

# **AUS-SPEC**

Infrastructure Specifications

0044 Pathways and cycleways (Design)

# 0044 PATHWAYS AND CYCLEWAYS (DESIGN)

IMPORTANT: This document has been adapted from the NATSPEC suite of specification templates for use in the Cessnock City Council area by both Council and industry. NATSPEC regularly updates the base templates (currently in April and October each year), and Council may incorporate changes into its version of AUS-SPEC from time to time. To assist in highlighting any changes made by Council to the NATSPEC templates, the following conventions are used.

- See ANNEXURE M at the end of this document which contains (where practical) Cessnock City Council customisations (also known as 'office master' text). References to the Annexure are to also be inserted at relevant clauses in the main body of the document.
- Where content is added to the main body of the document, it is to be shown in brown text
  like this.
- Where content is deleted or excluded from the main body of the document, it is to be shown struck through like this. Such clauses are to have no effect.

Where there is a conflict between main body text and Cessnock City Council specific clauses, Council's specific clauses shall prevail.

## 1 GENERAL

## 1.1 INTRODUCTION

## **Worksection application**

Description: This worksection is applicable to the design and documentation requirements for various types of cycleways and pathways. It is not applicable to paths and cycleways in complex intersections, roundabouts or railway crossings.

## 1.2 RESPONSIBILITIES

## General

Requirement-Objectives: Provide design and documentation for cycleways and pathways that:

- are connected, accessible and easy to maintain.
- Encourage walking and cycling for transportation, healthy lifestyle and recreational purposes.
- Provide safe walking and cycling, including for users with disabilities and limited mobility.
- Ensure satisfactory level of service for all pathway users.

# 1.3 CROSS REFERENCES

## General

Requirement: This is not a self-contained design document, conform to the following worksection(s):

- 0010 Quality requirements for design.
- 0041 Geometric sealed road design.

## 1.4 STANDARDS

# Design

General: To Austroads AGRD06A (2017) and AS 3727.1 (2016).

Cycleways: To Austroads AP-G88 (2017). Walking tracks: To AS 2156.1 (2001).

## Reference:

- ARRB Best Practice Guide 3 (2020) Sealed roads.
- IPWEAQ Street Design Manual (2020) Walkable neighbourhoods.
- WA Gov Guide (2016) Planning and designing for pedestrians: Guidelines.

## 1.5 INTERPRETATION

### **Abbreviations**

General: For the purposes of this worksection the following abbreviations apply:

- ARRB: Australian Road Research Board.
- CBR: California bearing ratio.
- GFRP: Glass fibre reinforced polymer.

## **Definitions**

General: For the purposes of this worksection the following definitions apply:

- Bicycle path (cycleway): A path or path section intended for the exclusive use of cyclists, generally referred to as an exclusive bicycle path.
- Footpath (pathway): A public way reserved for the movement of pedestrians, motorised wheelchairs and personal mobility devices.
- Gradient: The longitudinal slope of a road or path, usually represented as a ratio of one metre rise to the horizontal distance (e.g. 1:50) or expressed as a percentage (e.g. 2%).
- Ramp: An inclined access way that has a constant gradient anywhere between 1:14 and 1:20.
- Separated path: A path divided into separated sections one of which is designated for the exclusive use of cyclists and an alternate section for other path users.
- Shared path: A paved area particularly designed (with appropriate dimensions, alignment and signing) for the movement of cyclists and pedestrians.

## 2 PRE-DESIGN PLANNING

## 2.1 PLANNING

# Scheme and planning development

Initial appraisal: Determine the scheme requirements in compliance with the DA consent conditions, Council's objectives and strategy/policy and planning documents. Factors to consider in the appraisal include the following:

- The urban structure of the development.
- Population density.
- Terrain.
- Provision hierarchy of roads, paths, cycleways (shared or segregated) and links.
- Existing transport/infrastructure routes/network and location of centres.
- Existing levels of use, public demand and user profile.
- Community priorities.

Site assessment: Examine the physical conditions along potential routes and their surrounds to test, inform and prioritise options under consideration. Record the assessment information for the following:

- Record of baseline information.
- Identifying potential problems, especially those that may affect the scheme viability.
- Identifying key design issues for pedestrians and cyclists.
- For future auditing and justification of the scheme.

Existing physical conditions: Physical conditions to consider in the site assessment include:

- Gradient.
- User flows and frontage activity (development activity adjacent to the path, e.g. commercial buildings).
- Route continuity which may affect length of route corridor and path/road transitioning requirements.
- Surface type and condition, level of lighting, vegetation and stormwater drainage.
- Identify possible conflicts with services such as sewer, water and optical fibre. Consider impacts during construction such as vibratory compaction.
- Width and clearances of routes.

## 2.2 ENVIRONMENTAL INVESTIGATION AND PLANNING

# **Existing building structures**

Records: Obtain drawings of existing structures along and adjacent to the planned routes in the development area/precinct.

Dilapidation reports: Inspect existing structures along and adjacent to the planned routes in the development area/precinct. Prepare a report on the condition of the structures affected by the development, including photographic records of any defects.

# **Existing vegetation**

Requirement: Assess existing vegetation, to establish the following:

- Vegetation for retention.
- Vegetation for relocation.
- Vegetation for removal.

# **Development precinct investigation**

Requirement: Prepare a survey and geotechnical report to establish locations of site features, levels and grade, and soil conditions.

# Potential environmental impacts

Requirement: Check the development area/precinct for potential environmental impacts such as the following:

- Heritage items.
- Preservation of visual values.
- Endangered species requiring protection.
- Wildlife habitat.

Details of potential impacts: If there are potential impacts, provide details of the issues and proposed control measures for minimising the impact and protecting the surrounding environment before starting design. This may be in the form of an environmental impact statement (EIS), to be included in the Design report.

Heritage items

Heritage considerations: Review the DA consent conditions, State Heritage Register, Aboriginal Heritage Information Management System (AHIMS), and Council's Local Environmental Plan for potential impacts on heritage items.

# 2.3 CONSULTATION

## Council and other authorities

Council consultation: Liaise with the Council's officer(s) for the following:

- Adopted pedestrian and cyclist route and strategic plans.
- Roads and traffic management.
- Landscaping and streetscape.
- Stormwater drainage.
- Structures.
- Environmental management.
- Geotechnical conditions.
- Subdivision and planning.

Other authorities: Consult with and seek approval for the scheme development from the following state government authorities:

- Transport for NSW (formerly Roads and Maritime) in relation to potential interfaces with railways, classified roads, traffic signals or other public transport modes.

## Other stakeholders

Stakeholder involvement: Engage with interested parties such as local community groups early in the design. As appropriate for the scheme, consult the following parties:

- The police, through Council's Local Traffic Committee.
- Statutory undertakers.
- Local residents and businesses.

- Developers of proposed new developments/schemes.
- Current users of the land.
- Groups representing disabled people (including disabled cyclists).
- Rehabilitation/mobility officers for blind and partially sighted people.
- Disability/access officers within the local authority.
- Education authorities.
- Cycle and pedestrian user groups.
- Residents' associations.
- Local environmental and amenity groups.
- Public transport operators.
- Chambers of commerce.

#### **Public consultation**

Public engagement: Once a basic scheme has been developed, undertake public consultation to the Council's requirements.

## Utilities services plans

Existing services in the development area/precinct: Liaise with the utility authorities affected by the proposed development and if required, obtain service plans from the authorities of the proposed development area for above ground and below ground services.

Location of subsurface utilities: To AS 5488.1 (2022) and AS 5488.2 (2022). Contact BEFORE YOU DIG AUSTRALIA to identify the locations of underground utility services pipes and cables.

Note: BEFORE YOU DIG AUSTRALIA is a free service, from anywhere in Australia, for identifying underground pipe and cables. See www.byda.com.au. It only provides information on utility services (power, water, gas and telecommunications) and not all utility service operators are part of the scheme. The plans provide information about the presence of a service, not the exact location.

## 3 DESIGN CRITERIA

## 3.1 GENERAL

Statutory requirements

## Not used

# Safety in design

Requirement: Provide a design that allows for safe construction, operation and maintenance, and demolition in conformance with statutory requirements.

## 3.2 LOCATION OF PATHS

# Required path properties

Requirement: Locate the pathways and cycleways to meet the following criteria for the development:

- Connectivity: Including measures such as accessibility (for people with disabilities to programs, services and activities), distance and directness, reliability, and connection to infrastructure and key destinations.
- Comfort and perception of safety: Compliance with regulations and codes, and minimisation/elimination of potential threats.
- Convenience: Easy and safe access without delay and barriers.
- Demand and level of service: Travel patterns, current and potential future walking and bicycling activity. Worn tracks may indicate existing desire lines for pedestrian and cyclist traffic.
- Environmental impact minimisation: Including impact on air quality, water, wetlands, noise and wildlife habitat.
- Equity: Accessibility without discrimination.
- Safety: To minimise potential accidents and maximise security.
- Visibility: If paths can be easily identified or located.

## Possible path locations

Requirement: Consider the following locations in the development:

- Along river frontages.
- Within foreshore areas.
- Through parklands.
- Along railway reservations.
- Connections to public transport.
- Abutting bridges.
- Within the reservations of streets which have direct access to property.

# **Design considerations**

Factors for determining path locations: Consider the following when locating pathways and cycleways:

- Horizontal alignment and sight lines: Locate paths to provide good sight lines along the whole length
  of the path for safe travel, including adequate sight distance across the inside of curves and under
  overhead obstructions.
- Vertical alignment: The gradient along paths (especially for cyclists) should be as flat as possible, as steep downgrades are potential hazards for cyclists travelling at high speeds.
- Align paths to allow cyclists to travel safely at their chosen speed.
- Horizontal curvature: Avoid sharp horizontal curves at the bottom of steep downgrades.
- Crossfalls and drainage: To minimise ponding.
- Adequate clearances: For example, between opposing traffic, between the cyclist operating spaces and potential hazards such as pedestrian conflicts.
- Access for emergency service and maintenance vehicles at path entrances.
- Landscaping and planting.
- Expansion and contraction (saw cut) joints, dowelling: refer to Council's standard drawings.

Location of pathways and cycleways in road reserves: The following are permitted for the development: As required by the DA consent conditions.

Reference: Austroads AGRD06A Table 5.1 provides further guidance on the choice of path alignment in road reserves.

# 3.3 PATHWAY AND CYCLEWAY FEATURES

## General

Standard drawings: detail footpaths, cycleways and kerb ramps to Council's standard drawings. Path design life or technical service life: Where a non-standard design or material is proposed, the design life is to be generally 20 years, or as required by the DA consent conditions.

## Cycleway and pathway types

Cycleway type: Both on-road and off-road cycleways may be considered for new developments and retrofitting within existing roadways or public open space.

- On-road cycleways: Includes wide kerbside lanes, shared traffic lanes, exclusive bicycle lane or sealed shoulder.
- Off-road cycleways: Includes shared use bicycle/pedestrian pathway, separated pathway or exclusive cycleway.

Reference: Austroads AP-G88 provides detailed descriptions and requirements such as warrants, widths and pavement marking for the majority of cycleways.

Complementary land uses: Pathways may diverge from the road alignment either within the road reserve or across land reserves, and may be provided in conjunction with overland floodways or retention basins.

Reference: Refer to Austroads AP-R410 for more information about cycleways on sealed roads with speed limits of 70km/h or more.

Footpath requirement: Provide footpaths for new developments in accordance with DA consent conditions, or if none are specified, Council's Development Engineering Handbook. Note: Unlike pathways, footpaths are located generally off-road adjacent to roadways.

# Pathway/cycleway features table

| Feature                                 | Shared path   | Separated paths                             |                                |                     |                                |
|---|---|---|--------------------------------|---------------------|--------------------------------|
|   |   | One-way                                     |                                | Two-way             |                                |
|   |   | Pathway                                     | Cycleway                       | Pathway             | Cycleway                       |
| Minimum path<br>width                   | 2.5 m 2.0 m<br>(sharedway)<br>2.5 m<br>(cycleway)   | <del>1.2 m</del> 1.5 m                      | <del>2.0 m</del>               | <del>1.5 m</del>    | <del>2.0 m</del>               |
| Minimum vertical clearance <sup>a</sup> | 2.5 m   | 2.0 m<br>(absolute)<br>2.4 m<br>(desirable) | <del>2.5 m</del>               | <del>2.0 m</del>    | <del>2.5 m</del>               |
| Crossfall                               | ≤ 2.5%b   | ≤ 2.5% <sup>b</sup>                         | Sealed<br>surfaces: 2 to<br>4% | ≤ 2.5% <sup>b</sup> | Sealed<br>surfaces: 2 to<br>4% |
|   |   |   | Unsealed surfaces: 5 %         |                     | Unsealed surfaces: 5%          |
| Gradient                                | 1:14 – 1:20 to the<br>NCC cited<br>AS 1428.1 (2009) |   | ≤ 5%                           | 1:14 – 1:20         | <u>≤ 5%</u>                    |

a. Including tree branches, underpasses, doorways, signs and other overhead structures

Reference: Austroads AGRD06A (2017) clause 5.1 provides more information on width of paths and also provides Tables and Figures showing requirements for roadside alignment, safety bollards heights, holding rail heights, gradients for wheeling ramps, bicycle operating speeds, lighting, special requirements for bicycle paths and pedestrian paths at intersections with main roads and/or bridges.

# Other pathway/cycleway features

Minimum radius for horizontal curves for cycleways and shared pathways: Allow for the following:

- Without superelevation: To Austroads AGRD06A (2017) Tables 5.6.
- With superelevation: To Austroads AGRD06A (2017) Table 5.7.

Stopping sight distance for cycleways and shared pathways: To Austroads AGRD06A (2017) clause 5.7.

Provision at road crossings: Design and construct road crossings with appropriate grades, width adjustment for waiting areas and kerb ramps at road crossings including Tactile ground surface indicator (TGSI) placement as per AS/NZS 1428.4.1 (2009). Provide crossing devices, markings and treatments in line with AGRD06A clause 7.

Provision of pram/kerb ramps: To AS/NZS 1428.4.1 (2009). Install TGSI 300 mm from the hazard which is the road.

Minimum lateral clearances for cycleways: Allow for the following clearances between opposing bicycle operating spaces and cyclist operating spaces and potential hazards:

- Relatively flat paths: 0.5 m between the edge of cycle path and obstacle.
- Recreation paths with speed ≤ 20 km/hr: 0.4 m between opposing bicycle operating spaces.
- Paths for commuting and major recreational activity: 1.0 m between opposing bicycle operating spaces.

## Landscaping and stormwater drainage

Requirement: Locate, design and construct path and associated stormwater drainage measures to minimise future maintenance. Design considerations include the following:

- Measures to minimise debris washing onto paths.
- Locating paths adjacent to watercourses to prevent inundation, to minimise slippery surfaces.

Water sensitive urban design (WSUD): Comply with any DA consent conditions and Council's WSUD policies for the management of stormwater runoff from the pedestrian/cyclist facility, and/or co-location

b. It is assumed that the surfaces for these paths will be sealed to accommodate wheelchair access.

of WSUD facilities for adjoining subdivision developments within the public shared access corridor.: Include the following principles/measures in the development scheme:

Landscaping: Provide landscaping as required by the DA consent conditions and approved landscape principles plans. Consider the role of landscaping associated with paths in the development, e.g. windbreaks, aesthetics (to soften the environment), providing visual cues or shorelines adjacent to paths to guide the visually impaired, water sensitive urban design, to control line of sight, providing shade or refuge and traffic management.

## Safety

References: Refer to Austroads AP-R287 (2006) for more information on safety issues. Include special Council requirements for bollards, handrails, grab rails, tactile indicators or kerb ramps. Refer to Austroads AGRD06A (2017) clause 7.5.2 for information on terminal design.

Maximum bicycle operating speed: Ensure that where bicycle speeds diverge from pedestrian speeds, conflicts are managed, preferably by separating travel paths and providing ample sight distances. Average bicycle speeds on shared paths along flat gradients may exceed 35 km/h (10 m/s) and on moderate downslopes 50 km/h (14 m/s) or greater. Consider speed restrictions for busy, shared paths for pedestrian safety.

Refer to Austroads AGRD06A (2017) clause 5.2 for maximum operating speed recommendations for bicycles.

Pedestrian walking speed: Allow for walking speed of 1.0 to 1.2 m/s.

## Ramp and footpath landings table

| Type of path                             | Longitudinal gradient | Landing requirement |
|--|-----------------------|---------------------|
| Ramp and footpaths with gradients > 1:20 | 1:14                  | Every 9 m           |
|  | 1:20                  | Every 15 m          |
| Footpath <sup>a</sup>                    | 1:20                  | Every 15 m          |
|  | 1:33                  | Every 25 m          |
|  | Flatter than 1:33     | No landing required |

## Disabled access

Compliance: To the NCC cited AS 1428.1 (2009), Council's policy on access and mobility and the *Disability Discrimination Act 1992 (Cth)*.

Warning tactile ground surface indicators (TGSIs): Provide at the top and bottom of ramps and stairs and at kerb ramps at road crossings to AS/NZS 1428.4.1 (2009).

Way finding signs: To AS 1428.4.2 (2018).

## **Provision at structures**

Uninterrupted movement: Facilitate continuous cyclist and pedestrian movement at proposed and existing structures, including at bridges and underpasses, roads or railways.

## Signage and pavement marking

Signposting: Provide signposting to indicate destinations and potential hazards.

Reference: For more information on signposts and path markings, see Austroads AGTM10 (2020).

Signs and pavement marking: To AS 1742.9 (2018) and AS 1742.10 (2009).

## Pavement design

Structural design: To Austroads AGPT02 (2017), Section 12.

Grates and covers: Flush with the adjacent path.

Design traffic loading: [complete/delete]

## Concrete pavement joints

Layout, type, spacings and widths: To AS 3727.1 (2016) clause 5.4.

Control of cracks: To CIA Z15 (2011).

Expansion joints: Maximum 12 m spacings with dowels as documented for load transfer for pavements 100 mm thick or greater.

Control joints: Joint spacings or slab panels to a maximum aspect ratio of 1:1.5 (no greater than 1.5 times the width of the path) and equally spaced between expansion joints.

Joints around existing services: Locate control joints at corners of manhole covers, utility pits, reentrant corners, posts, planter boxes and any other services that act as a slab restraint.

Additional joint and pavement material requirements for marine and aggressive environments:

- All load transfer dowel bars to be stainless steel or GFRP.
- Substitute steel reinforcing with synthetic fibres if structural design permits this alternative.
- Substitute steel proprietary joint systems for a corrosion-free proprietary joint system.

## 3.4 PATH FACILITIES

### **Facilities**

Requirement: Include in the development scheme, design proposals for the following facilities, including at common cyclist and pedestrian destinations:

- Street furniture including seats, bins, drinking fountains and telephones.
- Waiting areas.
- Secure bicycle parking facilities and devices to Austroads AP-G88 (2017), Austroads AP-R527 (2016) and AS 2890.3 (2015).
- Picnic facilities and viewing platform facilities.
- Information stands/direction signs.
- Bicycle wheeling ramps.
- Bus stop shelters.

## Lighting and lighting support structures

Generally: To AS/NZS 1158.3.1 (2020) and AS 1798 (2014).

Underpasses: To AS/NZS 1158.5 (2014).

### 3.5 MATERIALS

### **Environmental considerations**

Trees policy: When designing and selecting the path and surrounding materials, consider the Council's existing or planned tree planting requirements to minimise future maintenance and environmental impact. Factors to consider include the following:

- Location of vegetation, distance from the path.
- Type of vegetation and their root system requirements to minimise branch trimming and pavement deformation and cracking, e.g. loose materials may be used to allow root system expansion.
- Path surface slip resistance.
- If excavations for the new pavements are likely to occur near existing trees, suggest implementing a tree root protection system during the construction process.
- Where a change in moisture infiltration to existing tree roots will result from proposed hard surfaces, specify permeable pavements instead.

Recycled construction materials: Council may consider use of local waste materials or recycled construction materials, such as recycled concrete and crushed glass for pavement subbase application or recycled plastic reinforcement for in situ concrete pavement.

Reference: Refer to Austroads AGPT04E (2022) and IPWEA PN 13 (2023) for circular economy and the use of recycled materials in infrastructure assets for more information. Refer to Austroads ATS 3050 (2022) for the supply of recycled crushed glass sand.

# Subgrade

CBR value for the subgrade: To the geotechnical investigation report.

Reference: Refer to Austroads AGPT02 (2017) Section 5 for more information on subgrade evaluation methods. Typical presumptive subgrade design CBR values for different soil classification can be obtained from Austroads AGPT02 (2017) Table 5.4. Refer to AS 1726 (2017) for soil classification.

## **Pavement**

Type: Subject to DA consent.

Materials: Subject to DA consent.

## **Maintenance considerations**

Requirement: Nominate low maintenance materials for path surface, pavements and street furniture to suit the exposure conditions and durability requirements of the development.

Protection of materials: Allow for material protection methods to suit the durability requirements. Other criteria

Not Used

Reference: If specifying plantation timber or certified hardwood, see <a href="www.forestrystandard.org.au">www.forestrystandard.org.au</a> for information on AFS certification to AS 4708.

## 4 DOCUMENTATION

## 4.1 STATUTORY DOCUMENTATION REQUIREMENTS

## **Approvals**

Requirement: Document any prerequisite for approval of the development advised by the following authorities listed at clause 2.3 Consultation, including::

- Transport for NSW for classified roads, or Crown Lands for crown roads not under Council's jurisdiction affected by the development.
- Transport for NSW or the relevant rail authority where pathway/cycleway connects and/or intersects with a public transport facility.
- Planning department for general land use and layout proposals.
- Utilities authority for any public or private utility affected by the development.
- Private precinct authority for pathways/cycleways which transverse the precinct.

## 4.2 DRAWINGS

## **Drawing content**

Requirement: Provide the following drawings to describe the development (scales given are at A1):

- Locality plan.
- Site plans showing cycleways and pathways at 1:500 scale.
- Part plans at 1:200 scale, showing merging details of new cycleways and pathways with existing roads.
- Concrete pavement joint layout marking plans 1:100, showing joint types, spacings and details around service utilities and existing structure.
- Longitudinal sections at the following scales:
  - . Horizontal section: 1:500.
  - . Vertical section: 1:50.
- Cross sections at 1:100 scale. Provide transition tables if crossfalls vary.
- Design traffic loading and design CBR value for the natural subgrade material.
- Details of typical cross sections including pavement materials, pavement layer depths, edge details and details of any retaining walls, batters, fences and drainage works at 1:20 scale.
- Typical details of expansion joints, contraction joints, control joints, construction joints and joints to existing pavements. Show details of additional joints at drainage pits, light poles and bollards. At each typical joint detail clearly show the joint type material and joint sealants.
- Details of handrails, bollards, street furniture, light poles and traffic signalling posts at 1:10 scale.
- Traffic management plan. A Traffic management plan is required if the existing vehicle or pedestrian traffic is likely to be disturbed during the construction of the new pathway or cycleway.

## **Design drawing format**

Format required: PDF at A1 (preferred) or A3 (for minor works). Hardcopies if requested by Council.

# 4.3 SUPPORTING DESIGN DOCUMENTS

## **Design reports**

Requirement: Provide a design report covering the following:

- Design criteria adopted for the development design.
- Site investigation reports supporting the design.
- Safety in design report.
- Any additional requirements including, Traffic management plan, not covered by drawings.

## **Specifications**

Construction documentation: Prepare technical specifications using the AUS-SPEC Construction worksection templates from the National Classification System workgroups 02, 03, 11 and 13.

# **Design certification**

Certificate: Provide a signed and dated design certificate as evidence that a suitably qualified professional has reviewed all the design documents, including program and plans for the development, and can verify that the designed cycleways and pathways for the development site meet the Council and statutory requirements. Use the template provided in the **0010 Quality requirements for design** worksection.

## 4.4 WORK-AS-EXECUTED

### Work-as-executed documents

Work-as-executed drawings: Provide an additional set of final construction drawings for the purpose of recording the work completed by the Contractor.

Work-as-executed drawing format: in open digital (not requiring specific software) CAD format (DXF), as well as DWG and PDF copies.

Data format: To Austroads AP-R673 (2022).

# Final certification of completed works

Requirement: See Clause M3 in regard to the completion and handover process.

## 5 ANNEXURE A

## 5.1 ANNEXURE - REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

| ine following accomments are | nicorporat | ca into this workscotton by reference.   |
|------------------------------|------------|--|
| AS/NZS 1158                  |            | Lighting for roads and public spaces   |
| AS/NZS 1158.3.1              | 2020       | Pedestrian area (Category P) lighting - Performance and design                                       |
|                              |            | requirements   |
| AS/NZS 1158.5                | 2014       | Tunnels and underpasses  |
| AS 1428                      |            | Design for access and mobility   |
| AS 1428.1                    | 2009       | General requirements for access - New building work  |
| AS/NZS 1428.4.1              | 2009       | Means to assist the orientation of people with vision impairment - Tactile ground surface indicators |
| AS 1428.4.2                  | 2018       | Means to assist the orientation of people with vision impairment - Wayfinding signs                  |
| AS 1726                      | 2017       | Geotechnical site investigations   |
| AS 1742                      |            | Manual of uniform traffic control devices  |
| AS 1742.9                    | 2018       | Bicycle facilities   |
| AS 1742.10                   | 2009       | Pedestrian control and protection  |
| AS 1798                      | 2014       | Lighting poles and bracket arms - Recommended dimensions   |
| AS 2156                      |            | Walking tracks   |
| AS 2156.1                    | 2001       | Classification and signage   |
| AS 2156.2                    | 2001       | Infrastructure design  |
| AS 2890                      |            | Parking facilities   |
| AS 2890.3                    | 2015       | Bicycle parking  |
| AS 3727                      |            | Pavements  |
| AS 3727.1                    | 2016       | Residential  |
| AS 5488                      |            | Classification of Subsurface Utility Information (SUI)   |
| AS 5488.1                    | 2022       | Subsurface utility information   |
| AS 5488.2                    | 2022       | Subsurface utility engineering (SUE)   |
| AUS Gov Act No. 135          | 1992       | Disability Discrimination Act 1992   |
| Austroads AGPT               |            | Guide to pavement technology   |
| Austroads AGPT02             | 2017       | Pavement structural design   |
| Austroads AGRD               |            | Guide to road design   |
| Austroads AGRD03             | 2016       | Geometric design   |
| Austroads AGPT04E            | 2009       | Recycled materials   |
| Austroads AGRD06A            | 2017       | Paths for walking and cycling  |
| Austroads AP-G88             | 2017       | Cycling aspects of Austroads Guides  |
| Austroads AP-R287            | 2006       | Pedestrian-Cyclist conflict minimisation on shared paths and footpaths                               |
|                              |            |  |

| Austroads AP-R410     | 2012 | Cycling on higher speed roads   |
|-----------------------|------|---|
| Austroads AP-R527     | 2016 | Bicycle parking facilities: Guidelines for design and installation                        |
| Austroads AP-R597     | 2019 | Data Standard for Road Management and Investment in Australia and New Zealand Version 3.0 |
| Austroads AP-R673     | 2022 | Austroads road asset data Standard  |
| CIA Z15               | 2011 | Cracking in concrete slabs on ground and pavements  |
| IPWEAQ                | 2010 | Complete Streets: Guidelines for Urban Street Design                                      |
| Cessnock City Council |      | Development Engineering Handbook  |

# 6 ANNEXURE M – CESSNOCK CITY COUNCIL SPECIFIC CLAUSES

| M1. | Variations to or non-conformances with Council's AUS-SPEC are to be evaluated with reference to the procedure in Council's <i>Development Engineering Handbook</i> . Acceptance is to be obtained in writing from: | Variation procedure |
|-----|--|---------------------|
|     | <ul> <li>a) an authorised representative of Council's Director of Infrastructure<br/>and Engineering Services.</li> </ul>  |                     |
| M2. | This specification applies in addition to any development consent (DA) conditions. If there is any inconsistency, the conditions of consent shall prevail.   | DA<br>Conditions    |
| M3. | Refer to the Cessnock City Council Development Engineering Handbook for final inspection, works-as-executed and handover requirements.   | Completion          |

# 7 AMENDMENT HISTORY

| 0 | 2024 | First Published |
|---|------|-----------------|
|---|------|-----------------|