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FLOOD PRONE LAND



FLOOD PRONE LAND

6.1. Introduction

The overall purpose of this chapter of the *Inverell Development Control Plan 2013* (IDCP) is to guide and control development on flood prone land identified in the townships of Inverell (see **Figure 6.1**), Ashford (see **Figure 6.2**) and Yetman (see **Figure 6.3**). This chapter also provides requirements for development on likely flood prone land that adjoins rivers and creeks.

The requirements in this chapter for the township of Inverell (**Figure 6.1**) are structured on the flood classification applicable to each site. These classifications are Floodway, Flood Storage and Flood Fringe (Low and High Hazard). There are two flood heights applicable to Inverell relating to the 1976 and 1991 flood in accordance with the Inverell Floodplain Management Plan 1996. Flood prone land in Ashford and Yetman (**Figures 6.2 and 6.3**) is based on the Yetman and Ashford *Flood Scoping Study 2004*.

For development requirements that reference a flood height, Council's Planning Officers should be contacted to provide a flood height to the Australian Height Datum (AHD). It may be necessary to engage the services of a registered surveyor to determine the flood AHD in relation to AHD of the ground level for a site.

6.2. Intent

The specific objectives of this chapter are:

- To discourage inappropriate development on flood prone land;
- To minimise the risk to life and damage to property as a result of flooding;
- To minimise the cost of flooding to the community; and
- To provide guidelines for determination of development on flood prone land.

6.3. Floodway (Inverell)

Outcome

- To discourage inappropriate development within the Inverell Floodway.

Acceptable Solution

- Buildings should not be constructed in the Floodway.
- Placement of fill or other material on the site must not be undertaken other than in conjunction with approved riverbank rehabilitation and stabilisation works.
- Fences must not be constructed unless they are of post and rail construction with a minimum of 70% area open to allow the passage of floodwater.

6.4. Flood Storage (Inverell)

Outcome

- To allow appropriate development within the Inverell Flood Storage area.

Acceptable Solution

- New development is not supported where the development results in a net loss of flood storage volume or significantly alters peak flood flow velocities on adjacent properties.
- Placement of fill or other material on the site is generally not supported in a flood storage area.
- Fencing in a flood storage area requires development consent and engineer's certification.

6.5. Flood Fringe - Low & High Hazard (Inverell)

Outcome

- To allow for development that can withstand inundation in major flood events with minimal property damage or risk to personal safety.



Acceptable Solution

- Development is permitted subject to a competent engineer certifying to Council that the proposed development will be unlikely to:
 - Significantly alter the 1991 flood levels;
 - Significantly alter peak flood flow velocities on adjacent properties during the 1991 flood; and
 - Suffer significant damage, as experienced during the 1991 flood.
- Any portion of a building or structure subject to inundation must be constructed of flood compatible (flood damage resistant) materials.
- Any filling of land is to be limited to the areas occupied by buildings and that are necessary to provide access to the buildings. Filling of land is to be included in the engineer's certification as required above.
- Any proposed fencing is to be shown on the plans accompanying a Development Application and the likely effect of such fencing on flood behaviour is to be included in the engineer's certification as required above.
- Incoming electricity mains, service equipment and meters must be located 1m above the 1991 flood level. A building must be able to be easily disconnected from the main power supply.
- All wiring, power outlets, switches etc should, to the maximum extent possible, be located 1m above the 1991 flood level or be suitable for continuous submergence in water. All conduits located below the 1991 flood level should be so installed that they will be self-draining if subjected to flooding.
- All sewer connections to buildings are to be fitted with reflux valves to prevent backflow of sewage in a flood event.
- Heating and air conditioning systems in buildings should, to the maximum extent possible, be installed in areas and spaces 1m above the 1991 flood level.
- Heating equipment and fuel storage tanks located below the 1991 flood level should be mounted on and securely anchored to a foundation pad of sufficient mass to overcome buoyancy and prevent movement if inundated.
- All ductwork located below the 1991 flood level should be provided with openings for drainage and cleaning. Where necessary ductwork should be provided with a closure assembly to prevent water infiltration.
- High risk developments such as hospitals, homes for the aged, emergency centres and the like should not be located on flood prone land.

Residential Development

- The habitable floor level must be no lower than a level equal to the 1991 flood level plus 1m.
- The floor level of any garages and/or sheds must be no lower than a level equal to the 1976 flood level plus 300mm.

New Commercial and Industrial Development

- The floor level of any new building shall be no lower than a level equal to the 1976 flood level plus 300mm.
- Any new building is to be constructed of flood damage resistant material and is to be fitted with flood protection measures to protect the interior of the building against a flood equal to the 1991 flood level plus 500mm.
- Where Council deems development to be minor redevelopment and/or minor infill development, the floor level requirements for a new building may be relaxed providing Council is satisfied that:
 - A minimum of two thirds of the floor area is to be no lower than a level equal to the 1976 flood level plus 300mm; or
 - Flood protection measures are installed to provide protection for the interior of the building against a flood equal to the 1991 flood level plus 500mm; or
 - Sufficient shelving is to be installed to allow stock to be readily raised to a level no lower than equal to the 1991 flood level plus 500mm; or
 - Any other flood protection measures, which can be demonstrated to Council's satisfaction to provide a level of flood protection equivalent to the three points above. (It will be necessary for innovative approaches under this sub-clause to be supported by certification of structural adequacy from a competent engineer).
- In all cases it will be necessary for the owner/applicant to provide a flood emergency plan to be approved by Council.

Alterations and Additions to Commercial Development

- Alterations and additions may be permitted without the need to raise floor levels subject to the total area of additions to the building not exceeding 50% of the ground floor area of the building as at 31 July 1991 and the proposals do not involve a change of use of the building or an increase in the intensity of building use.
- Notwithstanding the requirements in the clause above, if the proposed additions are deemed by Council to involve a change of use of the building that would result in an increase in the intensity of use or in an increased risk from the effects of flooding, then Council may limit the increase in floor area to 20% of the ground floor level of the building as at 31 July 1991.



- Where existing floor levels are maintained, at least one of the following flood protection measures is to be installed in the building:
 - Flood protection measures to provide protection for the interior of the building against a flood equal to the 1991 flood level plus 500mm; or
 - Sufficient shelving to allow stock to be readily raised to a level no lower than equal to the 1991 flood level plus 500mm; or
 - Any other flood protection measures, which can be demonstrated to Council's satisfaction to provide a level of flood protection equivalent to the three points above. (It will be necessary for innovative approaches under this sub-clause to be supported by certification of structural adequacy from a competent engineer).
- Where the addition or alteration is of a minor or inconsequential nature and does not involve increasing the floor area of the buildings on the site by more than 10% of the floor area of the buildings as at 31 July 1991, Council may waive the requirement for supporting documentation to be submitted by a competent engineer.
- In all cases it will be necessary for the owner/applicant to provide a flood emergency plan to be approved by Council.

6.6. Ashford, Yetman and Other Flood Prone Land

Outcome

- To allow for appropriate development on flood prone land.

Acceptable Solution

- The floor level of any new habitable building shall be located no lower than 1m above the highest known flood, as determined by Council.
- Development is permitted subject to a competent engineer certifying to Council that the proposed development will be unlikely to:
 - Significantly alter the highest known flood levels;
 - Significantly alter peak flood flow velocities on adjacent properties during the highest known flood; and
 - Suffer significant damage, as experienced during the highest known flood.
- Any portion of a building or structure subject to inundation shall be constructed of flood compatible (flood damage resistant) materials.
- Any filling of land is to be limited to the areas occupied by buildings and that are necessary to provide access to the buildings. Filling of land is to be included in the engineer's certification.
- Any proposed fencing is to be shown on the plans accompanying a Development Application and the likely effect of such fencing on flood behaviour is to be included in the engineer's certification required above.
- Incoming electricity mains, service equipment and meters shall be located 500mm above the highest known flood level. Means shall be available to easily disconnect the building from the main power supply.
- All wiring, power outlets, switches etc should, to the maximum extent possible, be located 1m above the highest known flood level or be suitable for continuous submergence in water and should contain no fibrous components. All conduits located below the highest known flood level should be so installed that they will be self-draining if subjected to flooding.
- All sewer connections to buildings are to be fitted with reflux valves to prevent backflow of sewage in a flood event.
- Heating and air conditioning systems in buildings should, to the maximum extent possible, be installed in areas and spaces 1m above the highest known flood level.
- Heating equipment and fuel storage tanks located below the highest known flood level should be mounted on and securely anchored to a foundation pad of sufficient mass to overcome buoyancy and prevent movement if inundated.
- All ductwork located below the highest known flood level should be provided with openings for drainage and cleaning. Where necessary ductwork should be provided with a closure assembly to prevent water infiltration.
- In all cases it will be necessary for the owner/applicant to provide a flood emergency plan to be approved by Council.



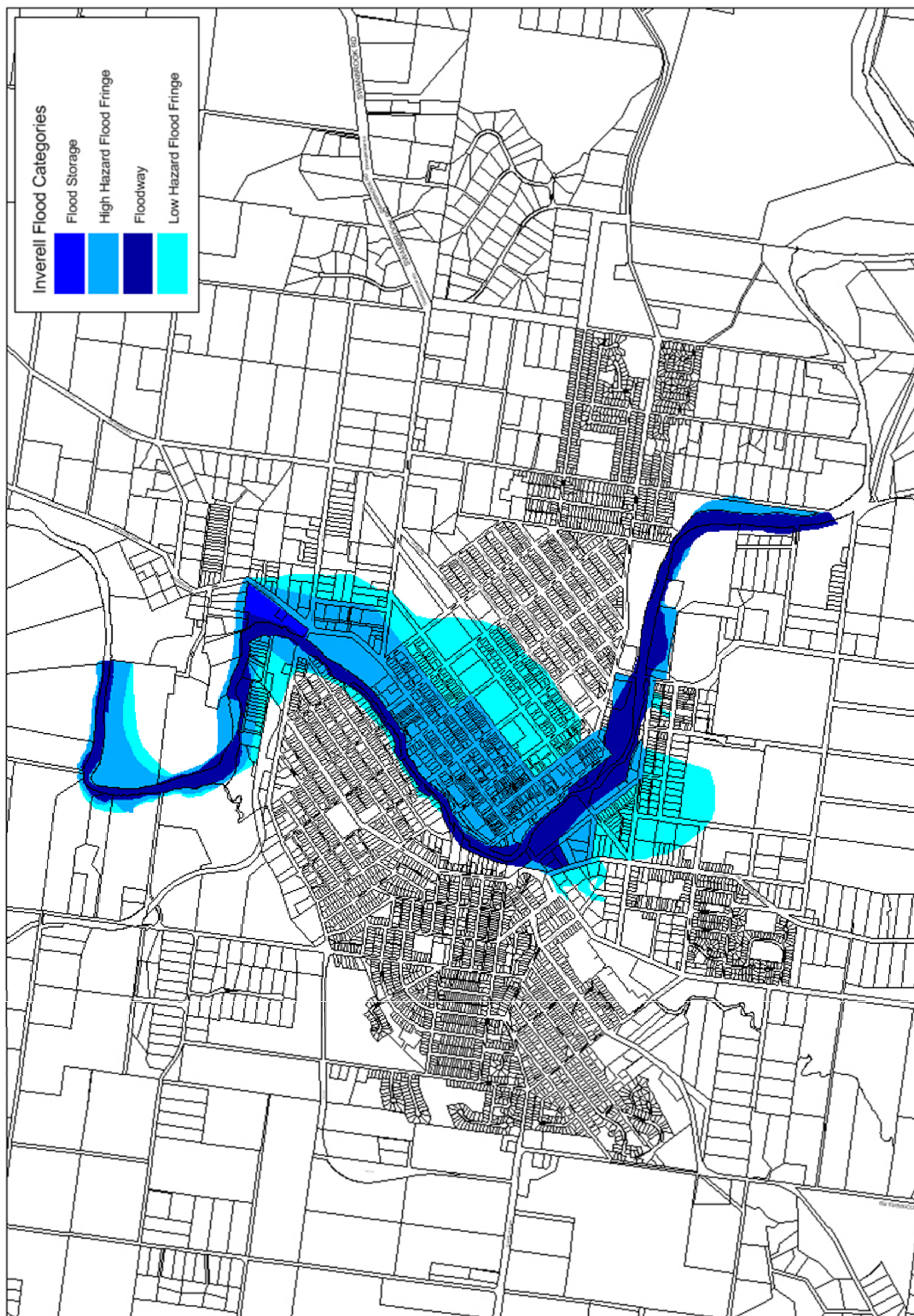


Figure 6.1 – Inverell Flood Prone Land Categories – Inverell Flood Plain Management Plan 1996





Figure 6.2 – Ashford Flood Prone Land – Yetman & Ashford Flood Scoping Study 2004



Figure 6.3 – Yetman Flood Prone Land – Yetman & Ashford Flood Scoping Study 2004

