

environmental hazard management

PART O



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COWRA COUNCIL
COMPREHENSIVE DCP
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flood risk management

PART O.1

This Part of Plan outlines Council's development requirements for land that is identified as being located within the flood planning area.

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O.1.1. Application of this Section

Section O.1 applies to all land within the Cowra local government area which is identified on the Flood Planning Maps within the Cowra Local Environmental Plan 2012 and other land at or below the flood planning level.

O.1.2. Objectives for Flood Risk Management

The objectives for flood risk management are to:

- a. To minimise the potential impact of development and other activity upon the aesthetic, recreational and ecological value of waterway corridors.
- b. To inform the community of Council's policy for the use and development of flood prone land.
- c. To reduce the risk to human life and damage to property caused by flooding through controlling development on land affected by potential floods.
- d. To manage flood risk through appropriate development controls for uses at or below the relevant Flood Planning Level.
- e. To promote awareness of potential flood risks associated with the use and development of land.
- f. To prevent inappropriate uses in flood areas.
- g. To reduce risk by preventing intensification of development.
- h. To avoid unduly sterilising land where flood compatible uses are appropriate.

O.1.3. Definitions

This Plan adopts the definitions under Standard Instrument – Principal Local Environmental Plan and the following definitions (taken from the Cowra Floodplain Risk Management Plan) as outlined in the table below:

Annual Exceedance Probability (AEP)

The chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, a 1% AEP flood has a 1% (1 in 100) chance of occurring in any one year.

Australian Height Datum (AHD)

A common national surface level datum approximately corresponding to mean sea level.

Average Recurrence Interval (ARI)

The long-term average number of years between the occurrence of a flood as big as or larger than the selected event. For example, floods with a discharge as great or greater than the 20 year ARI flood event will occur on average once every 20 years. ARI is another way of expressing the likelihood of occurrence of a flood event.

Discharge

The rate of flow or water measures in terms of volume per unit time, for example cubic metres per second (m³/s).

Effective warning time

The time available after receiving advice of an impending flood and before the floodwaters prevent appropriate flood response actions being undertaken. The effective warning time is typically used to move farm equipment, move stock, raise furniture and evacuate people.

Extreme event

An extreme flood is one which has a very low probability of occurrence and can be used to consider flood damages and emergency management within a floodplain. In the Cowra Floodplain Risk Management and Study, this event has been defined as one having three times the flow rate of the 1% AEP event, and an estimated probability of occurrence of 1 in 10000.

Flood awareness

An appreciation of the likely effects of flooding and knowledge of the relevant flood warning, response and evacuation procedures.

Flood compatible materials

Building materials that are resistant to damage when inundated by floodwaters.

Flood fringe

The remaining area of flood prone land after floodway and flood storage areas have been defined.

Flood hazard

The potential risk to life and property resulting from flooding. The level of hazard varies across the floodplain due to different flood conditions (such as depth, velocity etc).

Flood prone land

Land susceptible to flooding by a Probably Maximum Flood event. For the purposes of this Plan, flood prone land is defined as the area affected by the extreme flood estimated in the Flood Study (Lyll & Macoun, 1999).

Floodplain

The area of land subject to inundation by floods up to and including the PMF event.

Flood Planning Area - (FPA)

The area of land at or below the Flood Planning Level and thus subject to flood related development controls.

Flood Planning Level (FPL)

Flood Planning Level means the level of a 1:100 ARI (average recurrent interval) flood event plus 0.5 metre freeboard). The Flood Planning Level determined Flood Planning Area. In Cowra and Gooloogong, the FPL has been set as the 1% AEP flood event plus 0.5m for residential and commercial development and the extreme flood for specified developments, including essential services.

Flood proofing

A combination of measures incorporated in the design, construction and alteration of individual building and structures subject to flooding, to reduce or eliminate flood damages.

Flood storage area

Those parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood.

Floodway area

Those areas of the floodplain where a significant discharge of water occurs during floods. They are often aligned with naturally defined channels. Floodways are areas which, even if only partially blocked, would cause a significant redistribution of flood flow, or a significant increase in flood levels. Floodways are often, but not always, areas of deeper flow or areas where higher velocities occur.

Freeboard

A factor of safety typically used in relation to the setting of floor levels, levee crest levels, etc. It is usually expressed as a height above a flood planning level and/or the adopted flood mitigation standard. Freeboard provides a factor of safety to compensate for wave action, localised hydraulic behaviour, settlement and other effects such as “greenhouse” and climate change.

Habitable Floor Area

In a residential situation, a living or working area, such as a lounge room, dining room, rumpus room, kitchen, bedroom, workroom or home office. In a industrial or commercial situation, an area used to store valuable possessions susceptible to flood damage in the event of a flood.

Peak discharge

The maximum discharge occurring during a flood event.

Probable Maximum Flood (PMF)

The largest flood that could conceivably occur at a particular location, usually estimated from the Probable

Maximum Precipitation. Generally, it is not physically or economically possible to provide complete protection against this event. The PMF defines the extent of flood prone land that is the flood plain.

Reliable access

The ability for people to safely evacuate an area subject to imminent flooding within effective warning time and without a need to travel through areas where water depths increase.

O.1.4. Flooding Considerations

There are a number of different policies and legislative controls that must be read together with Part O of this DCP in order to understand all of the requirements for developing flood prone land. These are referenced as follows:

O.1.4.1. Flood Prone Land Policy and Floodplain Development Manual (2005)

Local Government is the primary authority responsible for both flood risk management and land use planning in NSW. However, the State Government introduced the Flood Prone Land Policy and the Floodplain Development Manual (2005)(FDM) “to reduce the impacts of flooding and flood liability on individual owners and occupiers of flood prone property, and to reduce private and public losses resulting from floods, utilising ecologically positive methods wherever possible”. To achieve this objective, the supporting FDM acknowledges a broad risk management hierarchy of:

- a. Avoidance of flood risk;
- b. Minimisation of flood risk using appropriate planning controls; and
- c. Flood risk mitigation.

Generally, the Flood Prone Land Policy adopts the following approach:

- a. The impact of flooding and flood liability on existing developed areas shall be reduced by flood mitigation works and measures, appropriate development and building controls and the voluntary acquisition of property in hazardous areas;
- b. The potential for flood losses in all new development areas shall be contained by the application of effective planning and development controls;
- c. A merit approach to all development and building decisions which takes account of social, economic and ecological factors, as well as flood considerations, should be followed.

The requirement for Council’s to prepare a Floodplain Risk Management Study and Plan is a cornerstone requirement of the Flood Prone Land Policy and Floodplain Development Manual.

O.1.4.2. Cowra Floodplain Risk Management Study and Plan

In accordance with the NSW Flood Prone Land Policy and the principles and guidelines contained in the Floodplain Development Manual 2005, Cowra Council finalised the Cowra and Gooloogong Floodplain Risk Management Study and Plan in 2006. The project was completed in consultation with SMEC Australia Pty Ltd.

The main objectives of the Study and Plan were to develop a Floodplain Risk Management Plan that addresses the existing, future and continuing flood hazards for the township of Cowra and the village of Gooloogong.

The Cowra and Gooloogong Floodplain Risk Management Study and Plan has been used to guide the flood mapping included in Cowra Local Environmental Plan 2012 and provides recommendations for development controls that have been incorporated into Part O of the Plan.

O.1.4.3. Cowra Local Environmental Plan 2012

Clause 7.2 of Cowra Local Environmental Plan 2012 contains provisions which must be considered when development is proposed on land in a flood planning area.

Clause 7.2 is a model clause that has been prepared by the NSW Department of Planning & Infrastructure for inclusion in Standard Instrument Principal Local Environmental Plans across NSW. The clause is mandatory to be included in Cowra Local Environmental Plan 2012 because the Cowra Shire contains land that is flood prone.

Clause 7.2 of Cowra Local Environmental Plan 2012 applies to:

- d. Land identified as a “flood planning area” on the Flood Planning Map.
- e. Other land at or below the flood planning level.

The State Government requires that only land mapped in accordance with the Floodplain Development Manual 2005 can be included on the Cowra Local Environmental Plan 2012 Flood Planning Map. For this reason, the Flood Planning Map only identifies land that has been mapped in accordance with the Cowra and Gooloogong Floodplain Risk Management Study and Plan.

It is important to understand that the provisions of Clause 7.2 also apply to other land that is at or below the flood planning level, but has not been mapped on the Cowra Local Environmental Plan Flood Planning Map.

To determine if a particular land parcel is subject to flood related development controls, a 10.7(2) Planning Certificate Application should be obtained from Cowra Shire Council.

O.1.4.4. Building Code of Australia

The Building Code of Australia (BCA) sets national standards to ensure building works reflect an acceptable level of health, safety, amenity and sustainability for current and future communities. It contains technical requirements for the design and construction of buildings and other structures, and covers matters such as structural soundness, fire resistance, access, services and energy efficiency.

The BCA includes requirements for building within a flood hazard area (Note – the term Flood Hazard Area is a term used in the BCA and typically corresponds with the term Flood Planning Area). The BCA now provides minimum construction standards for specified building classifications.

Where development is proposed on land to which Clause 7.2 of Cowra Local Environmental Plan 2012 applies, Council may issue a development consent having considered the provisions of Clause 7.2 and the requirements of this Part of the Plan. Following the issuing of the development consent, the Construction Certificate application will require assessment of compliance with the BCA provisions for flood hazard areas, including whether the provisions apply to the site and the building classifications, and if so, whether the deemed-to-satisfy criteria will apply or an Alternative Solution will be required.

O.1.5. Flood Planning

It is important to understand the difference between “Flood Prone Land” and land that is located within a “Flood Planning Area”.

“Flood Prone Land” means land that is designated by the extent of the Probable Maximum Flood. The Probable Maximum Flood is the largest flood that could conceivably occur at a particular location. Generally, it is not physically or economically possible to provide complete protection against this event. Instead, a merit approach is used to determine a “Flood Planning Level” that balances the flood risk with the economic and social benefits of using the “Flood Prone Land”.

Any land that is at or below the “Flood Planning Level” is referred to as the “Flood Planning Area”. It is only land within the “Flood Planning Area” that is subject to flood related development controls.

O.1.5.1. Flood Planning Level

Council has adopted the 1:100 AEP (Annual Exceedence Probability) plus 0.5 metres freeboard as its Flood Planning Level (FPL). Land below the FPL is referred to as the Flood Planning Area. The Flood Planning Area is based on the most current information available to Council and may be derived and interpreted from a combination of the following:

- a. Flood Studies identifying the 1% flood undertaken in accordance with the Floodplain Development Manual, prepared by the NSW Government (as applicable at the time the Study was conducted).
- b. Modelling undertaken for specific sites which identifies the 1% flood.
- c. Historic flood inundation records held by Council as the highest known flood.
- d. Information contained within an environmental planning instrument or policy.
- e. Specific flood mapping for the site.

O.1.5.2. Flood Planning Area – Cowra Township & Gooloogong Village

To determine whether land is located within the ‘Flood Planning Area’, it is necessary to refer to the Flood Planning Map Sheets included within Cowra Local Environmental Plan 2012.

There are a total of four Map Sheets which collectively identify the “Flood Planning Area” relating to the Cowra Township and the Gooloogong Village. A description of the locations that are covered by the Map Sheets is provided below for easy reference:

Map Sheet	Location
Map Sheet FLD_001	Outskirts of Gooloogong Village
Map Sheet FLD_001A	Gooloogong Village
Map Sheet FLD_002B	Cowra Township – Lachlan River (north)
Map Sheet FLD_002C	Cowra Township – Lachlan River and West Cowra Drain
Map Sheet FLD_002G	Cowra Township – Waugoola Creek

The “Flood Planning Area” is shown in blue. It is also important to understand that the “Flood Planning Area” mapped in Cowra Local Environmental Plan 2012 includes only land that would be inundated by a 1:100 AEP flood and does not include the 0.5 metre freeboard.

To confirm whether land is located within the “Flood Planning Area”, a 10.7(2) Planning Certificate should be obtained from Cowra Council.

O.1.5.3. Flood Planning Area – All other areas

For areas outside the Cowra Township and Gooloogong Village, Council does not have any mapping available that has been prepared in accordance with the requirements of the NSW Floodplain Development Manual 2005. For this reason, these areas are not mapped in Cowra Local Environmental Plan 2012.

For these areas, the mapping prepared in 1983 by the (then) Water Resources Commission is adopted by this plan as the “Flood Planning Area”, being land that would be inundated by a 1:100 AEP Flood and does not include the 0.5 metre freeboard.

To confirm whether land is located within the “Flood Planning Area”, a 10.7(2) Planning Certificate should be obtained from Cowra Council.

O.1.6. Flood Hazard Categories

The “Flood Planning Area” mapped in Cowra Local Environmental Plan 2012 is based on the mapping completed as part of the Cowra and Gooloogong Floodplain Risk Management Study and Plan. Within the ‘Flood Planning Area’, there are 4 hazard categories, as described in Table 1 below.

Table 1 - Flood Hazard Categories

Hazard Category	Details
Low Hazard - Flood Fringe	Development in flood fringe areas would not have a significant effect on the pattern of flood flow and / or flood levels. Depths within this area do not exceed 1 metre. Waters are generally slow moving, with lower potential damage, and evacuation is relatively safe and easy
Low Hazard - Floodway	Development in floodways could cause a significant redistribution of flood flow, or a significant increase in flood levels, even if only partially blocked. Significant discharges of water occur within these areas during flooding, sometimes with deeper flow and higher velocities, however evacuation is still relatively safe and easy.
High Hazard – Flood Fringe	Development in flood fringe areas would not have a significant effort on the patter of flood flow and / or flood levels. Depths are greater than 1 metre and water is slow moving, however houses can become completely inundated and evacuation is often difficult and dangerous.
High Hazard - Floodway	Development in floodways could cause a significant redistribution of flood flow, or a significant increase in flood levels, even if only partially blocked. Significant discharges of water occur within these areas during flooding. Water has a high velocity and can cause significant damage to buildings.

A map extract from the Cowra and Gooloogong Floodplain Risk Management Plan showing the 4 hazard categories identified in the Table above has been included in Appendix A of this Part.

O.1.7. Land-use permissibility

The permissibility of certain land-uses within the “Flood Planning Area” is principally controlled under Cowra LEP 2012 (depending on the zoning of the land) and also under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Council will also refer to Table 2 below in determining whether or not a proposed land-use is appropriate in the “Flood Planning Area” having regard to the flood hazard category of the land identified in Section 0.1.6.

Category 1 - Consent should not be granted.

Category 2 - Agricultural activities permissible. One single dwelling permissible, where residency is essential for operational or security purposes. Other ancillary structures are permissible provided it can be demonstrated that they will not have detrimental impact on the flow of floodwaters.

Category 3 - Development permissible for single dwellings only (and any ancillary development), subject to this DCP. Aged housing, child care facilities, subdivision, emergency service facilities and any other development that would increase density is prohibited.

Category 4 - Development permissible, subject to this DCP. Subdivision (to create new lots) not permissible.

Category 5 - Open space and recreational uses permissible. Ancillary structures are permissible provided it can be demonstrated that they will not have detrimental impact on the flow of floodwaters.

Table 2 - Land-use Permissibility

Hazard Category	Flood Fringe		Floodway	
	Low Hazard	High Hazard	High Hazard	Low Hazard
Agricultural - Includes extensive agricultural and intensive plant agricultural uses. Does not include intensive livestock agricultural uses.	2	2	2	2
Residential - Limited to single dwellings. Does not include any form of medium or high density residential development.	3	3	1	1
Commercial - Includes any type of commercial premise.	4	4	4	4
Industrial - Does not include utility installations, hazardous industries or any industry likely to be hazardous or have a negative environmental impact during a flood event.	4	4	4	4
Special uses - Includes emergency services, utility installations, community facilities and educational establishments.	1	1	1	1
Recreation - Includes sportsgrounds, swimming pools, golf courses, bowling greens, camping grounds, racecourses, recreation areas, recreation facilities, showgrounds and picnic grounds. Does not include caravan parks.	5	5	5	5

O.1.8. Information to Accompany a Development Application

In addition to the minimum information required when submitting a Development Application (DA), the following additional information must be provided to Council for developments that are proposed on land that is identified in a “Flood Planning Area”.

- a. A statement or justification as to why the proposed development is appropriate on flood prone land;
- b. A survey plan, showing:
 - i. Position of the existing building and/or proposed building.
 - ii. Existing ground levels to AHD around the perimeter of the building, as determined by a registered or suitably experienced / qualified surveyor.
 - iii. Level of the 1% AEP flood event
 - iv. Proposed floor levels relative to the 1% AEP flood event.
- c. A report from a suitably qualified engineer that demonstrates that:
 - i. The development will not increase the flood hazard or risk to other properties;
 - ii. The structure of the proposed buildings will be adequate to deal with flooding situations;
 - iii. The proposed building materials are suitable;
 - iv. The buildings are sited in the optimum position to avoid flood waters and allow safe flood access for evacuation;
 - v. The proposed redevelopment will not expose any resident to unacceptable levels of risk, or any property to unreasonable damage; and

O.1.9. Flood Controls

In addition to the controls contained in Clause 7.2 of Cowra Local Environmental Plan 2012, the following controls will apply to new development proposed on land that is identified within the “Flood Planning Area”.

O.1.9.1. General

Pier and beam construction or suspended reinforced concrete slabs should be used, as these minimise the requirement for cut and fill and allow floodwaters to flow under the building.

- a. Cut and fill should be minimised for all development at or below the FPL. Filling can result in a reduction in flood storage or change flow patterns and is not permitted unless it can be shown that there is no decrease in storage capacity and that flow characteristics will not be significantly changed. Cutting can result in an increase in flood depths and potentially, an increase in flood hazard and/or extent of inundation, and is not permitted unless it can be shown that flood behaviour will not be altered.
- b. All buildings at or below the FPL should be constructed of flood compatible materials. Refer to Appendix B for flood compatible materials.
- c. All development applications should demonstrate that the proposed structure can withstand the force of floodwater, debris and buoyancy.
- d. Solid fences that impede the flow of floodwaters are not permissible. Fences should be at least 50% open to allow the progress of floodwaters.

O.1.9.2. Residential Development

- a. Floor levels of all habitable rooms or rooms with connection to sewer infrastructure should not be less than the Flood Planning Level (which means the level of a 1:100 ARI flood even plus a 0.5m freeboard).
- b. Upon completion and prior to the occupation (where relevant) a certificate by a registered surveyor should be submitted to Council showing that the finished ground and floor levels conform to approved to approved design levels.

- c. Despite controls (a) and (b) above and the controls contained in Section 0.1.7, this plan permits alterations and additions to existing dwellings with floor levels below the Flood Planning Level, subject to the following requirements:
 - i. Council has not previously granted consent to a Development Application that relied upon this provision of the Development Control Plan.
 - ii. The alterations and additions do not increase the existing habitable floor area of the dwelling by more than 20m² or 10%, whichever is the greater.
 - iii. The alterations and additions comply with all provisions of the Cowra Shire Council Development Control Plan 2021.

0.1.9.3. Commercial and Industrial Development

- a. Floor levels of all habitable rooms or rooms with connection to sewer infrastructure should not be less than the Flood Planning Level (which means the level of a 1:100 ARI flood even plus a 0.5m freeboard).
- b. Upon completion and prior to the occupation (where relevant) a certificate by a registered surveyor should be submitted to Council showing that the finished ground and floor levels conform to approved to approved design levels.
- c. All applications should be supported by a flood emergency plan. Appropriate warning and advisory signage must be prominently visible at entry/exit points.
- d. No excavated underground car parking is permitted on land at or below the Flood Planning Level.

0.1.9.4. Rural Land

- a. Floor levels of all habitable rooms or rooms with connection to sewer infrastructure should not be less than the Flood Planning Level (which means the level of a 1:100 ARI flood even plus a 0.5m freeboard).
- b. Upon completion and prior to the occupation (where relevant) a certificate by a registered surveyor should be submitted to Council showing that the finished ground and floor levels conform to approved to approved design levels.

0.1.9.5. On Site Sewerage Management

- a. On-site sewage management facilities should be sited and designed to withstand flooding conditions (including consideration of structural adequacy, avoidance of inundation and flushing/leaking into flowing flood waters).
- b. As a minimum, all components of new on-site waste management systems must be located above the identified 5% AEP flood level (1 in 20 year). Components should be located above the 1% AEP flood level where this can be achieved.

0.1.9.6. Subdivision

- a. Council will not support any Development Application for a residential subdivision where it is evident that a flood free building envelope and safe internal access from / to the public road network cannot be provided. The building envelope and access should be flood free in a 1% AEP event.
- b. Subdivision will not be permitted where creation of such lot will create the potential for increased intensity of development within the Flood Planning Area.

bushfire management

PART O.2

This section provides Council's requirements for development upon land classified as bushfire prone land within the Cowra Local Government Area (LGA). All information provided should be read in conjunction with the Cowra Local Environmental Plan 2012, Planning for Bushfire Protection, and Australian Standard AS 3959.

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O.2.1. Application of this Section

Section O.2 of this Part applies to all land that is affected by the Bushfire Prone Land Map prepared by the NSW Rural Fire Services for the Cowra Shire Local Government Area.

O.2.2. Objectives for Bushfire Management

The objectives for bushfire management are to:

- a. Ensure the statutory requirements of the Rural Fire Service Act 1997 are considered in development assessment where relevant.
- b. Prevent the loss of life and property due to bushfires by providing for development compatible with bushfire hazard.
- c. Ensure risks associated with bush fire are appropriately and effectively managed.
- d. Ensure bush fire risk is managed in connection with the preservation of the ecological values of the site and adjoining lands.

O.2.3. Bushfire Considerations

A Section 10.7(2) Planning Certificate will identify whether a particular property is classified as bushfire prone in accordance with the Bushfire Prone Land Map certified by the Commissioner of the NSW Rural Fire Service. Section 10.7(2) Planning Certificate applications forms can be downloaded from Council's website or collected from Council's Customer Service Centre.

Alternatively, the Bushfire Prone Land Map can be viewed at Council's Customer Service Centre.

O.2.3.1. Legislative framework

Depending on the type of development that is proposed and the bushfire classification of the land, different approval requirements and processes will need to be followed. This section provides an overview of these requirements and processes.

The assessment framework for development on bushfire prone land is legislated under the Environmental Planning and Assessment Act 1979 (EP&A Act), Rural Fires Act 1997. The EP&A Act establishes a system for requiring bushfire protection measures on bushfire prone land at the approval stage. This system includes:

- a. Requiring Councils to map bushfire prone land. If any part of a development site is affected, special submission and assessment requirements may apply.

- b. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 requires compliance with specific bush fire development standards when located on bushfire prone land.
- c. Section 4.14BA of the EP&A Act requires compliance with Planning for Bushfire Protection and, where an infill proposal does not comply with acceptable solutions in Chapter 4, consultation by the consent authority with the NSW Rural Fire Service is required; and
- d. Section 4.46 of the EP&A Act in combination with the Rural Fires Act 1997 (RF Act) requirements for a section 100B Bush Fire Safety Authority (BFSA) classes the following types of Development Applications as integrated development:
 - i. Residential and rural residential subdivision.
 - ii. Special Fire Protection Purposes (SFPP).

Special provisions apply to integrated development, though some exceptions to these may apply.

Table 3 compares the three application types for development on bushfire prone land.

Table 3 - Applications involving bushfire prone land

	Complying Development	Non Integrated DA	Integrated DA
Description	Development approval which is not through the DA process	Development site is bushfire prone and not "integrated". Includes "infill" development other than residential / rural residential subdivision or SFPP.	Residential or rural residential subdivision or SFPP.
Legislation	Codes SEPP	s.4.14 of EP&A Act	s.4.46 EP&A Act and s.100B RF Act.
Referral	Bushfire Risk must be certified / assessed by qualified consultant or Council.	Possible consultation with the NSW RFS.	A BFSA from NSW RFS is required.

O.2.3.2. Dwellings on Bushfire Prone Land

This section describes the legislative requirements and development controls applying to Development Applications for a new dwelling-house, dwelling alteration or addition involving land that is classified as bushfire prone on the Bushfire Prone land Map.

Legislative Requirements:

- e. Section 4.14 of the EP&A Act requires all new development on bushfire prone land to comply with Planning for Bushfire Protection (which forms the basis for all bushfire planning and bush fire protection measures in NSW).
- f. Section 4.14 also requires Council to consult with the Commissioner of the NSW Rural Fire Service where it is satisfied that the proposed development does not confirm to the requirements of Planning for Bushfire Protection.
- g. Developments that meet the acceptable solutions of the Planning for Bushfire Protection guidelines can be determined by the consent authority (Council). Developments proposing to build within the flame zone or proposing an alternate solution under the Planning for Bushfire Protection guidelines will be referred by Council to the NSW Rural Fire Service for comment prior to determination of the application.

O.2.3.3. Subdivisions on Bushfire Prone Land

This section describes the legislative requirements and development controls applying to Development Applications for subdivisions involving land that is classified as bushfire prone on the Bushfire Prone land Map.

Legislative Requirements:

- a. Section 4.46 of the EP&A Act provides that the subdivision of land that could be used for residential or rural residential purposes is “integrated development” and requires a Bushfire Safety Authority to be issued by the NSW Rural Fire Service under Section 100B of the Rural Fires Act 1997 (RF Act).
- b. A Bushfire Safety Authority authorises the subdivision to the extent that it complies with standards regarding setbacks, provision of water supply and other matters considered by the Commissioner of the NSW Rural Fire Service to protect persons, property or the environment from

danger that may arise from a bushfire.

- c. Before determining the Development Application, Council must refer the Development Application to the NSW Rural Fire Service. The NSW Rural Fire Service will consider the application and issue the Bushfire Safety Authority if compliance is achieved with the Planning for Bushfire Protection guidelines.

O.2.3.4. Development for Special Fire Protection Purposes

- a. This section describes the legislative requirements and development controls applying to Development Applications for Special Fire Protection Purposes (SFPP) involving land that is classified as bushfire prone on the Bushfire Prone land Map.

Legislative Requirements:

In accordance with the Rural Fires Act 1997, SFPP means development for the purposes of the following:

- School;
- Child Care Centre;
- Hospital (including a hospital for the mentally ill or mentally disordered);
- Hotel, motel or other tourist accommodation;
- Building wholly or principally used as a home or other establishment for mentally incapacitated persons;
- Seniors housing;
- Group home; or
- Retirement village.

Section 4.46 of the EP&A Act provides that development for a SFPP is “integrated development” and requires a Bushfire Safety Authority to be issued by the NSW Rural Fire Service under Section 100B of the Rural Fires Act 1997 (RF Act).

A Bushfire Safety Authority authorises the development for a SFPP to the extent that it complies with standards regarding setbacks, provision of water supply and other matters considered by the Commissioner of the NSW

Rural Fire Service to protect persons, property or the environment from danger that may arise from a bushfire.

Before determining the Development Application, Council must refer the Development Application to the NSW Rural Fire Service. The NSW Rural Fire Service will consider the application and issue the Bushfire Safety Authority if compliance is achieved with the Planning for Bushfire Protection guidelines. In the event that the NSW Rural Fire Service refuses to grant a Bushfire Safety Authority, Council is required to formally refuse the Development Application.

O.2.3.5. Ancillary Development on Bushfire Prone Land

This section describes the legislative requirements and development controls applying to Development Applications for structures other than new dwelling houses, dwelling alterations and additions, or development for Special Fire Protection Purposes, and where the land is classified as bushfire prone on the Bushfire Prone Land Map.

Legislative Requirements:

- a. The Building Code of Australia (BCA) does not provide any bush fire specific performance requirements and hence AS Australian Standard AS 3959 – Construction of Buildings in Bushfire Prone Areas does not apply as a set of ‘deemed to satisfy’ provisions.
- a. The general fire safety provisions contained in the BCA are taken as acceptable solutions but the aims and objectives of Planning for Bushfire Protection guidelines apply in relation to other matters such as access, water and services, emergency planning and landscaping / vegetation management.
- a. The following classes of buildings in the BCA are subject to compliance with the requirements of the Planning for Bushfire Protection guidelines:
 - i. Class 5 – 8 buildings (i.e. offices, factories, warehouses, public carparks and other commercial or industrial facilities).
 - ii. Class 10a buildings (i.e. sheds).
 - iii. Class 10b buildings (i.e. fences, retaining or free standing walls, masts, antennae, swimming pools or the like).

O.2.4. Bushfire hazard categories

Bushfire prone land is an area of land that can support a bush fire or is likely to be subject to bush fire / ember attack. In general, bush fire prone land identifies vegetation types and associated buffer zones, described as Category 1, Category 2 or Category 3 bushfire prone land.

The bushfire prone land mapping relating to the Cowra Local Government Area) has been prepared by the NSW Rural Fire Service and certified by the Commissioner of the NSW Rural Fire Service. Bushfire prone mapping is designed to flag that a property has potential to be threatened by bushfire and to initiate an assessment under the Planning for Bushfire Protection guidelines to determine whether land management and building construction measures need to be adopted to help safeguard a development from bushfire. There are three categories of bushfire prone land. These are detailed below

Category 1 Bushfire Prone Land

Category 1 bushfire prone land is represented on the bushfire prone land map by the colour orange. This land is comprised of vegetation including forests, woodlands, heathlands, pine plantations and wetlands. For planning purposes, Category 1 bushfire prone land is land that is most at risk of bushfire attack.

Category 2 Bushfire Prone Land

Category 2 bushfire prone land is represented on the bushfire prone land map by the colour yellow. This is comprised of grasslands, scrublands, rainforests, open woodlands and malle. For planning purposes, Category 2 bushfire prone land is land that has a moderate risk of bushfire attack.

Category 3 Bushfire Prone Land

Category 3 bushfire prone land is represented on the bushfire prone land map by the colour red. This land is a buffer to Category 1 and 2 bushfire prone land and is captured on the bushfire prone land map due to likelihood of bushfire attack. The buffer is 100m wide where it adjoins Category 1 bushfire prone land, and 30m wide where it adjoins Category 2 bushfire prone land.

O.2.5. Development Controls

O.2.5.1. Dwellings, Dwelling Alterations & Additions

This section contains controls applying to Development Applications for a new dwelling-house, dwelling alteration or addition involving land that is classified as bushfire prone on the Bushfire Prone land Map.

- a. A Bushfire Risk Assessment Report must be lodged together with the Statement of Environmental Effects in support of the Development Application. The Bushfire Risk Assessment Report must be prepared by a suitably qualified and experienced bushfire consultant and address the proposal's consistency with:
 - i. Planning for Bushfire Protection guidelines.
 - ii. Australian Standard AS 3959
 - iii. Building in Bushfire Prone Areas Single Dwelling Applicants Kit prepared by the NSW Rural Fire Service.
- b. Bushfire protection measures are to be placed wholly within the development site. Asset Protection Zones will not be accepted on existing Council reserves or other public lands.
- c. Construction Certificate Applications will be assessed by Council in accordance with Australian Standard AS 3959 - Construction of Buildings in Bushfire Prone Areas. Applicants must provide a schedule of compliance with the applicable construction standards. This schedule will form part of the approval documentation and the applicant will be required to comply with it during the course of construction.

O.2.5.2. Subdivisions

This section contains development controls applying to Development Applications for subdivisions involving land that is classified as bushfire prone on the Bushfire Prone land Map.

- a. A Bushfire Risk Assessment Report must be lodged together with the Statement of Environmental Effects in support of the Development Application. The Bushfire Risk Assessment Report must be prepared by a suitably qualified and experienced bushfire consultant and address the proposal's consistency with Planning for Bushfire Protection guidelines.
- b. Bushfire protection measures are to be placed wholly within the development site. All proposed Asset Protection Zones are to be within the property to be subdivided and incorporated into affected lots. Asset Protection Zones will not be accepted on existing Council reserves, other public lands or in reserves proposed to be dedicated through the subdivision.
- c. Fire trails, if required, are not accepted on existing Council reserves proposed to be dedicated through the subdivision.

O.2.5.3. Development for Special Fire Protection Purposes

This section contains controls applying to Development Applications for Special Fire Protection Purposes (SFPP) involving land that is classified as bushfire prone on the Bushfire Prone Land Map. Development for Special Fire Protection Purposes includes schools, child care centres, hospitals, hotels, motels, tourist accommodation, mental homes, seniors housing, group homes and retirement villages.

- a. A Bushfire Risk Assessment Report must be lodged together with the Statement of Environmental Effects in support of the Development Application. The Bushfire Risk Assessment Report must be prepared by a suitably qualified and experienced bushfire consultant and address the proposal's consistency with:
 - i. Planning for Bushfire Protection guidelines.
 - ii. Australian Standard AS 3959
 - iii. Building in Bushfire Prone Areas Single Dwelling Applicants Kit prepared by the NSW Rural Fire Service.
- b. Bushfire protection measures are to be placed wholly within the development site. Asset Protection Zones will not be accepted on existing Council reserves or other public lands.
- c. Construction Certificate Applications will be assessed by Council in accordance with Australian Standard AS 3959 – Construction of Buildings in Bushfire Prone Areas. Applicants must provide a schedule of compliance with the applicable construction standards in accordance with Section 3 of the standard. This schedule will form part of the approval documentation and the applicant will be required to comply with it during the course of construction.

O.1.5.4. Ancillary Development

This section contains controls applying to Development Applications for structures other than new dwelling houses, dwelling alterations and additions, or development for Special Fire Protection Purposes, and where the land is classified as bushfire prone on the Bushfire Prone Land Map.

- a. Where a Class 10a building is constructed in proximity to another residential class of building, the Clause 10a building must meet the requirements of that class, or be located more than 10 metres away from the main building.
- b. Class 10b buildings are required to be non-combustible and where an aboveground swimming pool is erected, it should not adjoin or be attached directly onto a wall of a building of Class 1-4 or SFPP Class 9.
- c. Any Development Application for a Class 5-8 building must be accompanied by a Bushfire Risk Assessment Report. This report must be prepared by a suitably qualified and experienced bushfire consultant.
- d. Any Development Application for a Class 10 building must be supported by a Bushfire Risk Assessment Report. It is recommended that this report be prepared by a suitably qualified and experienced bushfire consultant, rather than the property owner.
- e. Construction Certificate Applications will be assessed by Council in accordance with Australian Standard AS 3959 – Construction of Buildings in Bushfire Prone Areas. Applicants must provide a schedule of compliance with the applicable construction standards in accordance with Section 3 of the standard. This schedule will form part of the approval documentation and the applicant will be required to comply with it during the course of construction.

contaminated land management

PART O.3

Part O.3 contains general information and controls about contaminated land. Applicants seeking to address contamination issues should refer directly to State Environmental Planning Policy No. 55 (Remediation of Land) and the Contaminated Land Planning Guidelines, both of which outline the procedures for dealing with the assessment of known or potentially contaminated land and the remediation of contaminated land.

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O.3.1. Application of this Section

Section O.3 of this Part applies to all land within the Cowra Local Government Area.

O.3.2. Objectives for contaminated land

The objectives for contaminated land are to:

- a. Provide direction for Council in the gathering and assessment of information in relation to previous land-use activities that may have resulted in contamination.
- b. Ensure that any proposed development of an identified contaminated site will not result in any unacceptable levels of risk to human health or the environment.
- c. Inform the community, particular those interested or involved in the planning and development process, of Council's procedures relating to existing or potential contaminated land.

O.3.3. Background

In accordance with Part 7A of the Environmental Planning and Assessment Act 1979, contaminated land means:

‘land in, on or under which any substance is present at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment’.

Under the Environmental Planning and Assessment Act 1979, Council has a duty of care, when considering development proposals, to fully consider the possibility of land contamination and the implications it has for any proposed future use of land.

In particular, this Section 0.3 refers to, and formally adopts, the “Managing Land Contamination - Planning Guidelines” (Department of Urban Affairs and Planning & NSW Environmental Protection Authority, 1998) and other relevant legislative requirements

In recognition of its duty of care, Council will adopt a precautionary approach to its consideration of applications involving contaminated or potentially contaminated land. The object of this approach is to enable any land contamination issues to be identified and dealt with at an early stage in the planning process.

O.3.4. Triggers for contamination investigation

A contamination investigation is triggered when a land use change is proposed on lands which have previously been used for certain purposes that have the potential to result in contamination.

Sourced from the Contaminated Land Planning Guidelines, the following list can be used for guidance on some land-use activities that may cause contamination:

- Acid/alkali plant and formulation
- Agricultural / horticultural activities
- Airports
- Asbestos production and disposal
- Chemicals manufacture and formulation
- Defence works
- Drum-reconditioning works
- Dry cleaning establishments
- Electrical manufacturing (transformers)
- Electroplating and heat treatment premises
- Engine works
- Explosive industry
- Gas works
- Iron and steel works
- Landfill sites
- Metal treatment
- Mining and extractive industries
- Oil production and storage
- Paint formulation and manufacture
- Pesticide manufacture and formulation
- Power stations

- Railway yards
- Scrap yards
- Service stations
- Sheep and cattle dips
- Smelting and refining
- Tanning and associated trades
- Waste storage and treatment
- Wood preservation.

0.3.5. Dealing with Development Applications

In determining applications for development proposals, Council will fully consider the possibility of land contamination and the implications it has for any proposed future use of the land. A precautionary approach will be taken to ensure that any land contamination issues are identified and dealt with early in the planning process. Accordingly, Council will:

- a. Proceed with the application according to its usual practice if the site has been proven suitable for the proposed uses without the need for further testing or treatment; or
- b. Proceed with the application according to its usual practice if the site has been proven to be capable of being remediated to a standard that is suitable for the proposed use either in its contaminated state or after remediation; or
- c. Request the applicant to provide additional information; or
- d. Refuse the application with stated reasons.

The following controls will apply to Development Applications generally:

- a. A Development Application must be supported by appropriate information relating to past, present and proposed land uses.
- b. Council will evaluate the site's potential for contamination. If there is any indication of a past land-use or activity that may have caused contamination, Council will require such additional information as is necessary to prove that the site is suitable for the proposed use.
- c. Council may require a site investigation report or similar information to be submitted in support of an application to be referred to a site auditor for an independent review. The auditor shall be nominated by Council. All costs associated with the review shall be borne by the applicant. All communication with the auditor shall be either with the knowledge of Council or in the presence of Council officers.

If it is determined that the site is unsuitable for the proposed use or development, without site remediation, Council will require a statement from an appropriately qualified person certifying whether the site is capable of remediation to the required level for the intended use.

O.3.6. Council Records and Community Information

Council does not hold comprehensive information about land contamination. In the past, little information was kept about contaminated land. Council holds specific information about contamination on only a very small number of sites.

Land contamination is dynamic and no information system can record the nature of all contamination within the local government area at any one time. Council records will change over time as information comes to light. Specifically, the following information will be added to the record for individual parcels of land from time to time:

- a. Information contained in development applications, indicating the use of a site for a potentially contaminating activity listed in Section 3.4 of this Part.
- b. Reports submitted to Council, including preliminary investigation, detailed investigation, remedial action plans, validation and monitoring reports, and site audit statements.
- c. OEH declarations and orders issued under the Contaminated Land Management Act 1997 (including voluntary management proposals approved by the OEH).
- d. Prior notification of category 2 remediation works.
- e. Notification of completion of category 1 and category 2 remediation work.

Information about land contamination held within the Council's records will be supplied to the public by the following means (subject to payment of any prescribed fees):

- a. By issuing Planning Certificates (Section 10.7 Certificates) on application.
- b. By providing access to documents in accordance with the Government Information (Public Access) Act 2009.

Total reliance should not be placed on Section 149 Certificates. Interested parties should request a detailed search by Council of its records in regard to previous uses of a site and / or have a contamination assessment conducted by a qualified consultant.

O.3.7. Other Information & Acknowledgements

This Plan recommends that applicants seeking to address contamination issues should refer to the following relevant information:

- a. Environmental Planning & Assessment Act 1979
- b. Local Government Act 1993
- c. Contaminated Land Management Act 1997
- d. Contaminated Land Management Regulation 1998
- e. State Environmental Planning Policy No. 55 – Remediation of Land.
- f. Water Management Act 2000
- g. Protection of the Environment Operations Act 1997
- h. Waste Avoidance and Resource Recovery Act 2001.
- h. NSW Agricultural and CMPS&F Environmental (1996) – Guidelines for the Assessment and Cleanup of Cattle Tick Dip Sites for Residential Purposes.
- i. Australian and New Zealand and Conservation Council & National Health and Medical Research Council (1992) Guidelines for the Assessment and Management of Contaminated Sites.
- j. Australian and New Zealand and Conservation Council & National Health and Medical Research Council (1994) Financial Liability for Contaminated Site Remediation: A Position Paper.
- k. Australian and New Zealand and Conservation Council & National Health and Medical Research Council and Agricultural and Resource Management Council of Australia and New Zealand (2000) Australia and New Zealand Guidelines for Fresh and Marine Water Quality.
- l. National Health and Medical Research Council and Natural Resource Management Ministerial Council (2004) Australian Drinking Water Guidelines.

The following reference documents are also recommended for applicants seeking to address contamination issues:

- a. NSW Department of Urban Affairs and Planning and the NSW Environment Protection Authority (1998) – Managing Land Contamination – Planning Guidelines.
- b. NSW EPA (1994) Contaminated Sites: Guidelines for Assessing Service Station Sites.
- c. NSW EPA (1995) Contaminated Sites: Guidelines for the Vertical Mixing of Soil on Former Broad-Acre Agricultural Land.
- d. NSW EPA (1995) Contaminated Sites: Sampling Design Guidelines.
- e. NSW EPA (1995) Provisional Water Quality Investigations Manual: Preferred Methods for Sampling and Analysis.
- f. NSW EPA (2003) Contaminated Sites: Guidelines for Significant Risk of Harm from Contaminated Land and the Duty To Report.
- g. NSW EPA (2005) Contaminated Sites: Guidelines for Assessing Former Orchards and Market Gardens.
- a. NSW EPA (2006) Contaminated Sites: Guidelines for the NSW Site Auditor Scheme.
- b. National Environment Protection Council (1999) National Environmental Protection (Assessment of Site Contamination) Measure.
- c. NSW EPA (1997) Guidelines for Consultants Reporting on Contaminated Sites.

Council considers these guidelines to be a mandatory references for consultants assessing contamination levels and undertaking remediation works. Consultants preparing contamination reports should also have a practical working knowledge of the various EPA and NEPC publications on contaminated land including:

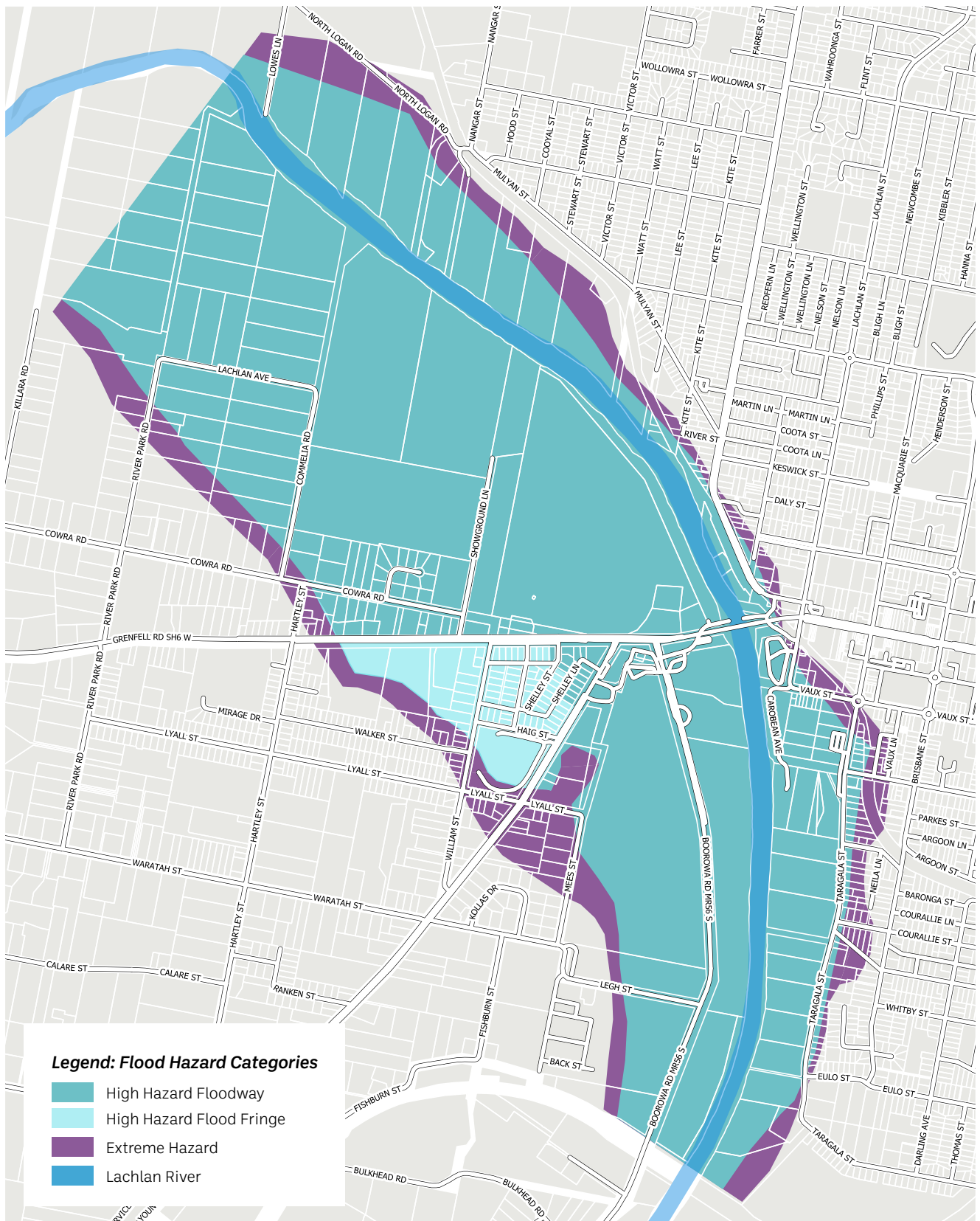
Council also wishes to acknowledge Penrith City Council for the information contained in this Part of the Plan.

A appendix

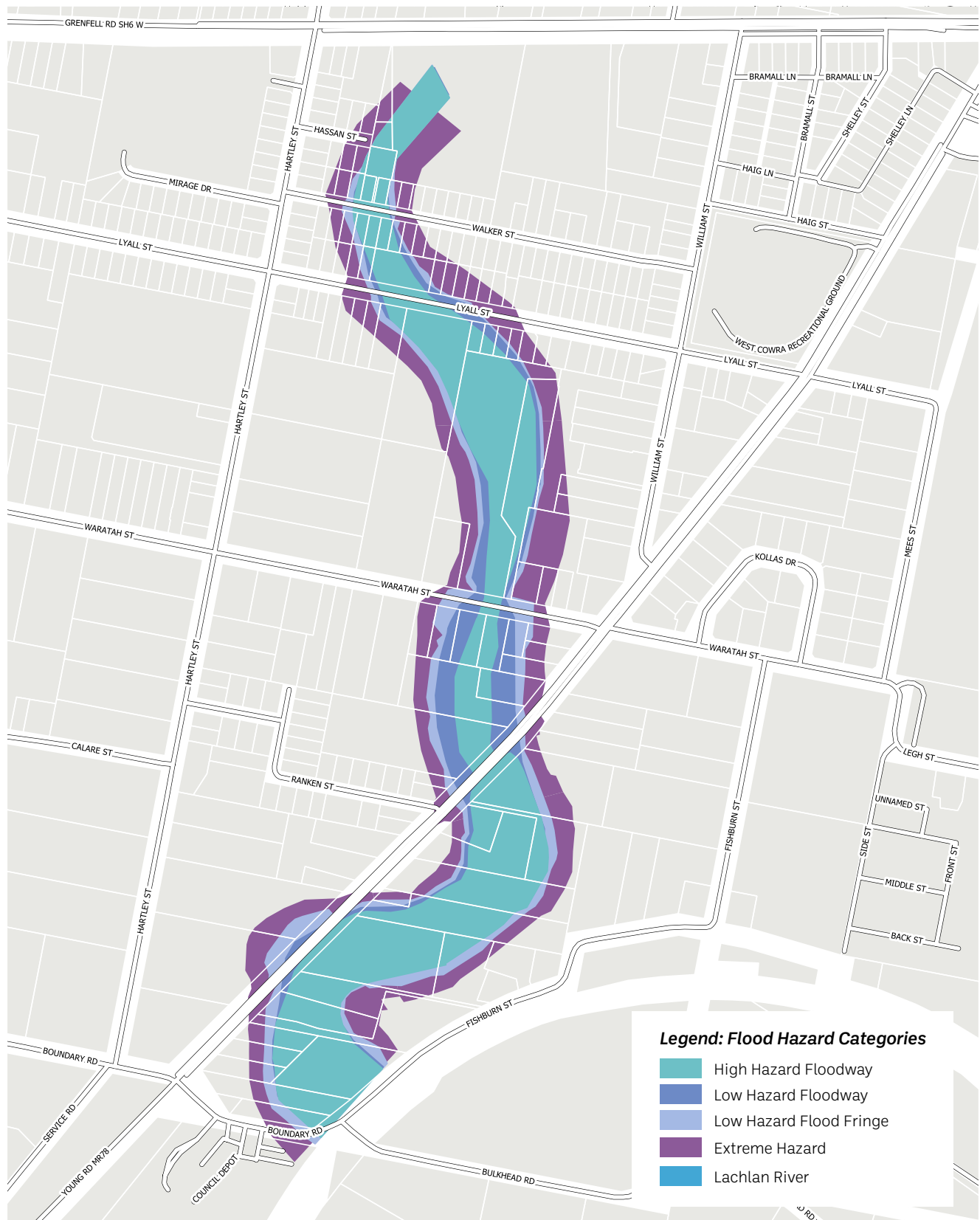
FLOOD HAZARD CATEGORY MAP

Appendix A provides extracts of the 1% AEP Cowra Township Flood Hazard Map as shown in Plan 3 of the Cowra and Gooloogong Floodplain Risk Management Plan.

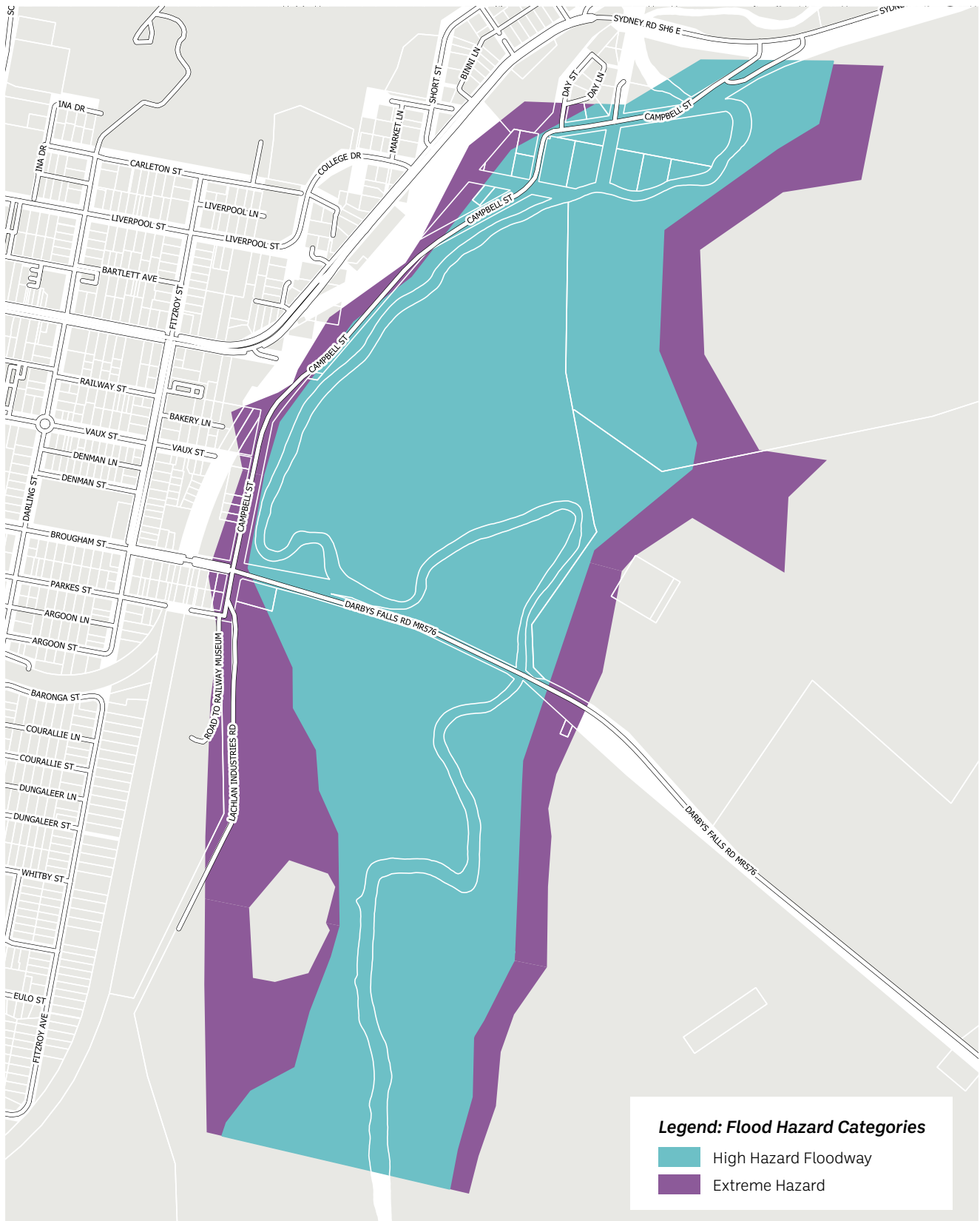
Map 1 - Flood Hazard Category Map (Lachlan River)



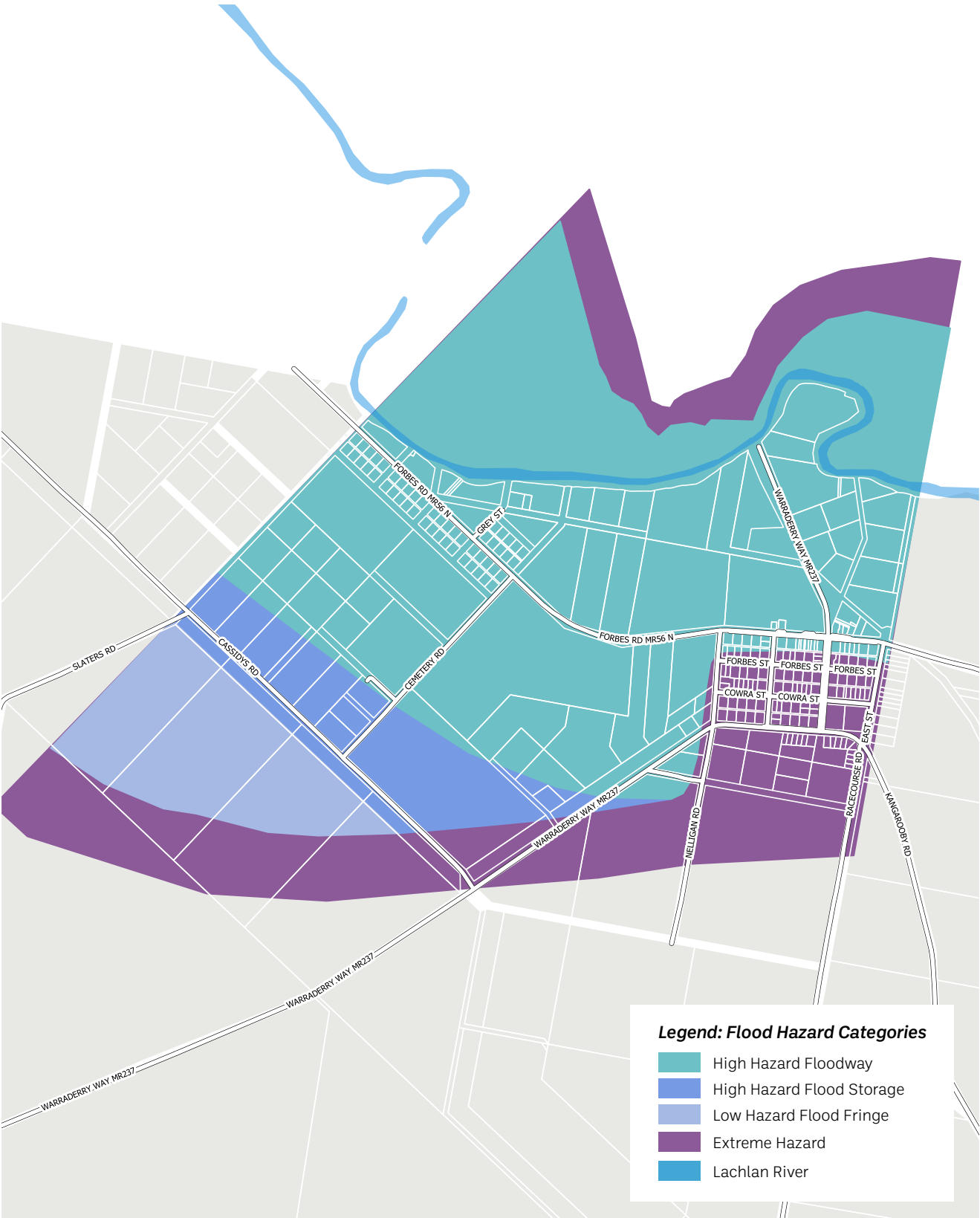
Map 2 - Flood Hazard Category Map (West Cowra Drain)



Map 3 - Flood Hazard Category Map (Waugoola Creek)



Map 3 - Flood Hazard Category Map (Gooloogong)



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B appendix

FLOOD HAZARD BUILDING MATERIALS

Building components	Acceptable material / construction method
Flooring and sub-floor structure	Pier and beam construction, or suspended reinforced concrete slabs.
External wall structures	Solid brickwork, blockwork, reinforced concrete or mass concrete.
Main power supply	Subject to the approval of the relevant power authority, incoming electricity mains, service equipment and meters shall be located 1m above the flood planning level. Means shall be available to easily disconnect the building from the main power supply.
Wiring	All wiring, power outlets, switches, etc, should, to the maximum extent possible, be located 1m above the Flood Planning Level. All electrical wiring installed at or below the FPL should be suitable for continuous submergence in water and should contain no fibrous components. Only submersible-type splices should be used at or below the Flood Planning Level. All conduits located below the relevant flood level should be so installed that they will be self-draining if subjected to flooding.
Equipment	All equipment installed below or partially below the Flood Planning Level should be capable of disconnection by a single plug and socket assembly.
Fuel	Heating systems using gas or oil as a fuel should have a manually operated valve located in the fuel supply line to enable fuel cut-off.
Installation	Heating equipment and fuel storage tanks should be mounted on and securely anchored to a foundation pad of sufficient mass to overcome buoyancy and prevent movement that could damage the fuel supply line. All storage tanks should be vented to an elevation of 500 millimetres above the Flood Planning Level.
Services	All sewer connections to buildings on land at or below the FPL are to be fitted with reflux valves to prevent backflow of sewage in a flood event. Sewer surcharge gullies must be located above the FPL.
Floor covering	Clay tiles; Concrete, precast or in situ; Concrete tiles; Epoxy, formed-in-place; Mastic flooring, formed-in-place; Rubber sheets or tiles with chemical set adhesives; Silicone floors former-in-place; Vinyl sheets or tiles with chemical set adhesives; Ceramic tiles, fixed with mortar or chemical set adhesive; Asphalt tiles, fixed with water resistant adhesives; or Removable rubber-backed carpet
Windows	Aluminium frame.

Building components	Acceptable material / construction method
Doors	Solid panel with water proof adhesives; Flush door with marine ply filled with close cell foam; Painted material construction; Aluminium or galvanised steel frame.
Wall and ceiling linings	Brick, face or glazed; Clay tile glazed in waterproof mortar; Concrete; Concrete block; Steel with waterproof applications; Stone (natural solid or veneer), waterproof grout; Glass blocks; Glass; or Plastic sheeting or wall with waterproof adhesive.
Insulation	Foam or closed cell types
Reconnection	Should any electrical device and/or part of the wiring be flooded, it should be thoroughly cleaned or replaced and checked by an approved electrician before reconnection.
Ducting	All ducting located at or below the FPL should be provided with openings for drainage and cleaning. Self-draining may be achieved by locating the ducting at a suitable grade. Where ducting must pass through a watertight wall or floor below the relevant flood level, the ducting should be protected by a closure assembly operated from above the Flood Planning Level.



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COMPREHENSIVE DCP