

## Chapter B3 – Engineering Requirements for Subdivision and Development

### 1.0 Introduction

#### 1.1 Scope of this Chapter

This chapter applies to all land in the Kempsey Shire local government area.

This chapter applies to all subdivision and development where engineering/civil work is to be undertaken in conjunction with the proposed development.

#### 1.2 Relationship to Other Chapters of this DCP

The provisions contained in Chapters included in Parts C, D, E and F of this DCP override the provisions of this Chapter to the extent of any inconsistency.

### 2.0 Chapter Objectives

The objectives of this Chapter are:

- a) To adopt a Design and Construction Development Specification series prepared in consultation Council's Infrastructure Services Department.
- b) To provide developers, their agents, consulting Surveyors/Engineers and Civil Contractors with Council's minimum requirements for the design and construction of all civil works to be undertaken in the Kempsey Shire local government area.
- c) To provide a degree of certainty to developers, their agents, consultant Surveyors/Engineers and Civil Contractor as to Council's minimum requirements for design and construction of civil works.
- d) To encourage more innovative subdivision design, efficient site usage, and minimize the cost of urban infrastructure and servicing in a manner that maintains equal access to public infrastructure, given the physical limitations of any one site and the provisions of Kempsey Local Environmental Plan 2013 and other Chapters of this DCP.
- e) To minimize Council's costs associated with maintenance of future public infrastructure.
- f) To employ ameliorating measures sufficient to reduce the impact of development on the existing natural and man-made environments.
- g) To limit development in the Kempsey Shire to development that complies with the provisions of Council's *Flood Risk Management Policy* and plans.
- h) To streamline the existing approvals process under the *Environmental Planning and Assessment Act 1979* (issue Construction Certificates by Council), the *Local Government Act 1993* (Section 68 approvals by

Council) and the *Roads Act 1993* (Section 138 approvals by Council) for civil engineering work associated with subdivision and development in accordance with Council Policy No.60 – Guide for Certification of Civil Engineering Design Work.

### 3.0 Relationship to Other Documents

Kempsey Local Environmental Plan 2013 contains certain requirements for acid sulphate soils, earthworks, flood planning, essential services and other matters that this chapter addresses. The development requirements of KLEP 2013 override the development requirements of this chapter, to the extent of any inconsistency. A copy of [KLEP 2013](#) is available on Council's website.

Some issues associated with the engineering requirements are addressed by Council Policies. References to Council Policies will be made throughout this Chapter. A copy of [Council Policies](#) is available on Council's website. The Council Policies applicable to engineering requirements, at the time of adoption of this DCP, are:

- Management Policy No. MPOL-9: Receipts, issue of;
- Management Policy No. MPOL-34: Signs as Remote Supervision;
- Management Policy No. MPOL-53: Access to Rural Subdivisions;
- Management Policy No. MPOL-54: Maintenance of Subdivisions, Security Deposits, Bonds and Bank Guarantees;
- Management Policy No. MPOL-29: Public Gates and Public Grids;
- Council Policy No. CPOL-02: Accounts: Plant Hire and Private Works;
- Council Policy No. CPOL-28: Contribution to Works for Kerbing and Guttering;
- Council Policy No. CPOL-57: Public Notification Policy;
- Council Policy No. CPOL-43: Flood Risk Management Policy;
- Council Policy No. CPOL-47: Parking Code;
- Council Policy No. CPOL-60: Guide for Certification of Civil Engineering Design Work;
- Policy No 1.2: Lands under Kempsey Shire Council Jurisdiction;
  - Procedure 1.2.6: Management of Leases and Licenses;
- Policy No. 3.1: Roads Policy;
  - Procedure No 3.1.1: Road Naming;
  - Procedure No 3.1.2: Street Lighting;
- Policy No. 3.3: Water Supply Policy; and
  - Procedure No 3.1.6: Water Restrictions.

Development Contributions will be triggered by development applications, through

- Current Section 94 Contribution Plans; and
- Current Section 64 Development Service Plans.

A copy of Council's [Contributions Plans](#) are available on Council's website and will need to be reviewed to determine their applicability to each development application.

Detailed engineering design and construction requirements for development are contained in [Council's Engineering Guidelines for Subdivision and Development](#), a

copy of which is available on Council's website. Council's Engineering Guidelines for Subdivision and Development are broken down into the following components:

a) Design

This section contains the minimum design requirements for the following works:

- (i) Geometric road Design for Rural and Urban areas
- (ii) Pavement Design
- (iii) Structures/ Bridge design
- (iv) Subsurface Drainage Design
- (v) Stormwater Drainage Design
- (vi) Site Re-grading
- (vii) Erosion Control and Stormwater Management
- (viii) Waterfront development
- (ix) Cycle-way and Pathway Design
- (x) Bushfire protection
- (xi) Water Reticulation
- (xii) Sewerage System
- (xiii) Landscaping

b) Construction

This section contains the minimum construction requirements for the following works:

- (i) General
- (ii) Control of Traffic
- (iii) Control of Erosion and Sedimentation
- (iv) Clearing and grubbing
- (v) Earthworks
- (vi) Stormwater Drainage – General
- (vii) Pipe Drainage
- (viii) Pre-cast Box Culverts
- (ix) Drainage Structures
- (x) Open Drains including kerb and gutter
- (xi) Subsurface Drainage – General
- (xii) Subsoil and foundation Drains
- (xiii) Pavement Drains
- (xiv) Drainage Mats
- (xv) Stabilization
- (xvi) Flexible pavements
- (xvii) Spayed Bituminous Surfacing
- (xviii) Asphaltic Concrete
- (xix) Mass Concrete Sub Base
- (xx) Plain or reinforced Concrete Base
- (xxi) Segmental Paving
- (xxii) Bituminous Micro Surfacing
- (xxiii) Pavement Markings
- (xxiv) Signposting
- (xxv) Guide Posts
- (xxvi) Guard Fence
- (xxvii) Boundary Fencing
- (xxviii) Minor Concrete Works
- (xxix) Landscaping

- (xxx) Water Reticulation
- (xxxi) Sewerage System
- (xxxii) Bush Fire Protection

[Standard drawings](#) for driveways and other details are available on Council's website. Reference to these standard drawings will be made throughout this and other Chapters.

## 4.0 Development Requirements – Administration, Certification and Drawings

### 4.1 Engineering Plans and Specifications

#### Desired Outcomes

DO1 - Engineering plans are prepared by appropriately qualified designers and in accordance with Council's requirements for referencing standards and material presented.

#### Development Requirements

- a) Qualification of Designers  
All plans for earthworks (site regrading), roadworks, drainage works, water supply, sewerage works, and foreshore works are to be certified by a Civil Engineer or Registered Surveyor.
- b) All plans for bridgeworks, retaining walls, other major structures and pumping stations are to be certified by a Civil Engineer.
- c) Council's Specifications  
All plans for engineering/civil works must demonstrate compliance with [Council's Engineering Guidelines for Subdivision and Development](#).
- d) ISG Coordinates  
The engineering survey shall be carried out using the ISG coordinate reference system and accurately show the landform to facilitate the best possible design and construction of roadworks and drainage consistent with minimum interference to the existing amenity of the area.
- e) Datum  
All levels should be to Australian Height Datum (AHD). The origin of levels, Permanent Marks (PM), State Survey Marks (SSM) and other Benchmarks are to be shown.
- f) Survey Investigation  
All surveys, investigations, excavations and inspections necessary to obtain the required information shall be undertaken by the developer as part of the design cost. Any such excavations must be restored to its previous condition to the satisfaction of Council.
- g) Accuracy  
All lengths and level measurements are to be shown to the nearest 10 mm or 0.01 m, with the exception of Bench Mark levels which are to be expressed to the third decimal place.

- Requirements for Design Plans
- h) Design plans are to comply with the design requirements contained in the relevant component of Council's Engineering Guidelines for Subdivision and Development in relation to:
- (i) Earthworks (site regrading);
  - (ii) Roadworks;
  - (iii) Road Pavement;
  - (iv) Road Furnishings;
  - (v) Stormwater Drainage;
  - (vi) Foreshore Works;
  - (vii) Water Supply Works;
  - (viii) Sewerage Works;
  - (ix) Landscaping Works; and
  - (x) Erosion Control Works.

## 4.2 Commencement of Works

### Desired Outcomes

DO1 - Works are undertaken generally in accordance with Council's specifications for Quality Assurance.

### Development Requirements

- Necessary Conditions
- a) Notwithstanding approval of the Construction Certificate, no engineering works are to be undertaken until the design plans and specifications are formally approved by the Principal Certifier. The contractor/s and their quality testing organisation will be nominated and will also require approval by the Council or accredited certifier.
- Notice of Commencement
- b) The supervisor shall advise the Principal Certifier in writing a minimum of seven days in advance of the anticipated date of commencement of construction. Prior to that date it will be necessary that:
- (i) All engineering plans and specifications have been approved and endorsed by the Principal Certifier; and
  - (ii) The contractor proposed to be engaged has been approved by the Principal Certifier for the type and nature of the works.
- Quality Assurance
- c) Approval of the subdivision will stipulate whether the subdivision is to be constructed as a "Quality Assured Contract" in which case a Quality Plan will need to be submitted to cover all construction works in accordance with Council's Contract Quality System Requirements Specification. Acceptance of the submitted Quality Plan will be required prior to commencement of works.
- d) Where a Quality Assurance contract is not a requirement and a Quality Plan is not therefore provided, it will be necessary as a minimum requirement that the Principal's Superintendent or Superintendent's Representative under the Contract be nominated and approved as suitably qualified and experienced.

- Approval of Contractor
- e) Contractors or any person who undertakes development construction works shall be reliable, competent and suitably experienced with demonstrated expertise in performing the type of works proposed. Where a proposed contractor is unknown to the Principal Certifier details shall be submitted of recent works of a similar nature performed by the contractor and names of referees supplied. The Principal Certifier is to be satisfied that appropriate Public Risk and WorkCover Insurance has been obtained for the project.

### 4.3 Inspections and Testing

#### Desired Outcomes

DO1 - Works are inspected at regular intervals during construction and completion and generally in accordance with the following development requirements.

#### Development Requirements

- Cost of Quality Testing
- a) Whether the development proceeds under Quality Assurance Contract or not, the full cost of all testing is to be met by the Subdivider/ Developer. Test results will be required to ensure that the material supplied and the work carried out conforms with the approved specification.
- Inspections
- b) Joint inspections at key stages of construction will be required to be carried out by representatives of both the Principal Certifier and the Developer.
- c) The whole of the work is to be carried out to the satisfaction of the Principal Certifier. Uninterrupted access is to be available at all times. The Principal Certifier's role should be regarded as "overseeing supervision" which is secondary to that required by the supervisor.
- Inspections during Construction
- d) The supervisor, or their nominated representative as approved by the Principal Certifier, is to give not less than twenty four (24) hours notice to the Principal Certifier prior to inspection of each of the following work stages and in accordance with the following detailed requirements:

#### Traffic Management -

- (i) Once the Traffic Control Plan arrangements and pedestrian controls are in place but prior to work commencing on site.

#### Site Regrading and Clearing –

- (ii) When the site is to be regraded and cleared.
- (iii) When erosion control measures have been completed.
- (iv) Prior to the commencement of earth works in order to determine the removal of trees and vegetation.

#### Stormwater Drainage and Utility Service Conduits -

- (v) When trenches are opened and pipes are laid and jointed. Trenches are not to be backfilled until approval has been obtained.
- (vi) For major gully pits and all concrete structures – when they are formed up, reinforcement is in place and prior to pouring.
- (vii) Prior to placement of filter material when subsoil drainage is laid. Filter material testing may be required if it varies from the specification.

#### Sewer Mains –

- (viii) When trenches are to be opened and when pipes are laid and jointed. Trenches are not to be backfilled until approval has been obtained.
- (ix) Prior to the pouring of all concrete for sewer manholes and pumping stations.
- (x) Final testing of sewerage reticulation:
  - after all civil works are completed;
  - prior to practical completion; and
  - at final completion.

#### Sub-grade-

- (xi) When sub-grade is ready for inspection and conduits have been laid.
- (xii) Pavement construction must not commence until the sub-grade has been tested and accepted.

#### Kerb and Gutter-

- (xiii) When base course pavement material has been brought to the correct state of level and compaction, an inspection is required prior to the laying of kerb and gutter.

#### Pavement Construction –

- (xiv) When each pavement course is ready for inspection and compaction test results have been lodged with council.
- (xv) Each subsequent course is not to be commenced until the previous layer is tested and inspected.

#### Pavement Surfacing –

- (xvi) Prior to sealing of pavement a Benkelman Beam test is to be undertaken.
- (xvii) If weather conditions necessitate any alteration, Council shall be notified as soon as possible.

#### Overland Flow Paths –

- (xviii) After shaping and prior to topsoiling, turfing, landscaping or paving of overland flow paths.

Concrete Pathways –

(xix) Prior to pouring of concrete pathway.

Out of Hours Inspections

- e) The developer will be required to meet the full cost of any inspections required outside normal Council working hours and will be required to agree in writing to meet those costs prior to any such work being authorised.

Practical Completion Inspection

- f) When all works are completed in accordance with the approved plans and specifications, and all utility services installed. All lots must be pegged at the time of this inspection.

Final Inspection

- g) At end of maintenance period a final inspection will be conducted.

Inspection Record and Testing of Inspections

- h) Council will insist on uninterrupted access at all times for the Principal Certifier or their representative so as to enable audit inspections or testing. Records of all test results required by Council will be made available to the Principal Certifier promptly when requested and tests will be undertaken strictly to prescribed test procedures by testing organisations approved by the Principal Certifier prior to work commencement.

#### **4.4 Insurances**

##### **Desired Outcomes**

DO1 - Appropriate third party and public risk insurance is secured prior to commencement of construction.

##### **Development Requirements**

Third Party Insurance Public Risk

- a) The Supervising Consultant shall take out professional indemnity insurance indemnifying themselves and Council. The Supervising Consultant will also provide the Principal Certifier with evidence that all contractors have obtained appropriate third party and public risk insurance for a minimum value of \$20 million. A copy of the policy documents are to be submitted to the Principal Certifier prior to commencement of construction.

#### **4.5 Work-as-Executed (WAE) Plans**

##### **4.5.1 General**

##### **Desired Outcomes**

DO1 - Work-as-Executed Plans, prepared in accordance with best industry practice, are submitted at the completion of works.



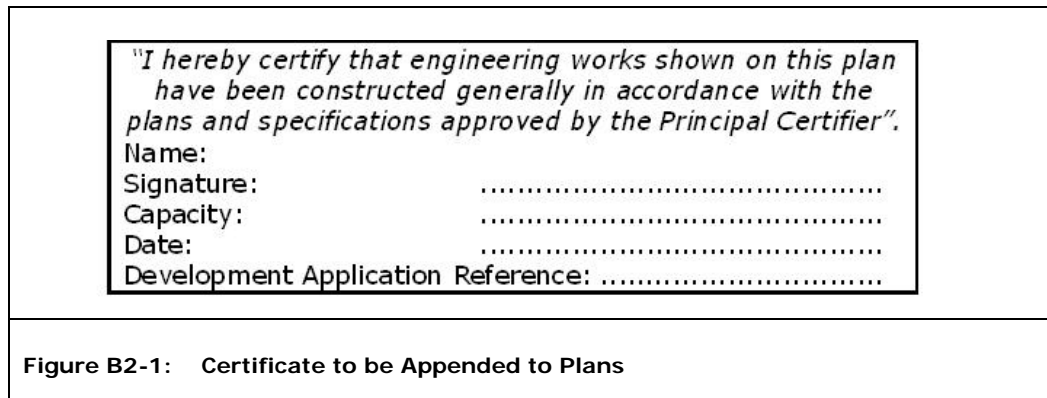
**Development Requirements**

Format Requirements of Submission

- a) Following completion of the work, one full set of work-as-executed plans on transparent film and electronic format (MGA Zone 56 Projection) suitable for reproduction is to be submitted and retained by Council.
- b) Works as executed figures (where there is a variation from the design) are to be shown boxed on plan and longitudinal sections.
- c) Works as Executed Plans must be lodged prior to practical completion inspection by the Principal Certifier.
- d) The Subdivision Certificate will not be processed until the Works as Executed Plans have been received and verified.

Certification

- e) The Works as Executed Plans must be certified by a Registered Surveyor or Chartered Professional Civil Engineer responsible for the preparation of the Works as Executed Plan.
- f) The Registered Surveyor responsible for the preparation of the Subdivision Certificate of survey covering the subdivision is to supply a signed certificate stating that all pipes and associated pits and manholes and services are located wholly within the respective easements.
- g) The following certificate is to be appended to the plans and signed by the supervising surveyor or engineer:



**4.5.2 Information to be Shown on WAE Drawings**

**Desired Outcomes**

DO1 - An appropriate level of detail is depicted on Work-as-Executed Drawings.

**Development Requirements**

Work-as-Executed Drawings are to depict the following detailed requirements, as relevant:

Roadwork

- a) Footpath widths are to be shown to face of kerb at:
- (i) all TP's;
  - (ii) centre of curves;
  - (iii) beginning and end of construction; and
  - (iv) intermediate points on long straights no more than 100 m intervals, where variation exceed +10% from the approved width.
- b) Gutter invert levels to be shown at:
- (i) All TP's;
  - (ii) Crests;
  - (iii) Sags;
  - (iv) End of straight grades; and
  - (v) As required on flat grades.

Stormwater Drainage

- c) Invert levels of all pipelines at entrance and exit of all pits and headwalls.
- d) Pipe sizes at entrance and exit of all pits and headwalls.
- e) Actual locations, levels and junction positions of inter-allotment drainage lines.
- f) The location of all pits and pipes within lot boundaries are to be shown by dimensions to nearest boundaries.
- g) The location of conduits, subsoil lines and stubs for further extensions.
- h) Details of overland flow provision.
- i) All other details which have a bearing on the extent of works and their acceptance by the Principal Certifier.

Site Regrading

- j) Compaction certificates, lot filling and lot classification which have been prepared by a NATA laboratory. A lot fill diagram shall be provided where lots have been filled. Such diagram shall apply to all lots that have been filled in excess of 300 mm.
- k) Finished surface levels are to be recorded by spot levels of the regraded area and the natural surface area adjacent.
- l) Spot levels are to taken and recorded on plans at:
- (i) allotment corners;
  - (ii) centre of front and rear boundaries; and
  - (iii) 12 metres from front alignment on side boundaries and centre of lot.
- m) Major site regrading (ie cut or fill over 0.5 m in depth) is to be recorded by new contours.

- n) Depths of fill to be indicated by shading or crosshatching to intervals of 0.5 metres.

Flood Prone Areas

- o) Spot levels are required on all lots within flood prone areas.

#### **4.5.3 Information to be submitted with WAE Plans**

##### **Desired Outcomes**

DO1 - Appropriate supporting documentation is submitted with Work-as-Executed Plans.

##### **Development Requirements**

The following supporting documentation is to be submitted with Work-as-Executed Drawings, as relevant:

- a) Compaction Certifications (from NATA registered laboratory) for all roadwork pavement construction, for the:
  - (i) Sub-grade level;
  - (ii) Sub-base level; and
  - (iii) Base level.
- b) Material Compliance Certificates for all road pavement for:
  - (i) Sub-base material; and
  - (ii) Base material.
- c) Bitumen spraying records.
- d) In order to add to Council's asset management register, it is required that the consultant complete Form 14.1 – Road Construction Details (See Appendix A) for all roads in the development. This form is to be lodged with the Works as Executed plans.
- e) The actual contract values of all assets (roads, stormwater drainage, open space, etc) dedicated to the public shall be submitted.

#### **4.6 Completion of Works and Certification**

##### **Desired Outcomes**

DO1 - Appropriate procedures are followed to commence the maintenance period and to endorse the final survey.

##### **Development Requirements**

Maintenance Period

- a) On practical completion of construction works the Supervising Consultant is to advise the Principal Certifier to that effect in writing and certify that the whole of the works have been carried out in accordance with the approved plans and specification. If the whole of the works are considered satisfactory the Principal Certifier will agree to a date (the date of practical completion) on which the whole of the works are considered to have

entered into the maintenance period. Unless otherwise approved, this date will be the date of release of subdivision.

#### Final Survey

- b) At this stage, the Subdivider's Surveyor completes the final property survey and prepares the final plan of subdivision which is known as the "Subdivision Certificate". The final plan of subdivision plan shall be submitted for endorsement by Council as an original transparency and seven (7) copies. This plan will later be lodged by the Developer with the Registrar General who will prepare title deeds and advise Council of a deposited plan (DP) number so that sale of allotments of land may proceed.

### **4.7 Early Release of Allotments by Application of Engineering Bonds**

#### **Desired Outcomes**

DO1 - Appropriate guarantee bonds and minor works bonds are lodged prior to the early release of allotments.

#### **Development Requirements**

##### Guarantee Bonds

- a) Council may give consideration to the acceptance of a bond for outstanding engineering works to enable the early release of allotments.
- b) Bonds shall be either a cash security deposit or Bank Guarantee and generally limited to a period of twelve months. All bonds will be calculated at the rate of 1.5 times the contract sum for carrying out the outstanding works.
- c) A bond to guarantee satisfactory completion of bitumen sealing of roadways is to be submitted, where applicable.
- d) Asphaltic concrete surfaces may be bonded provided a temporary seal is placed over the pavement and suitable provision for drainage (eg gutter slots) is provided.

##### Minor Works

- e) Minor associated work such as street signs, medians, line-marking etc may be bonded.
- f) Before Council will consider accepting a bond guarantee, the following engineering works within the subdivision must be completed.
- (i) All sewer and water supply works required are complete and have been tested.
  - (ii) A work-as-executed plan for the sewer works and water supply are to be submitted to Council.
  - (iii) All major engineering problems have been overcome to the satisfaction of the Principal Certifier.
  - (iv) All works that involve the safety of the public (eg road junctions, flood control structures) are completed.
  - (v) Any geotechnical reports regarding the suitability of land for development as required by the Development Consent and Construction Certificate are to be submitted.

- (vi) Payment of all fees and contributions required as conditions of development consent are complete.

#### **4.8 Maintenance Bond**

##### **Desired Outcomes**

DO1 - Works are maintained to the satisfaction of Council.

DO2 - Maintenance bonds, to the satisfaction of Council, are in place during the maintenance period.

##### **Development Requirements**

###### Maintenance of Works

- a) Following practical completion of all construction works required as a condition of development approval, the developer shall maintain the works to the satisfaction of Council for a period of six (6) months.
- b) The developer shall rectify any omissions, defects or other faults in the works which become apparent during the maintenance period under normal use of the works and which are due to any cause, including design, workmanship or materials.

###### Maintenance Bond

- c) To ensure that the contractor satisfactorily carries out all maintenance and repairs required during this period the contractor must deposit with Council (or lodge a Bank Guarantee) for a period of six months from the date of practical completion a sum equal to that amount specified in Council's fees and charges prior to release of the Subdivision Certificate.

###### Release of Bond

- d) Upon final inspection and satisfactory completion of the maintenance period, the bond shall be released or refunded by Council.
- e) It is the responsibility of the developer to contact Council to arrange for the final inspection and release of the bond.

#### **4.9 Deferred Payment of Contributions**

In respect to subdivisions, Council may give consideration to deferring the payment of a contribution upon receiving a request in writing, from the developer and or his agent.

##### **Desired Outcomes**

DO1 - The developer enters into a Deed of Agreement with Council with a caveat to be registered over the title of the land when both parties agree to defer the payment of developer contributions.

##### **Development Requirements**

- a) When deferring payment the developer will be required to enter into a Deed of Agreement with Council, at the applicant's expense. The agreement will require a caveat to be endorsed on the existing allotment

title and will make provision for Council to be paid the contribution when the allotment is sold and or transferred and be in a form which is a bar to transfer. The amount of contribution to be paid will be the rate prevailing at the time of sale and or when transfer takes place. The plan of subdivision will be released once the deed and the caveat have been registered.

## 5.0 Development Requirements – General Services and Easements

### 5.1 General

#### Desired Outcomes

- DO1 - Adequate provision is made within developments for the installation of all services in consultation with the relevant authorities.
- DO2 - The developer bears the cost of all fees and charges associated with the provision of these services.
- DO3 - Services are provided generally in accordance with the requirements stipulated in the relevant components of Council's Engineering Guidelines for Subdivision and Development.
- DO4 - Services, utilities and infrastructure are designed, located and constructed to:
- Avoid areas of ecological or scenic value;
  - Minimise the impact on areas of native vegetation;
  - Be suitably screened from public places or streets;
  - Be co-located in shared underground trenching where compatible; and
  - Ensure transportation, treatment and disposal of sewage wastes minimise environmental impacts; and
  - Be protected from building over the services by way of easements with terms that prevent building over the easement and allowing adequate maintenance access, where necessary.

#### Development Requirements

##### Provision of Services

- a) Services are to be provided for all developments as outlined in the following Table:

<b>Table B3-1: Required Provision of Services</b>			
<b>Service</b>	<b>Urban Lots</b>	<b>Rural Residential</b>	<b>Rural or Other Non Urban (40 ha or less)</b>
Electricity	Yes	Yes	Yes
Street Lighting	Yes	At specific location	No
Sealed Road	Yes	Yes	Depending on road class (refer to Table D1.8 – a copy of which is included in

			Appendix B of this Chapter)
Kerb & Gutter	Yes	Edge scour protection where necessary	No
Footpath Paving	Yes*	No	No
Water	Yes	Yes (except Arakoon)	Yes (where in close proximity)
Sewer	Yes	Yes (where required)	No
Stormwater Easements Piped	Yes	As appropriate	No
*An overall footpath strategy will be worked out for each new release area			

- b) The design, location and construction of all utilities, services and infrastructure are to comply with the relevant provisions of Council's Engineering Guidelines of Subdivision and Development.

#### Street Lighting

- c) The developer will be responsible for installation of street lighting in subdivision proposals where new roads are to be opened. Such lighting shall be installed and connected to the supply complete with all control equipment but not commissioned. The latter will be arranged by Council when it is considered appropriate.

#### Location of Services

- d) The location of services in residential footpaths shall be in accordance with the following space allocations (as for a 3.5 metre wide footpath).

Distance from Kerb Line	Usage
0 - 0.8	
0.8 - 1.4	Water
1.4 - 2.0	Telephone
2.0 - 2.6	Sewerage
2.6 - 3.5	Street Lighting and electricity

#### Conduits

- e) Conduits must be laid under road pavements to provide for future provision of water, electricity and telecommunication services (including National Broadband Network) to the requirements of the relevant authorities.

#### Drainage

- f) Sub soil drainage lines are to be provided behind all pavements and below the invert of any service crossing.

#### Restoration

- g) The developer shall be responsible for the restoration of footpaths and roadways after the installation of services till the end of the maintenance period.
- h) Under road pavements, fine crushed rock or other approved granular material shall be used to backfill trenches from the top of the sand or metal fines layer surrounding the conduits to the underside of the road

pavement. Such backfill shall be compacted by approved means to a density 95% of standard compaction density.

#### Easements

- i) The developer will be required to provide legal easements or drainage reserves of widths as determined by Council over all stormwater drains, water courses, sewerage mains and services.

The following standards shall generally be adopted.

<b>Table B3-3: Required Easement Widths</b>		
<b>System Type</b>		<b>Easement Width (rounded up to nearest 0.5 m)</b>
<b>Drainage</b>	Single pipe	3.0 m (minimum)
	Multiple pipes	Overall outside width of pipe group +2 m
	Box culverts	Overall width of box + 2 m
	Open channels	Width including free board +2 m (generally restricted to drainage reserves)
	Surcharge paths	Width including free board + 2 m
	Interallotment Drainage	1.5 m (minimum)
<b>Sewerage</b>	Minor mains	3.0 m (minimum)
	Carrier mains	3.0 m (minimum)
<b>Other services</b>		Liaise with appropriate authority

#### Easements over inter-allotment drainage

- j) Easements over inter-allotment drainage are to be created in favour of the lots being serviced, not in favour of Council.

#### Easement for Support

- k) The developer shall make provision for the necessary easements for support to cover all embankments or cuttings that extend into the development.

- l) Building over drainage easements is generally prohibited.

#### Footings close to an Easement

- m) Where it is proposed to construct footings or foundations in the vicinity of a drainage easement, Council may impose such conditions as it considers necessary to protect the structural integrity of the existing or proposed drainage structure.

## 5.2 Warning Signs for New Roads

### Desired Outcomes

DO1 - Appropriate warning signs are erected to warn motorists of the construction of new roads.

### Development Requirements

- a) Warning signs including the words "Roads under Construction - Not Open to the Public" are to be erected and maintained during the construction of new roads at each road junction of proposed new road with existing roads.



- b) These signs are to be:
- (i) located so as to be clearly visible in daytime and at night to approaching motorists;
  - (ii) properly sign written with 150 mm minimum height lettering on a contrasting coloured background; and
  - (iii) maintained until the roadwork and all openings in the new roads have been restored or made safe.

### 5.3 Damage to Access Road Caused by Development

#### Desired Outcomes

DO1 - Roads are maintained and repaired to remain at a safe and trafficable standard.

#### Development Requirements

- a) Where any damage is caused to any road used for access during construction of the development, such damage shall be restored prior to release of Subdivision Certificate.
- b) All roads used for access shall be maintained in a trafficable condition during construction of such works.

### 5.4 Supervision

#### Desired Outcomes

DO1 - Works are undertaken in accordance with the conditions of any relevant development consent.

DO2 - Works are:

- supervised by an appropriately qualified and experienced person;
- inspected regularly to ensure compliance with any relevant development consents and specifications; and
- managed to minimize impacts on the amenity and environment.

DO3 - Works are undertaken in compliance with:

- the *Work Health and Safety Act 2011* (WHS Act) and its regulation; and
- the current and relevant Codes of Practice prepared in approved in accordance with the WHS Act.

**Note** – current Codes of Practice may be obtained from the [WorkCover Authority NSW](#) website.

#### Development Requirements

- a) The applicant  
Council will hold the applicant to whom the development approval is issued, responsible to complete or to cause the completion of all development works in accordance with the terms of the development approval and the approved plans and specifications.

- b) Approved Plans and Specifications  
"Approved" means that the plans and specifications meet Council's requirements but does not release the developer of the responsibility of rectifying any errors or omissions in the plans and specifications which may become evident during construction.
- c) The Supervisor  
Where the development involves construction of civil engineering works, the developer shall nominate a supervisor who shall be responsible for the execution of the works. No work shall commence until the developer has advised Council in writing the name of the supervisor.
- d) Qualifications  
The supervisor shall be a qualified civil engineer or registered surveyor as appropriate and have had suitable experience in the supervision of such works and shall not be engaged by or have any financial interest in the contractor undertaking the works.
- e) Frequency of Inspection  
The supervisor must properly supervise the works and inspect them with sufficient frequency to ensure that the materials and workmanship conform to the requirements of the approved plans and specifications.
- f) Haulage Routes  
The Superintendent must nominate haul routes to be used during construction. These routes must be approved by Council. During construction, any damage to road pavements, services or street furniture along the route identified as being caused by the contractor must be repaired to the satisfaction of Council. Where safety is compromised Council may expect the work to be made safe immediately or carry out any necessary work at the contractor's expense.
- g) Survey Marks  
Disturbance of survey marks (permanent marks) will be the liability of the developer and/or contractor.
- h) The Supervisor shall ensure that compliance with the requirements of the *Occupational Health and Safety Act 2000*, as amended.

## 6.0 Development Requirements – Water Supply

### 6.1 Water Supply

#### Desired Outcomes

DO1 - A supply of potable water, with sufficient capacity for peak usage, fire fighting and development is provided in accordance with clause 7.8 of [KLEP2013](#).

#### Development Requirements

- a) A reticulated water supply will be required for all subdivisions except:

- (i) land zoned R5 – Large Lot Residential in the vicinity of Arakoon and South West Rocks; or
  - (ii) where deemed financially unviable by the Director of Infrastructure; or
  - (iii) where satisfactory arrangements have been made for the future provision of reticulated water supply to each lot.
- b) All water supply systems shall be designed to meet [Council's Engineering Guidelines for Subdivision and Development](#), incorporating the Water Supply Code of Australia.

## 6.2 Supply of Recycled Water

### Desired Outcomes

- DO1 - A recycled water supply is designed and installed for all new residential subdivisions at South West Rocks where it is available, in accordance with:
- Council's Engineering Guidelines for Subdivision and Development;
  - WSA – Water Supply Code of Australia; and
  - Any relevant Australian Standards.

### Development Requirements

- a) Where a recycled water reticulation system is available to the site, connection to that system and a recycled water reticulation system within the site shall be provided.
- b) Parks created by the subdivision are to be connected to a recycled water reticulation system.
- c) Where a recycled water reticulation system is available or planned to be available to the site, recycled water shall be used for:
  - (i) Hot water systems;
  - (ii) Washing machine cold water tap; and
  - (iii) Other non potable uses as permitted.
- d) Where a recycled water reticulation system is available or planned to be available to the site, potable water shall be used for:
  - (i) Kitchen, bathroom and laundry tub cold water taps;
  - (ii) Pool filling; and
  - (iii) Fire fighting.
- e) Ensure infrastructure is designed to minimise the risk of cross-connection of potable and non-potable systems, for both public and private infrastructure.

## 7.0 Development Requirements – Sewerage

### 7.1 General

#### Desired Outcomes

DO1 - Connection to a sewerage system is provided in accordance with clause 7.8 of [Kempsey Local Environmental Plan 2013](#).

#### Development Requirements


- a) Sewerage systems shall be designed in accordance with [Council's Engineering Guidelines for Subdivision and Development](#) and the Sewerage Code of Australia.

# APPENDICES

## Appendix A: Form 14.1 – New Assets

Form 14.1

SUBDIVISION  
**NEW ASSETS**



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GENERAL

Estate Description/Location: .....

Supervisor ..... Phone: .....

Fax: .....

Appointed Contractor: ..... Phone: .....

Fax: .....

Developer: ..... Phone: .....

Fax: .....

File No/LA: .....

Construction Certificate No: ..... Date issued: .....

Work as Executed Plans  
 Electronic DXF Format:     Operational Services                       Computer Services  
     Environmental Services                       To file

Issue Practical Completion Certificate: .....(Date)      Inspection date: .....

*(Commencement Maintenance)*

Maintenance Inspection (End): .....

.....  Work completed

Issue Completion Certificate: .....(Date)

Total Value of Assets:      \$.....

ROADWORKS

Length of New Road (Urban/Rural): ..... m

Length of kerb and gutter: ..... m

Value of Asset (Construction Cost):      \$.....

34

**Figure B3-1: Copy of Form 14.1**

Pavement:	Source Road base Gravel:.....(quarry) <input type="checkbox"/> ARR41
	Design Depth :.....(mm)
	CBR Subgrade :.....(%)
	Surface Treatment - <input type="checkbox"/> 2 Coat flush 7/14mm bitumen seal
	Applied..... <input type="checkbox"/> Single coat flush 14mm bitumen seal (date) <input type="checkbox"/> AC <sub>10</sub> <input type="checkbox"/> Concrete <input type="checkbox"/> Other

35

**Figure B3-1: Copy of Form 14.1**

STORMWATER DRAINAGE

Value of the Asset: \$.....

Exemptions: Line.....

WATER SUPPLY

Length: 100  $\phi$  .....m  
 150  $\phi$  .....m

Value of the Asset: \$.....

Exemptions: Line.....

SEWER

Length 150  $\phi$  SH UPVC: .....m

Value of the asset: \$.....

Exemptions: Line.....

Pump Station Commissioned: .....(date)

OTHER

Value of Playground Equipment: \$.....

Value of Land Dedicated as Public Road: \$.....

Value of Land Dedicated as Public Reserve: \$..... [.....hectares]

\_\_\_\_\_  
Appointed Supervisor

Date:.....

36

Figure B3-1: Copy of Form 14.1