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## **HAZARDS**

# **Development on Flood Prone Land**

#### **Preamble**

The purpose of this chapter is to provide information and development controls needed to prepare and assess development applications on Flood Prone Land.

#### **Application**

This Chapter applies to all land in the Cessnock Local Government Area (LGA) that is Flood Prone Land<sup>1</sup>.

#### Flood Hazard Classifications

The flood hazard classifications listed in Table 1 apply to this chapter.

Table 1: Flood hazard classifications (reference Table 6.7.3 Australian Rainfall and Runoff 2019).

| Hazard<br>Vulnerability<br>Classification | Description  |
|---|--|
| H1  | Generally safe for vehicles, people and buildings.                                   |
| H2  | Unsafe for small vehicles.   |
| H3  | Unsafe for vehicles, children and older persons.                                     |
| H4  | Unsafe for vehicles and people.  |
| H5  | Unsafe for vehicles and people. All buildings are vulnerable to structural damage.   |
|   | Some less robust buildings are subject to failure.                                   |
| H6  | Unsafe for vehicles and people. All building types considered vulnerable to failure. |

#### **Definitions and Flood Planning Concepts**

All terms used in this DCP chapter have the same meaning as defined in the *Cessnock Local Environmental Plan 2011*, the NSW Floodplain Development Manual 2005 and the DPIE guideline, 'Considering Flooding in Land Use Planning', unless specified below, or elsewhere in this DCP chapter.

**Defined Flood Event** means Council's adopted 1% AEP flood event.

Flood Planning Level means the combination of the flood level from the defined flood event plus

0.5 metre freeboard, unless an alternative definition is provided elsewhere in

this DCP chapter.

Flood Planning Area means the area of land at or below the flood planning level.

**Flood Prone Land** means land susceptible to flooding by the PMF event.

Low hazard overland flooding means land that is identified in Council's online mapping as being subject to

low hazard overland flooding.

<sup>&</sup>lt;sup>1</sup> Council's flood mapping is available online at <u>www.cessnock.nsw.gov.au</u>

Additional supporting information is available in the following fact sheets:

- Fact Sheet 1: Flood Planning Concepts
- Fact Sheet 2: Flood Compatible Building Guidelines

#### **Development provisions**

#### Land Use and Hazard Control Matrix

Table 2 classifies land-use types into Development Categories according to the sensitivity of each land use type to flooding. The table uses a combination of development categories and hazard classification to class developments as either class A, B, C or X. Where the footprint of the proposed building and/or access covers more than one hazard classification, the higher classification shall apply.

- A means the development will be impacted by flooding; however the land use is generally suitable to the hazard classification and group A controls apply to the development
- **B** means the development will be impacted by flooding and group B controls apply to the development. A merit assessment may need to be undertaken for these developments and additional justification may be needed.
- c means that the development will be significantly impacted by flooding. If designed appropriately the development may be suitable in the hazard classification. A merit assessment will need to be undertaken for these developments and additional justification may be needed.
- means the land use is generally not suitable in the hazard classification.

| Objective/s  | Development Controls                    |
|--|---|
| To ensure that development is compatible for   | Development is consistent with Table 2. |
| the flood hazard that is present at the site.  | ·                                       |
| To ensure that development is responsive to the flood characteristics present at the site. |   |

Table 2: Development classification for the Flood Hazard Classification.

|                             |   | Based | on the d | lefined f | lood eve | nt |    |
|-----------------------------|---|-------|----------|-----------|----------|----|----|
| Development                 | Land Use Type                                     | H1    | H2       | Н3        | H4       | H5 | Н6 |
| Ancillary structures type 1 | • Fences (open)                                   | Α     | Α        | Α         | Α        | С  | С  |
| Ancillary structures type 2 | Fence (solid)                                     | Α     | Α        | В         | В        | ×  | ×  |
|                             | Detached garage                                   |       |          |           |          |    |    |
|                             | Temporary structure                               |       |          |           |          |    |    |
|                             | • Shed  |       |          |           |          |    |    |
|                             | Carport (open)                                    |       |          |           |          |    |    |
|                             | Farm building                                     |       |          |           |          |    |    |
| Carpark                     | Carpark   | Α     | Α        | В         | В        | ×  | ×  |
| Single Residential          | Dwelling house                                    | Α     | Α        | В         | В        | ×  | ×  |
|                             | Exhibition home                                   |       |          |           |          |    |    |
|                             | Exhibition villages                               |       |          |           |          |    |    |
|                             | Home business                                     |       |          |           |          |    |    |
|                             | Home industry                                     |       |          |           |          |    |    |
|                             | Home occupation                                   |       |          |           |          |    |    |
|                             | <ul> <li>Home occupation (sex service)</li> </ul> |       |          |           |          |    |    |
|                             | Rural worker's dwelling                           |       |          |           |          |    |    |
| Dual Occupancies,           | Attached dwelling                                 | Α     | Α        | В         | В        | ×  | ×  |
| Attached Dwellings and      | Dual occupancy (attached)                         |       |          |           |          |    |    |
| Secondary Dwellings         | <ul> <li>Dual occupancy (detached)</li> </ul>     |       |          |           |          |    |    |
|                             | Secondary dwelling, Semi-detached dwelling        |       |          |           |          |    |    |

|                               |  | Pacac | l on the c | dofinad f | ood ever | .+ |    |
|-------------------------------|--|-------|------------|-----------|----------|----|----|
| Development                   | Land Use Type  | H1    | H2         | H3        | H4       | H5 | Н6 |
| Multi Residential             | Multi dwelling housing   | А     | Α          | В         | ×        | ×  | ×  |
|                               | Residential flat building  |       |            |           |          |    |    |
|                               | Shop top housing   |       |            |           |          |    |    |
| Tourism Development           | Eco-tourist facilities   | Α     | Α          | В         | ×        | ×  | ×  |
|                               | Backpacker's accommodation   |       |            |           |          |    |    |
|                               | <ul> <li>Bed and breakfast accommodation</li> </ul>                |       |            |           |          |    |    |
|                               | Farm stay accommodation  |       |            |           |          |    |    |
|                               | Hotel or motel accommodation                                       |       |            |           |          |    |    |
|                               | Serviced apartments  |       |            |           |          |    |    |
| C                             | Camping Grounds  |       |            | -         | ×        | ×  | ×  |
| Commercial Development type 1 | Animal boarding or training establishment     Votering of bosoital | Α     | Α          | В         | ^        | ^  | ^  |
| type 1                        | Veterinary hospital     Medical Centres                            |       |            |           |          |    |    |
|                               | Health consulting rooms  |       |            |           |          |    |    |
| Commercial Development        | Business premise   | Α     | Α          | В         | В        | С  | ×  |
| type 2                        | • Funeral home   | '`    | ``         |           |          |    |    |
| -71                           | Office premise   |       |            |           |          |    |    |
|                               | Retail premise   |       |            |           |          |    |    |
|                               | Cellar door premises   |       |            |           |          |    |    |
|                               | Food and drink premises  |       |            |           |          |    |    |
|                               | • Pubs   |       |            |           |          |    |    |
|                               | Restaurant or café   |       |            |           |          |    |    |
|                               | <ul> <li>Takeaway food and drink premises</li> </ul>               |       |            |           |          |    |    |
|                               | Small bar  |       |            |           |          |    |    |
|                               | Sex service premises   |       |            |           |          |    |    |
|                               | Industrial retail outlets  |       |            |           |          |    |    |
|                               | Registered clubs   |       |            |           |          |    |    |
|                               | Restricted premises  |       |            |           |          |    |    |
|                               | Wholesale suppliers     Wholesale suppliers                        |       |            |           |          |    |    |
|                               | • Kiosks   |       |            |           |          |    |    |
|                               | Shop     Neighbourhood shop  |       |            |           |          |    |    |
|                               | Timber yard  |       |            |           |          |    |    |
|                               | Vehicle sales or hire premises                                     |       |            |           |          |    |    |
|                               | Specialised retail premises  |       |            |           |          |    |    |
|                               | Garden centres   |       |            |           |          |    |    |
|                               | Hardware and building supplies                                     |       |            |           |          |    |    |
|                               | Landscape material supplies  |       |            |           |          |    |    |
|                               | Markets  |       |            |           |          |    |    |
|                               | Plant nurseries  |       |            |           |          |    |    |
|                               | Roadside stalls  |       |            |           |          |    |    |
|                               | Rural supplies   |       |            |           |          |    |    |
|                               | Function centre  |       |            |           |          |    |    |
|                               | Amusement centres  |       |            |           |          |    |    |
|                               | Entertainment facilities   |       |            |           |          |    |    |
|                               | Self-storage units   |       |            |           |          |    |    |
|                               | Warehouse and distribution centre     Place of public worship      |       |            |           |          |    |    |
|                               |  |       |            |           |          |    |    |
| Industrial Development        | Public administration building     Light industry                  | Α     | Α          | В         | В        | ×  | ×  |
| industrial Development        | High technology industries   | A     |            |           | В        | "  | "  |
|                               | General industries   |       |            |           |          |    |    |
|                               | Rural industries   |       |            |           |          |    |    |
|                               | Agricultural produce industries                                    |       |            |           |          |    |    |
|                               | Livestock processing industries                                    |       |            |           |          |    |    |
|                               | Sawmill or log processing industries                               |       |            |           |          |    |    |
|                               | Stock and sale yards   |       |            |           |          |    |    |
|                               | Vehicle body repair workshop                                       |       |            |           |          | 1  |    |
|                               | Vehicle repair station   |       |            |           |          |    |    |
|                               | • Depots   |       |            |           |          | 1  | 1  |
|                               | Transport depot  |       |            |           |          |    |    |
|                               | Truck depot  |       |            |           |          |    |    |
|                               | Freight transport facility   |       |            |           |          | ļ  | ļ  |
| Agricultural Development      | Aquaculture  | Α     | Α          | В         | В        | С  | С  |
|                               | Extensive agriculture  |       |            |           |          | 1  | 1  |
|                               | Bee keeping  |       |            |           |          |    |    |

|   |   | Based | on the | defined f | lood eve | nt |    |
|---|---|-------|--------|-----------|----------|----|----|
| Development                             | Land Use Type   | H1    | H2     | Н3        | H4       | H5 | Н6 |
|   | Dairy (pasture-based)   |       |        |           |          |    |    |
|   | Intensive livestock agriculture   |       |        |           |          |    |    |
|   | Feed lots   |       |        |           |          |    |    |
|   | Dairies (restricted)  |       |        |           |          |    |    |
|   | Intensive plant agriculture   |       |        |           |          |    |    |
|   | Horticulture  |       |        |           |          |    |    |
|   | Viticulture   |       |        |           |          |    |    |
|   | Turf farming  |       |        |           |          |    |    |
|   | Forestry  |       |        |           |          |    |    |
| Recreation type 1                       | Recreation Facility (indoor)  | Α     | Α      | В         | В        | С  | ×  |
|   | Recreation facility (major)   |       |        |           |          |    |    |
|   |   |       |        |           |          |    |    |
| Recreation type 2                       | Recreation facilities (outdoor)   | Α     | Α      | В         | В        | С  | С  |
| .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | Recreation area   |       |        |           | _        |    |    |
| Earth works                             | Extractive industries   | Α     | Α      | В         | В        | С  | С  |
| Editif Works                            | Mining  | ^     | '      |           |          | Č  |    |
|   | • Roads   |       |        |           |          |    |    |
|   | Drainage works  |       |        |           |          |    |    |
| Potentially Polluting                   | Service station   | Α     | Α      | В         | ×        | ×  | ×  |
| activities                              | Highway service centers   | ^     |        |           | -        |    | -  |
| detivities                              | Heavy Industries  |       |        |           |          |    |    |
|   | Hazardous industries  |       |        |           |          |    |    |
|   | Offensive industries  |       |        |           |          |    |    |
|   | Heavy industrial storage establishments                                 |       |        |           |          |    |    |
|   | ,   |       |        |           |          |    |    |
|   | Hazardous storage establishments     Liquid fuel depots                 |       |        |           |          |    |    |
|   |   |       |        |           |          |    |    |
| Frank                                   | Offensive storage establishment   | Α     | _      | В         | В        | С  | С  |
| Event                                   | Music or art festival   | A     | Α      | В         | В        | C  | (  |
| Infrastructure                          | Water reticulation systems  | Α     | Α      | В         | В        | С  | С  |
|   | Water storage facilities  |       |        |           |          |    |    |
|   | Water treatment facilities  |       |        |           |          |    |    |
| Subdivision                             | See subdivision section of this DCP chapter for                         | A *   | A*     | В*        | В*       | C* | C* |
|   | additional controls   |       |        |           |          |    |    |
|   | Subdivision must be able to demonstrate that the                        |       |        |           |          |    |    |
|   | proposed lots will be able to accommodate the                           |       |        |           |          |    |    |
|   | uses permitted in the zone.   |       |        |           |          |    |    |
| Sensitive uses and facilities           | <ul> <li>Community facility (not considered a critical use),</li> </ul> | В     | ×      | ×         | ×        | ×  | ×  |
|   |   |       |        |           |          |    |    |

proposal fits into based on the documentation provided to Council.

Note 2: Land use types are those as defined in Cessnock LEP 2011, unless otherwise specified.

Note 3: Other factors may also need to be taken into consideration when determining the hazard classification, such as access to safe evacuation facilities and the available warning times.

#### Sensitive and Hazardous Development

Sensitive and hazardous development is development that is vulnerable to greater impact from natural hazards because of the particular type of land use or the characteristics of people that are typically associated with that land use. Sensitive development also includes critical infrastructure, the temporary loss of which is likely to cause significant disruption.

| Objective/s  | Development Controls  |
|--|---|
| To enable the safe occupation and evacuation             | Development consent must not be granted to  |
| of people subject to flooding.                           | development listed in Table 3 unless Council is satisfied that the development—                         |
| To ensure development on land is compatible              |   |
| with the land's flood behaviour in the event of a flood. | (a) will not affect the safe occupation and efficient evacuation of people in the event of a flood, and |
|  | UI a IIUUu, allu  |

To avoid adverse or cumulative impacts on flood behaviour.

To protect the operational capacity of emergency response facilities and critical infrastructure during flood events.

To avoid adverse effects of hazardous development on the environment during flood events.

- (b) incorporates appropriate measures to manage risk to life in the event of a flood, and
- (c) will not adversely affect the environment in the event of a flood.

Table 3: Sensitive and Hazardous development, including critical infrastructure.

| evelopment                          | Land Use Type   |
|-------------------------------------|---|
| ensitive uses and facilities type 2 | airport,  |
|                                     | boarding houses,  |
|                                     | caravan parks,  |
|                                     | Community facility (which provides an important contribution to the notification or evacuation of the community during flood events), |
|                                     | correctional centres,   |
|                                     | early education and care facilities,  |
|                                     | eco-tourist facilities,   |
|                                     | educational establishments,   |
|                                     | electricity generating works,   |
|                                     | emergency services facilities,  |
|                                     | group homes,  |
|                                     | hazardous industries,   |
|                                     | hazardous storage establishments,   |
|                                     | heliport,   |
|                                     | hospitals,  |
|                                     | • hostels,  |
|                                     | information and education facilities,   |
|                                     | Manufactured home   |
|                                     | Manufactured home estates   |
|                                     | respite day care centres,   |
|                                     | seniors housing,  |
|                                     | sewerage systems,   |
|                                     | telecommunications facilities,  |
|                                     | tourist and visitor accommodation,  |
|                                     | waste or resource management facilities,  |
|                                     | water supply systems.   |

- Note 1: Where development does not fit within the categories outlined above, Council will determine which land use category the proposal fits into based on the documentation provided to Council.
- Note 2: Land use types are those as defined in Cessnock LEP 2011, unless otherwise specified.
- Note 3: Other factors may also need to be taken into consideration when determining the hazard classification, such as access to safe evacuation facilities and the available warning times.

# **Detailed Survey**

The following control applies to all development that is proposed within the flood planning area.

| Objective/s                                      | Development Controls                        |
|--|---|
| To ensure that the potential impacts of flooding | All applications for development within the |
| are considered when assessing development        | flood planning area shall be supported by a |
| within the flood planning area.                  | development site plan that incorporates a   |
|  | detailed survey, drafted by a registered    |
|  | surveyor.                                   |

### Flood Assessment Report

A FAR provides information on existing flood risk for a catchment and outlines how the proposed development is consistent with the requirements of this DCP. A FAR is to be consistent with the NSW Floodplain Development Manual 2005. Depending on the scale of the development either a Minor or Major FAR is required to be submitted with the application.

| Objective/s                                      | Development Controls  |
|--|---|
| To ensure that the potential impacts of flooding | A <b>Minor FAR</b> will <i>generally</i> be required where:   |
| are considered when assessing development on     | , ,   |
| flood prone land.                                | the development is considered to be of a  |
|  | minor scale; and  |
|  | <ul> <li>the development is seeking to vary the</li> </ul>  |
|  | relevant freeboard that applies to the land.  |
|  |   |
|  | OR  |
|  |   |
|  | <ul> <li>flood data is not available and the site:</li> <li>a. is within 10 metres (horizontally) of a</li> </ul> |
|  |   |
|  | public trunk drainage system; natural   |
|  | watercourse, local overland flood path  |
|  | or drainage easement; or  |
|  | b. has a history of flooding.   |
|  | OR  |
|  |   |
|  | Flood data is available but requires  |
|  | updating, interpolation, extrapolation, or  |
|  | refinement to greater detail.   |
| To ensure that the potential impacts of flooding | A Major FAR will be required where Council  |
| are considered when assessing development on     | considers the development to be at a scale that   |
| flood prone land                                 | exceeds that specified by a minor FAR, will   |
|  | result in intensification of development on flood prone land and/or result in an increased                        |
|  | risk due to potential affectation by flooding.  |
|  | risk due to potential affectation by flooding.  |
|  | A <b>Major FAR</b> will <i>generally</i> be required where:   |
|  | development is not considered to be of a  |
|  | minor scale; and  |
|  | the property is impacted (or potentially  |
|  | impacted) by riverine or overland flooding;   |
|  | <ul><li>and</li><li>the development incorporates habitable</li></ul>  |
|  | floor space, or a commercial or industrial  |
|  | (or similar) function; and  |
|  | <ul> <li>the development is seeking to vary the</li> </ul>  |
|  | relevant freeboard that applies to the land.  |
|  | OR  |
|  |   |

| Objective/s | Development Controls  |
|-------------|---|
|             | flood data is not available and the site:         a. is within 10 metres (horizontally) of a public trunk drainage system; natural watercourse, local overland flood path or drainage easement; or         b. has a history of flooding.          |
|             | OR  |
|             | <ul> <li>flood data is available but requires updating, interpolation, extrapolation, or refinement to greater detail; and/or</li> <li>the development relates to a residential use of land that is hazard classification H4 or above.</li> </ul> |

# **General Requirements (New Development)**

The following controls apply to development class A, B or C.

| Objective/s   | Development Controls   |
|---|--|
| To reduce risk to life and property resulting from floods by controlling development within the flood planning area.                          | All habitable finished floor levels are to be at or above the Flood Planning Level.  Alternatively, development will be assessed on its merits against the flood planning provisions of the <i>Cessnock Local Environmental Plan 2011</i> .  Non-Habitable floor levels are to be at or above the defined flood event, except for Ancillary Structures Type 1 and Ancillary Structures Type 2 (see Table 2). |
| To ensure that development within the flood planning area does not place an unacceptable financial burden on landowners or the community.     | Parts of the building constructed at or below the Flood Planning Level are to be constructed with materials identified as 'suitable' in Fact Sheet 2: Flood Compatible Building Guidelines   |
| To ensure that all land uses and essential services are appropriately sited and designed in recognition of all potential floods.              | Electrical fixtures such as power points, light fittings and switches are to be sited above the Flood Planning Level unless they are on a separate circuit (with earth leakage protection) to the rest of the building.  |
| To protect the integrity of the flood plain, including riparian vegetation, fluvial geomorphologic environmental processes and water quality. | All hazardous chemicals are to be stored above the Flood Planning Level.   |

# **Evacuation**

The following controls apply to development in **Group B and C.** 

| Objective/s                                     | Development Controls                            |
|---|---|
| To reduce risk to life and property resulting   | If intensifying development that incorporates a |
| from floods by controlling development on       | habitable use on flood prone land, it must be   |
| flood prone land.                               | demonstrated that, in the event of a flood,     |
|   | users of the development are able to safely     |
|   | self-evacuate to land that is not flood prone   |
|   | land and do so without the need to traverse     |
|   | flood waters of a higher hazard classification. |
| To ensure that development does not have a      | A structural assessment is required by a        |
| significant impact on flood behaviour, people's | suitably qualified engineer to demonstrate that |
| safety, surrounding properties and structures   | structures in hazard category H5 or H6 will be  |
| and the natural environment.                    | safe to withstand hydraulic loads (including    |
|   | debris) in a defined flood event.               |

## Flow of Water

The following controls apply to development in **Group C.** 

| Objective/s                                     | Development Controls                            |
|---|---|
| To ensure that development does not have a      | Any development with a hazard classification of |
| significant impact on flood behaviour, people's | H5 or H6 must have open structures so that the  |
| safety, surrounding properties and structures   | flow of water is not restricted.                |
| and the natural environment.                    | All fences are to allow passage of a defined    |
|   | flood event under or through the fence.         |

### Car Parks

The following controls apply to developments that include carparks.

| Objective/s                                   | Development Controls                             |
|---|--|
| To ensure that development on flood prone     | The floor level of car parks are to be no lower  |
| land does not place an unacceptable financial | than the 5% AEP flood level <sup>2</sup> .       |
| burden on landowners or the community.        | Basement or below ground carparks will only      |
|   | be supported where all potential water entry     |
| To ensure that future use of flood prone land | points are at or above the flood planning level. |
| does not cause undue stress to individuals or | Where it is demonstrated that this cannot be     |
| unduly increase potential flood liability to  | achieved the following requirements are to be    |
| individuals or the community.                 | met:   |
|   | a. The basement is designed so that the          |
|   | structural integrity of the building is not      |
|   | compromised if the basement is either            |
|   | partially or fully inundated during a flood.     |
|   | b. All exit points below the Flood Planning      |
|   | Level are able to be closed and locked to        |
|   | prevent access during floods.                    |

 $<sup>^{\</sup>rm 2}$  Hydraulic controls must also be considered, particularly in relation to on site fill.

| Objective/s | De | velopment Controls                             |
|-------------|----|--|
|             | c. | Electrical and water fixtures are sited above  |
|             |    | the Flood Planning Level unless they are on    |
|             |    | a separate circuit (with earth leakage         |
|             |    | protection) to the rest of the building.       |
|             | d. | At least one stairwell from the basement is    |
|             |    | to extend to at least the Flood Planning       |
|             |    | Level. The door for this exit is to be readily |
|             |    | openable without a key from the inside (i.e.   |
|             |    | the side facing egress). The handle is to be a |
|             |    | single downwards pushing action such as a      |
|             |    | leaver.  |
|             | e. | The owner(s) of the building are to consult    |
|             |    | with the State Emergency Services to           |
|             |    | determine the most appropriate                 |
|             |    | mechanisms for evacuation/management           |
|             |    | of the basement car park where the             |
|             |    | projected flood level would result in          |
|             |    | inundation.                                    |
|             |    |  |

### On-Site Wastewater Management

The following controls apply to on-site wastewater management

| Objective/s                                  | Development Controls                            |
|--|---|
| To protect the integrity of the flood plain, | All components of the on-site waste water       |
| including riparian vegetation, fluvial       | management system (including vents and          |
| geomorphologic environmental processes and   | inspection opening) are to be located above the |
| water quality.                               | defined flood event.                            |
|  | The land application area must be above the     |
|  | 5% AEP flood level.                             |
|  | The Australian Height Datum (AHD) levels at     |
|  | the site of the on-site waste water             |
|  | management facility are to be determined by a   |
|  | Registered Surveyor.                            |

# Subdivision

The following controls apply to applications to subdivide land within the flood planning area

| Objective/s                                   | Development Controls                           |
|---|--|
| To reduce risk to life and property resulting | Subdivision of land within the flood planning  |
| from floods by controlling development within | area must:                                     |
| the flood planning area.                      |  |
|   | a. Consist of a single development application |
| To ensure that development within the flood   | containing:                                    |
| planning area does not place an unacceptable  | i. The subdivision of land into two or         |
| financial burden on landowners or the         | more lots, and                                 |
| community.                                    |  |

#### Objective/s

To ensure that future use of land within the flood planning area does not cause undue stress to individuals or unduly increase potential flood liability to individuals or the community.

To protect the integrity of the flood plain, including riparian vegetation, fluvial geomorphologic environmental processes and water quality.

#### **Development Controls**

- ii. The erection of an dwelling house on each lot resulting from the subdivision that does not contain an existing dwelling and meets the requirements of this DCP Chapter; or,
- b. be on land that is in an Urban Release Area identified in the Cessnock Local Environmental Plan 2011 prior to this DCP Chapter being adopted; or
- c. demonstrate that the size and design of the proposed lots are able to accommodate the uses permissible in the zone if the subdivision is in a zone other than a residential zone.
- d. demonstrate that all components of an onsite waste water management system (including vents and inspection opening) are capable of being located above the flood planning level on each lot within the subdivision.

#### Land to which the Cessnock City Wide Flood Study Applies

The following controls apply to land to which the Cessnock City Wide Flood Study Applies

| Objective/s                                     | Development Controls                                    |
|---|---|
| To ensure that future use of land within the    | For land to which the Cessnock Citywide Flood           |
| flood planning area does not cause undue        | Study applies, the <i>flood planning level</i> is taken |
| stress to individuals or unduly increase        | to be the defined flood event plus 1 metre              |
| potential flood liability to individuals or the | freeboard.  |
| community.                                      |   |
|   | Note: Any applications that seek to vary the 1          |
|   | metre freeboard must be accompanied by a                |
|   | FAR.  |

#### Properties impacted by Low Risk Overland Flooding

The following controls apply to properties affected by low risk overland flooding

| Objective/s                                     | Development Controls   |
|---|--|
| To ensure that future use of land within the    | For properties impacted by <i>low risk overland</i>              |
| flood planning area does not cause undue        | <i>flooding</i> , the <i>flood planning level</i> is the defined |
| stress to individuals or unduly increase        | flood event plus 0.3 metre freeboard, or 0.6                     |
| potential flood liability to individuals or the | metre freeboard if the Cessnock City Wide                        |
| community.                                      | Flood Study applies to the land.                                 |
| ,   |  |

| Alternatively, development will be assessed on   |
|--|
| its merits against the flood planning provisions |
| of the Cessnock Local Environmental Plan 2011.   |
|  |
| Note: Any applications that seek to vary the 0.3 |
| metre freeboard must be accompanied by a         |
| FAR.   |

# **Hydraulic Controls**

# Flood Storage

| Objective/s                                     | Development Controls                             |
|---|--|
| To ensure that development does not have a      | Up to 20% of the development footprint in a      |
| significant impact on flood behaviour, people's | flood storage area may be filled.                |
| safety, surrounding properties and structures   | Despite clause 1 if more than 20% of the site is |
| and the natural environment.                    | to be filled a flood study must demonstrate      |
|   | that the fill does not have a negative impact on |
|   | neighbouring properties, overland flow and/or    |
|   | the environment.                                 |

### Floodway

| Hodaway   |   |
|---|---|
| Objective/s                                     | Development Controls                              |
| To reduce risk to life and property resulting   | No building or structure is to be erected on      |
| from floods by controlling development on       | land identified as floodway on the Hydraulic      |
| flood prone land.                               | Category Maps.                                    |
| To ensure that development does not have a      | No land fill by way of deposition of any material |
| significant impact on flood behaviour, people's | is to occur within an area identified as a        |
| safety, surrounding properties and structures   | floodway except for minor alterations to          |
| and the natural environment.                    | ground levels which do not significantly alter    |
|   | the fundamental flow patterns for:                |
|   | a. Roads  |
|   | b. Parking  |
|   | c. Below ground structures                        |
|   | d. Landscaping                                    |
|   | New development is to be designed to avoid        |
|   | fences in floodways. Where dividing fences        |
|   | across floodways are unavoidable, they are to     |
|   | be constructed only of open type fencing that     |
|   | does not restrict the flow of water. The fencing  |
|   | design is to be resistant to blockage or designed |
|   | to be collapsible under heavy flood loadings.     |
| To ensure that development on flood prone       | Flood mitigation works are to meet the            |
| land is consistent with the NSW Flood Prone     | requirements of the relevant Flood Risk           |
| Land Policy and NSW Floodplain Development      | Management Plan.                                  |
| Manual 2005.                                    |   |

### **House Raising and Flood Proofing**

The following controls apply to house raising and/or flood proofing.

| Objective/s                                  | Development Controls   |
|--|--|
| To ensure that development within the flood  | Development is required to meet the 'general   |
| planning area does not place an unacceptable | requirements (new development)' in the   |
| financial burden on landowners or the        | following circumstances:   |
| community.                                   | <ul> <li>a. Following a flood event where there has been inundation of the dwelling necessitating the removal and replacement of external and/or internal cladding material; or</li> <li>b. Following a flood event where there has been structural compromise to the dwelling which requires remediation; or,</li> <li>c. There is a proposal to increase the enclosed habitable floor area of the building by more than:</li> <li>Existing building area Minor addition limit (250m² 50m²     250m²-750m² 75m²     &gt;750m²     </li> </ul> |
|  |  |
|  | or,  |
|  | d. There is a proposal to undertake major  |
|  | renovations to the dwelling; or,   |
|  | e. The proposed works have the potential to  |
|  | impact on flood behaviours.  |
|  |  |

## **Additions and Renovations**

In deciding whether to support an application for additions and/or renovations of the existing floor area below the Flood Planning Level, Council will consider whether the renovations, alterations or additions are likely to add to the life span of any development within the flood affected area of the property and its exposure to future flood impacts.

| Objective/s                                   | Development Controls                            |  |
|---|---|--|
| To reduce risk to life and property resulting | Additions and renovations are not supported     |  |
| from floods by controlling development within | where the habitable floor level of the addition |  |
| the flood planning area.                      | is below the 5% AEP flood level.                |  |
|   | Additions and renovations are to be completed   |  |
|   | in accordance with the Fact Sheet 2: Flood      |  |
|   | Compatible Building Guidelines                  |  |

|   | Any additions and/or renovations are to meet the requirements of this DCP Chapter if the floor areas is increased by more than:   |                      |
|---|---|----------------------|
|   | Existing building area  | Minor addition limit |
|   | <250m <sup>2</sup>  | 50m²                 |
|   | 250m <sup>2</sup> -750m <sup>2</sup>  | 75m <sup>2</sup>     |
|   | >750m²  | 100m <sup>2</sup>    |
| To ensure sensitive uses and facilities and critical infrastructure are not impacted by flood events.   | Alterations or additions to critical infrastructure are not located on flood prone land.  |                      |
| To ensure sensitive uses and facilities and critical infrastructure are not impacted by flood events.   | Additions and renovations to sensitive uses and facilities are to be located on land with a hazard classification of H1.  |                      |
| To ensure that development does not have a significant impact on flood behaviour, people's safety, surrounding properties and structures and the natural environment. | A structural assessment is required by a suitably qualified engineer to demonstrate the structure would be safe to withstand hydraulic loads (including debris) in a defined event if the development has a hazard classification of H5 or above. |                      |

### **Branxton Commercial Precinct**

The Branxton commercial area is located on land within the flood planning area, a large portion of which is Hazard Category H5 or H6. Typically some types of commercial development are not supported on land with this hazard category; however Branxton has a number of unique factors that mean that flooding needs to be considered on a case by case basis in the Branxton commercial area.

| Objective/s                                     | Development Controls                             |
|---|--|
| To ensure that future use of land within the    | The Flood Planning Level for land within the     |
| flood planning area does not cause undue        | Branxton Flood Planning Area (see Figure 1) is   |
| stress to individuals or unduly increase        | 34.2m AHD, which includes a 0.7m freeboard.      |
| potential flood liability to individuals or the |  |
| community.                                      | Alternatively, development will be assessed on   |
|   | its merits against the flood planning provisions |
|   | of the Cessnock Local Environmental Plan 2011.   |
|   |  |
|   | Note: Any applications that seek to vary the 0.7 |
|   | metre freeboard must be accompanied by a         |
|   | FAR.   |



Figure 1: Branxton Flood Planning Area.