed		Specifications Exception clauses Defects Liability Period 12 months Adequate control of customer supplied product	
Drawings and Diagrams Number of sets of plans Drawing numbers checked against Transmittal Submission form completed Drawings signed as checked Drawings signed as approved Drawings coloured as required Sheet sizes standard North points shown correctly ISO scales used and indicated All streets clearly identified Contour values readable Drawings readable and uncluttered Text font min.12pt on diagrams			
Certified as checked:			

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ATTACHMENT C : Roads Design Checklist Reference No: Project Title: Certifier: Consultant: compiles - Yes applicable CHECK ELEMENTS CHECK ELEMENTS Road Location Block boundaries and numbers Types/details Road names Transition matches Pavement Plan Radius on all kerb returns Limit of Works (chainages) Match to existing (chainages) TP markers List all road chainages Benchmarks Geometrics Contours Horizontal curves Sufficient contour values Vertical curves Rounding of contour values Transition curves Levels match contours Turning templates: design vehicles High/low points identified Radius of all curves Stations at horizontal TPs\* Typical Road Sections Correct cross falls Correct chainages Intersections Correct dimensions Verge slopes match cross sections Chainage at intersections Gradings Retaining walls shown RL at intersection matches profile Road names at intersection Intersections and roundabouts Chainages of centreline Cross sections Bench marks Sections match profiles Details Joints. Crossings Footpaths Footpaths Pram crossings at kerb Location Prams ramps at islands **Utilities Location** Sumps/pits match hydraulics Lighting Design Design certification ActewAGL approval Conduit provision Specification Design report Other authorities Clearances Iso Lux diagram Certified as checked: Signature: Date:

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Reference No:	Project Title:		
Certifier:	Consultant:		
CHECK ELEMENTS	Provided - Yes Provided - No Not applicable	CHECK ELEMENTS	Complies - Yes Complies - No Not applicable
Pavement Location Block boundaries and numbers Road names Limit of Works (chainages) Match to existing (chainages) List all road chainages			
Pavement Type Details Design ESA Subgrade CBR Notation Legend			
Crossings Vehicle crossings and notation Driveways Prams crossings at kerbs Prams ramps at islands			
<b>Kerbs</b> Bench marks Details			
Footpaths Location			
Certified as checked:			

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Reference No:	Project Title:			
Certifier:	Consultant:			
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CHECK ELEMENTS	Considered - Y Con sidered - N Not applicable	CHECK ELEMENTS	Considered - Y Considered - N	TWO upproved
Safety and Amenity Considerati Traffic volumes	ions			
Residential amenity speed				
• noise				
• glare				
Traffic Control Devices on road				
Driveway locations				
Access visibility Parking control				
Check for ratruns				
Counter measures for ratruns				
Intersections				
Safety at intersections Adequate turning circles				
Priority system-intersection contro				
Visibility at intersection				
Storage lanes				
Road furniture				
On-street parking Off-street parking				
Pedestrian provision				
HGV deliveries				
Access roads				
Taxi provision Bus provision				
Bus provision				
Contified an absoluted				_
Certified as checked: Signature	a:	Da	ite:	
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CHECK ELEMENTS	Compiles - Yes Compiles - No Not applicable	CHECK ELEMENTS	Compiles - Yes Compiles - No Not applicable
Bus Routes Road widths Pavement strength Bus stops on arterial roads Turning lanes Swept path Gradients Route efficiency		Bus Priority Measures Transponders Advance detectors Bus lanes Bus signals Transit lanes	
Bus Stops Peg Pole Timetable holder Sign Bench Disability access Lay-by Line marking Pedestrian hardstanding Sight lines Safety Shelter Location		Intersections Turning lanes Turning circles Swept path Lane widths Sight lines Bus priority Transponders Bus lanes Bus signals	
Interchanges Pavement strength Passenger services Bus operations Integration with road users Bike lockers		Taxis Ranks Line marking Signage Disability access Telephones Location	

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#### ATTACHMENT C: Stormwater Master Plan and Final Design Checklist Title: File No: Applicant: applicable applicable Compiles -Compiles CHECK ELEMENTS CHECK ELEMENTS Not Master Plan : Network Analysis Pipes Catchment areas Materials Design storm Alignment Design flows Joint type Velocity/depth ratio Size Retention/detention Class Velocity Cover Overland flow path Bedding Clearances/services Recurrence intervals Curvature pipes open channels Gradient Scour stops Final Design Road crossing angle Open Channels Service ties Gradient Velocity check Side slopes Structures Junction details Structures Back water effect Drop structures Flood levels Scour protection Manholes On-site detention (OSD) · flow path Above ground diameter lid type Below ground Calculations provided ladders Existing tie offset New tie depth · fall through **GPTs** Sumps Location type flow path Dewatering facility for major GPT special benching Tap connection for minor GPT step irons Davit facility for maintenance Certified as checked: Signature: Date:

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Reference No:	Project Title:		
Certifier:	Consultant:		
CHECK ELEMENTS	Compiles - Yes Compiles - No Not applicable	CHECK ELEMENTS	Compiles - No Not applicable
ESTATE DEVELOPMENT PLAN	s	PRECINCTS/CAPITAL WORKS	
Draft Implementation Plans Waste collection plans Slope and gradient plans		Preliminary Sketch Plan Current location of waste storage Proposed location of waste storage	$\exists$
Design Drawings Location of common collection points with dimensions Road cross sections		Final Sketch Plan/Detail Design Drawings Design drawings of waste storage facility Turning circles Demolition plan Re-use plan	
Draft Lease and Development Conditions - consistent with • waste collection plans • final design drawings • common collection points		Truck Routes Road widths Pavement strength Gradients	
Garbage Areas Screens Vehicle access Roof Drainage Diverter valve Gradients Bin locations		Intersections Turning lanes Turning circles Swept path Lane widths Sight lines	
Certified as checked:		Date:	

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## ATTACHMENT D: DOCUMENTATION REQUIREMENTS

Design Element	Residential/ Industrial Estate	Commercial	Industrial	Recreational Infrastructure	Community Facility	Transport Infrastructure	Drainage/ Water Harvesting/ Water Quality
Design Report	<b>✓</b>	✓	✓	<b>√</b>	<b>✓</b>	<b>~</b>	✓
Site Plan	<b>✓</b>	✓	<	~	<	<b>✓</b>	✓
Staging Plan	<b>✓</b>	✓	>	<b>✓</b>	~	<b>~</b>	✓
Detail Plan	✓	<b>✓</b>	<b>~</b>	~	<b>✓</b>	<b>✓</b>	✓
Road Hierarchy Plan	✓					✓	
Chainage Plan	<b>✓</b>					✓	
Road Longitudinal Sections	<b>✓</b>					✓	
Typical Sections	<b>✓</b>	<b>✓</b>	<b>✓</b>			<b>✓</b>	✓
Pavement Plan and Details	<b>✓</b>	✓	<b>✓</b>	<b>✓</b>	✓	✓	
Vehicular Turning Paths	<b>✓</b>	✓	✓			✓	
Road Details Plan	✓	✓	✓		✓	✓	
Public Transport and Footpath	Plan 🗸	✓	✓	✓	✓	✓	
Parking Plan	<b>✓</b>	✓	✓		✓		
Waste Collection Plan	✓	✓	✓	✓	<b>✓</b>		
Road Cross Sections	✓	<b>✓</b>	<b>✓</b>			<b>√</b>	
Traffic Control Devices	✓	✓	✓	✓	✓	✓	
Kerb Profiles	✓	✓	✓			✓	
Shared Trench Management P	lan 🗸	✓	✓				
Traffic Control Devices	<b>✓</b>	✓	✓			✓	
Standard details of structure	s 🗸	✓	✓	✓	✓	✓	✓
Bridge/Culvert design	<b>✓</b>	✓	✓			✓	✓
Stormwater Master Plan	✓	✓	<b>✓</b>			✓	✓
Sewer Master Plan	✓	✓	<b>✓</b>		✓		
Water Master Plan	✓	<b>✓</b>	<b>✓</b>		✓		
Services Plan	<b>✓</b>	✓	✓				
Tree Impact Plan	<b>✓</b>	✓	✓	✓	✓	✓	✓
Landscape Plan	<b>✓</b>	✓	✓	✓	✓	✓	✓
Tree Management Plan	<b>✓</b>	✓	✓	✓	✓	✓	✓
Bushfire Protection Measures (	as 🗸	✓	✓				

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