Caravan Parks in Flood Prone Areas Policy (DCP / LAP)

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Local Approvals Policy POL12/104

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PART 1. ABOUT THE CARAVAN PARKS IN FLOOD PRONE AREAS POLICY (DCP/LAP)

1.1. Introduction

The Caravan Parks in Flood Prone Areas Policy (DCP/LAP) (hereafter referred to as plan/policy) is both a development control plan and local approvals policy. The plan/policy provides information and development controls needed to assess applications relating to manufactured home estates, caravan parks, camping grounds, moveable dwellings, rigid annexes and associated structures on flood prone land.

The NSW Flood Policy together with the Floodplain Development Manual (2005) provides direction in regard to the management of floodplains and all development within it, inclusive of caravan parks and like complexes. The Manual requires the acceptable level of flood related risks to be determined by Local Government on balance with social, economic and ecological considerations.

Caravan parks and like complexes often provide a valuable economic and social contribution to a local community. While there is an overriding body of legislation and policy applicable at the State Government level, there is a need for more detailed guidelines which apply to the interrelated issues of caravan parks and like estates within the floodplains of the Shoalhaven City LGA. These more detailed guidelines need to address the ongoing operation of existing complexes, proposals for alterations and additions to existing complexes inclusive of installation of new accommodation units, and proposals for new complexes.

1.2. Citation

This plan/policy may be cited as Caravan Parks in Flood Prone Areas Policy (DCP 123 / LAP)

1.3. Where this plan/policy applies

This applies to all flood prone land within the whole of the Shoalhaven City Council area.

This plan/policy relates to and will apply in conjunction with the relevant provisions of the following legislation:

Legislation	Further information
Shoalhaven Local Environmental Plan 1985;	www.shoalhaven.nsw.gov.au
Local Government Act 1993	www.legislation.nsw.gov.au
Environmental Planning and Assessment Act, 1979, and Regulation	www.legislation.nsw.gov.au
Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005	www.legislation.nsw.gov.au
NSW Government Flood Prone Land Policy 1984	www.nsw.gov.au

Legislation	Further information
NSW Floodplain Development Manual (2005) and other associated guidelines	www.nsw.gov.au
NSW Coastal Planning Guideline: Adapting to Sea Level Rise 2010	www.planning.nsw.gov.au
NSW Sea Level Rise Policy Statement 2009	www.environment.nsw.gov.au
State Environmental Planning Policy No. 21 – Caravan Parks	www.planning.nsw.gov.au
State Environmental Planning Policy No. 36 – Manufactured Home Estates	www.planning.nsw.gov.au
Shoalhaven Design Guidelines for Permanent Occupancy of Caravan Parks (Policy No: POL08/174)	www.shoalhaven.nsw.gov.au
DCP 106 Development on Flood Prone Land (Amendment 1)	www.shoalhaven.nsw.gov.au

1.4. How to use this plan/policy

The criteria for determining applications are structured in recognition that different controls are applicable to different development/installation types and levels of potential flood inundation and hazard. To determine the flood controls that are relevant (to an existing development, proposed development or installation) and to prepare your application to Council, the following steps should be taken:

Step 1:

Please read this document carefully and seek assistance from Council officers as required.

Step 2:

Determine what flood information is available for your site and whether or not Council has adopted a Floodplain Risk Management Plan for the area (refer Council's website).

If flood Information is available, obtain a Flood Certificate. Please mention in the "other comments" box of the request form that you require a Caravan Park Flood Risk Precinct for the site.

Flood Evacuation Plans which include information on Caravan Park Flood Risk Precincts may exist for some Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings. Refer to Site Manager to view the Flood Evacuation Plan.

If no current flood information is available, you may be required to engage a suitably qualified consultant to undertake a Flood Assessment. Refer to section 1.15.2 for more information on what is required for such an assessment.

Step 3:

Identify the type of approval you are seeking:

- approval for new complex or new extensions to an existing complex;

- approval to operate; or
- approval for installations.

If you are applying for an installation, identify the installation/activity type (as per section 1.15.4):

- Long term moveable dwelling or relocatable home;
- Privately owned moveable dwelling - short term;
- Park owned moveable dwelling - short term;
- Rigid annexe;
- Minor associated structure; or
- Large associated structure

Section 1.15.4 provides a more detailed description of the above developments/activities.

Please note that applications for substantive structures and buildings, such as a Manager's residence, Office, Community Building, Amenity Block and the like are not covered within this policy but will require compliance with DCP 106 Amendment 1 – Development on Flood Prone Land.

If a proposed type of development or installation does not fit within one of the proposal categories and activity types, the development may still be assessed on a merit basis, however you will be required to provide additional supporting information as determined by Council's duty development planner.

Step 4:

From your Flood Certificate or Flood Assessment Report determine the Flood Risk Precinct classification of your proposed development site. A property may be located in more than one Flood Risk Precinct, in which case the assessment must consider the controls relative to each Precinct.

Step 5:

Review the appropriate performance criteria in sections 1.9 and 1.15.5 and determine which criteria are relevant to your proposal.

Step 6:

Compile your Caravan Park Compliance Report for the proposed development and/or installation (refer section 1.10).

Step 7:

Ensure that you have included all required documentation with your application. Refer to checklists in sections 1.11, 1.12 and 1.13.

Step 8:

Submit all information to Council for assessment.

1.5. Considerations when preparing an application

In preparing an application, you will need to make investigations in order to ensure your application meets Council's requirements for development on flood prone land. These considerations are:

1.5.1. Is a development application or application under the Local Government Act required?

Prior to the preparation of associated documentation, a check should be made as to whether a Development Application and/or approval under the Local Government Act is required for any proposed development, installation or activity.

A development application is always required in the following circumstances but is not limited to:

- New and extensions to caravan parks, camping grounds and manufactured home estates, converting short-term or campsites to long-term sites;
- Converting campsites to short-term or long-term sites;
- Construction of buildings.

A section 68 application under the Local Government Act is always required for the following circumstances:

- Operate a caravan park or camping ground;
- Operation a manufactured home estate;
- Installation of a manufactured home of an associated structure on flood liable land in a manufactured home estate;
- Installation of a relocatable home, rigid annexe or associated structure on flood liable land in a caravan park of camping ground.

This means that an application must be submitted to Council and approval obtained prior to any activity, installation or works being carried out.

It is the duty of the applicant to ascertain from Council whether consent for any proposed development or work is required. You can confirm this with Council's Development and Environmental Services Group on telephone (02) 4429 3111.

1.5.2. Which applications does this plan/policy apply to?

Council will take into consideration this plan/policy when determining the following:

- Applications under the Environmental Planning and Assessment Act 1979 for:
  - Development for an activity involving caravan parks, manufactured homes estates or the installation of a manufactured home, moveable dwelling or associated structure.
- Applications under Section 68 of the Local Government Act 1993 to:
  - Install a manufactured home, moveable dwelling or associated structure on land (s.68(1) Part A-1).
  - Operate a caravan park or camping ground (s.68(1) Part F-2).
  - Operate a manufactured home estate (s.68(1) Part F-3).

This plan/policy **does not apply** to the installation of tents, campervans or caravans in accordance with exemptions granted under clause 74 of the Local Government

(Manufactured Home Estate, Caravan Park, Camping Ground and Moveable Dwellings) Regulation 2005.

1.5.3. How can I get advice on my application?

Before preparing an application, applicants should seek advice from Council, and in particular the Area Development Planner. For large scale development or installation projects, it may be beneficial to arrange a meeting with Council's Development Advisory Unit. The Unit is made up of senior officers of the Council who provide a "one stop" venue for the gathering of information by prospective applicants and give advice on issues to be addressed in the application and how particular problems may be resolved.

Further advice can be obtained by contacting Council's Development and Environmental Services Group on telephone (02) 4429 3111.

1.5.4. What notification and consultation is necessary?

Applicants are urged to consult with adjoining landowners, likely to be affected by their proposal, during the preparation of the application. Such consultation may allow the concerns of the affected parties to be taken into account in the design process and may therefore minimise any delays in the processing of the application.

All development applications on flood prone land will be notified in accordance with Council's Community Consultation Policy for Subdivision & Development Applications.

Submissions received from residents will be considered by Council and applicants may be contacted to enable issues to be addressed.

1.5.5. What type of flood information is available?

The controls that apply to a certain development or installation depend on the flood risk precinct for a site, which can only be determined if flood information is available. Due to the large number of water bodies within the Shoalhaven, the information that is available for different catchments varies significantly and could range from historical information to very detailed flood modelling data formulated as part of the Floodplain Risk Management process.

It is therefore necessary to determine what existing information is available in regard to the behaviour of floodwaters for your site. You can determine the type of information available, including whether or not a Floodplain Risk Management Plan has been adopted for your area, by checking the most up to date flood maps on Council's website at www.shoalhaven.nsw.gov.au .

For areas where sufficient flood information is available, you will be able to obtain a site specific Flood Certificate from Council (please refer to section 1.15.1 for information on how to do this).

Flood Evacuation Plans which include information on Caravan Park Flood Risk Precincts exist for some Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings. Refer to Site Manager to view the Flood Evacuation Plan.

Please note, there are a number of areas within the Shoalhaven for which flood information, specific to the proposed development or installation is not available. Any applications proposing works in a flood affected area, where Council has no relevant flood information, require a Flood Assessment Report to be submitted with the application (refer to schedule 1.15.2).

1.6. Performance based policy

The plan/policy contains controls for development and installations in the floodplain which are based on **objectives, prescriptive controls, performance criteria, and acceptable solutions**.

An objective states the outcome that the Council wishes to achieve from the control. The objective may be achieved by meeting the performance criteria.

Prescriptive controls detail the development controls which must be met by all applications.

Performance criteria are a means of assessing whether the desired outcomes will be achieved.

The application must comply with the objectives and relevant prescriptive controls and performance criteria of this plan/policy. These will be the overriding consideration when assessing a proposed development or installations.

Acceptable solutions are provided as a means or method of meeting the performance criteria and do not exclude other solutions which address the performance criteria and achieve the objectives.

Development or installations that do not conform to the acceptable solutions will be assessed on its merits, however it is the responsibility of the applicant in such circumstances to demonstrate to Council that the proposal satisfies the objectives and performance criteria of this plan/policy without unreasonably impacting on surrounding areas.

Please note that compliance with the requirements of this plan/policy does not necessarily imply that Council will consent to an application. Council must also take into consideration all relevant matters as listed under other legislation.

1.7. Flood prone land - The plan/policy context

This plan/policy is based on best practice principles as set out in the NSW Flood Prone Land Policy and the NSW Floodplain Development Manual. The following provides a summary of the contents of these documents and shows how the plan/policy sits within the overall policy framework.

1.7.1. Flood Prone Land Policy (1984)

The primary objective of the NSW Flood Prone Land Policy is to reduce the impact of flooding and flood liability on individual owners and occupiers of flood prone property and to reduce private and public losses resulting from floods.

At the same time, the policy recognises the benefits flowing from the limited use, occupation and development of flood prone land.

The policy promotes the use of a merit approach which balances social, economic, environmental and flood risk parameters to determine whether a particular development or use of the floodplain is appropriate and sustainable.

In this way the Flood Prone Land Policy avoids the unnecessary sterilisation of flood prone land. Equally it ensures that flood prone land is not the subject of uncontrolled development inconsistent with its exposure to flooding.

The Flood Prone Land Policy requires that:

- both mainstream and overland flooding be addressed in the preparation and implementation, by councils, of strategically generated floodplain risk management plans.
- the impact of flooding and flood liability on existing developed areas identified in floodplain risk management plans be reduced by flood mitigation works and measures, including on-going emergency management measures, the raising of houses where appropriate and by development controls; and
- the potential for flood losses in all areas proposed for development or redevelopment be contained by the application of ecologically sensitive planning and development controls.

1.7.2. The NSW Floodplain Development Manual (2005)

The NSW Floodplain Development Manual ("the Manual") 2005 is concerned with the management of the consequences of flooding as they relate to the human occupation of the floodplain for urban development and agricultural production. The Manual addresses flood risk. The Manual requires that management decisions taken in respect of the human occupation of the floodplain need to satisfy the social and economic needs of the community, as well as being compatible with the maintenance or enhancement of the natural ecosystems that the floodplain sustains.

The Manual supports the NSW Flood Prone Land Policy in providing for the development of sustainable strategies for managing human occupation and use of the floodplain considering risk management principles. These are based upon a hierarchy of avoidance, minimisation (using planning controls) and mitigation works.

The Manual states that the most effective means of achieving sound flood risk management outcomes is to formulate and implement management plans through the floodplain risk management process as shown in Figure 1 below. Due to the level of detail required; technical studies and other complexities, the process generally takes several years to be completed.

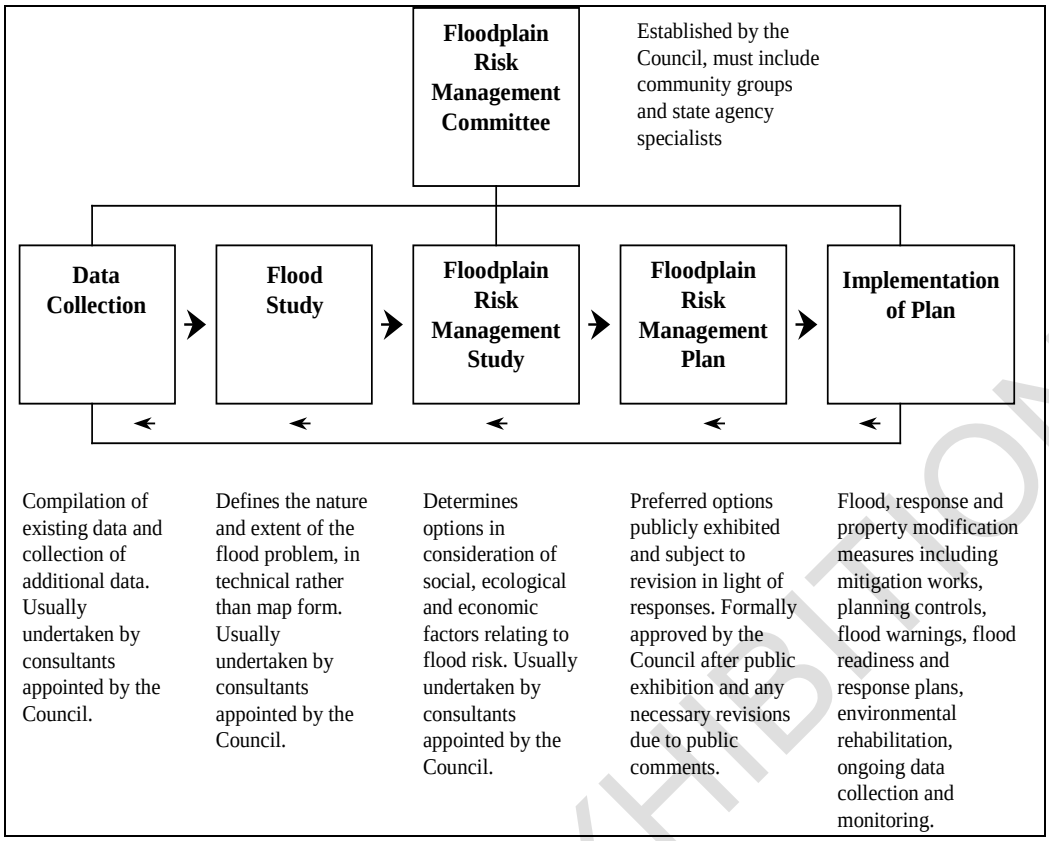


Figure 1 - Floodplain Risk Management Process (Source: 2005 NSW Floodplain Development Manual)

A management plan generally involves a mix of options as it is unusual for a single management option to manage the full range of flood risk. Determining the optimum mix of measures can require complex studies, exercise of professional judgement and extensive community consultation. Typical options considered are:

a) property modification measures such as development controls in new areas or voluntary purchase and house raising in developed areas;
b) response modification measures such as evacuation and associated operational logistics; and
c) flood modification measures such as levees or bypass channels.

As per the Flood Prone Land Policy, the Manual provides for the application of a “merit approach” for decisions on the future use of the floodplain. This "merit approach" operates at two levels:

i. the strategic level; and
ii. the site specific level.

At the strategic level, the "merit approach" allows for consideration of social, economic, ecological, cultural and flooding issues to determine strategies for the management of continuing and future flood risk. Identified strategies are formulated into Floodplain Risk Management Plans and associated Local Floodplain Risk Management Policy, and then into Council Environmental Planning Instruments such as the Shoalhaven Local Environmental Plan (SLEP).

At a site specific level, the "merit approach" involves consideration of the best way of assessing development allowable under the Floodplain Risk Management Plans, the Local

Floodplain Risk Management Policy and Environmental Planning Instruments. These considerations include site specific issues such as minimum floor levels, building location within the site, access to the site, structural stability, and flood proofing etc, as appropriate.

1.7.3. Development Control Plan No. 106 Amendment 1 - Development on flood prone land

This DCP has been prepared to ensure that the objectives of the Flood Prone Lands Policy and the NSW Floodplain Development Manual are met within the Shoalhaven area. It is based on the overall principles of those documents and translates them to the requirements of the local area. As such, the specific objectives of the DCP are to:

- Reduce risk to life and property resulting from floods;
- Ensure that the impacts of the full range of flood sizes up to and including the probable maximum flood (PMF) are considered when assessing development on flood prone land;
- Ensure that the impact of climate change are considered when assessing development on flood prone land;
- Ensure the future use of flood prone land does not cause undue distress to individuals nor unduly increases potential flood liability to individuals or the community; and
- Incorporate site specific floodplain management recommendations from local Floodplain Risk Management Plans into Council's overall Planning Framework.

DCP 106 Amendment 1 applies to applications for substantive structures and buildings, such as a Manager's residence, Office, Community Building or Amenity Block.

1.7.4. Caravan Parks in Flood Prone Areas Policy (DCP 123 / LAP)

While DCP 106 Amendment 1 deals with all development within flood prone areas, this plan/policy has been prepared to ensure that the objectives of the Flood Prone Lands Policy and the NSW Floodplain Development Manual are met specifically for the unique requirements of caravan parks or similar development. It is based on the overall principles of those documents and translates them to the requirements of caravan parks and the like within the Shoalhaven Area. The plan/policy aims to:

- Reduce the risk to life and damage to property caused by flooding through controlling the development and operation of caravan parks and related activities subject to this plan/policy.
- To ensure caravan parks and other activities within the Shoalhaven area that are subject to this plan/policy are planned and operated in recognition of the full range of potential floods up to and including the probable maximum flood (PMF).
- Provide detailed controls for the assessment of applications for the development and operation of caravan parks and related activities subject to this plan/policy, lodged in accordance with the Environmental Planning and Assessment Act 1979 and Local Government Act 1993, on land affected by potential floods.
- Provide a range of guidelines, for the development and operation of caravan parks and related activities subject to this plan/policy, on land subject to all potential floods, in a manner that reflects the probability of the flood occurring and the potential hazard within different areas.

- Deal equitably and consistently with applications for development and installations on land affected by potential floods, in accordance with the principles contained in the Floodplain Development Manual.
- The plan/policy incorporates the philosophy, that in principle, flood risk to property on new long-term sites shall be no greater than what would be the expectation for general residential development as per DCP 106 Amendment 1. Despite this, a marginally greater risk could be acceptable for short-term sites occupied by holiday or park vans as this risk is usually taken into account as part of an overall business risk assessment within a business plan.

1.8. Flood planning concepts

1.8.1. Flood planning area

The criteria within this plan/policy for determining applications for development/installations on flood prone land are structured in recognition that different controls are applicable to different land uses and levels of potential flood inundation and hazard. The following hydraulic and hazard classifications apply:

a) Within the Flood Planning Area (Figure 2):

i. Flood Fringe (can be high or low hazard)
ii. Flood Storage (can be high or low hazard)
iii. Floodway (generally high hazard)

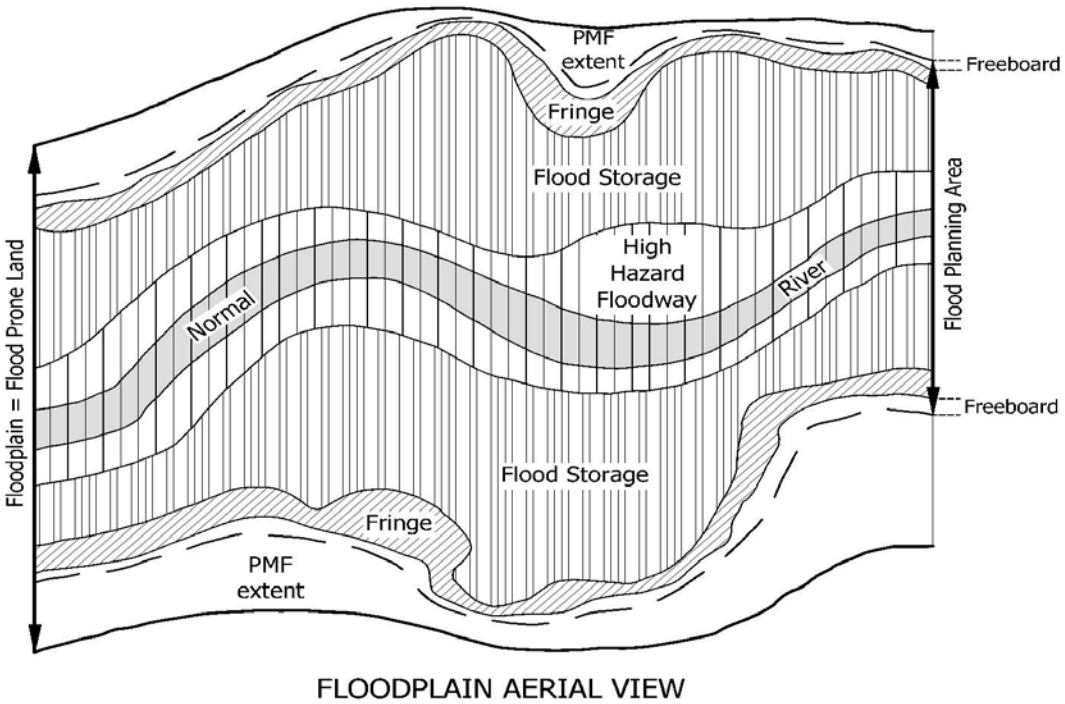


Figure 2 - Floodplain Aerial View

b) Outside the Flood Planning Area but within the Flood Prone Area, that is below the PMF level (Figure 3).

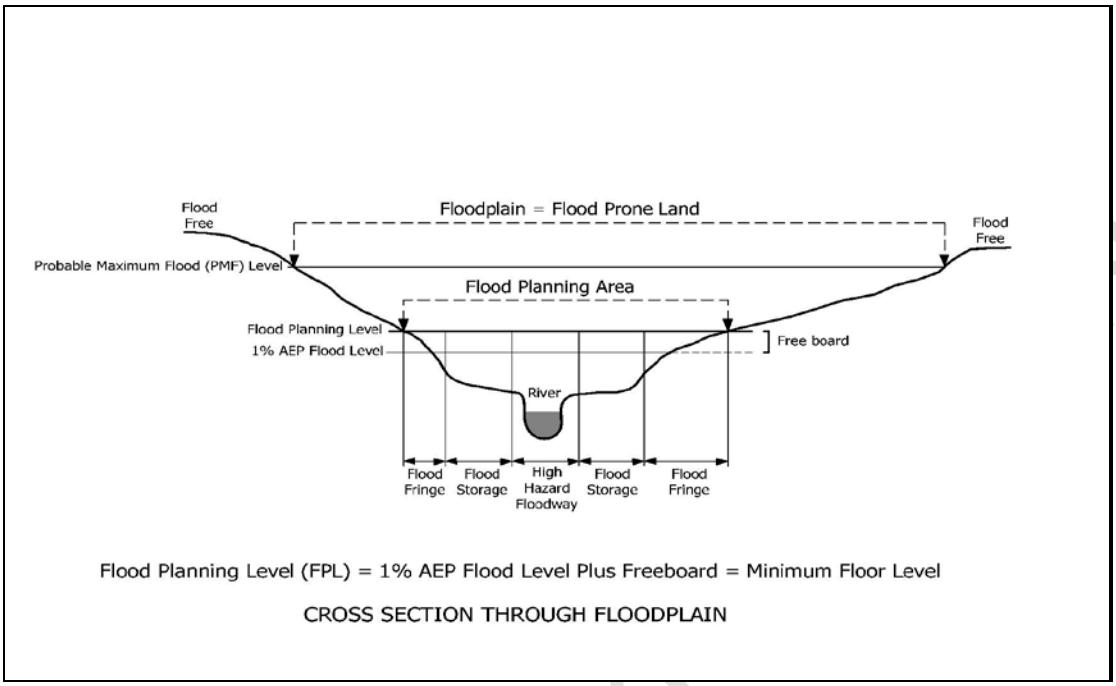


Figure 3 - Cross Section through Floodplain

1.8.2. Flood Planning Levels and Freeboard

Flood Planning Levels are derived from a combination of the adopted design flood level plus freeboard and determine the area of land (Flood Planning Area) on which specific flood related development controls will be imposed (such as minimum floor levels). They are set during the Floodplain Risk Management Study process and are based on a detailed understanding of flood behaviour across the full range of floods, their probability of occurrence and the social, economic and ecological consequences associated with those floods.

Freeboard is a factor of safety applied as an additional height to identified flood levels. The purpose of a freeboard is to cater for uncertainties in the estimation of flood levels across the floodplain due to wave action, localised hydraulic behaviour such as eddies and embankment or levee settlement and some of the uncertainties associated with estimating climate change impacts.

1.8.3. Caravan Park Flood Risk Precincts

Further to the above, the floodplain is to be classified according to the potential flood risks specifically related to caravan parks or like complexes. Flood risk in this sense is determined after examining the full spectrum of flood sizes and is defined as the numerical product of each flood's consequences with the flood's probability. The flood risk is not determined from a single flood but from considering all floods that could possibly occur at a site (up to the probable maximum flood).

When determining the flood risk precinct, the following must be considered:

- flood behaviour, topography and access routes that influence the flood hazard on the site. (Such considerations include depths, velocities, time to rise, duration and other factors noted in Section L6 of the Floodplain Development Manual);
- available public warning time for the specific locality (i.e. ignoring any local, site specific or private flood warning systems that might be available); and
- the risk to the site if it was developed with typical caravan park land uses or like complexes (this should be done ignoring the existing land uses).

Based on this approach, the floodplain can be classified into three flood risk precincts: 'High', 'Medium' and 'Low', as discussed below. Figure 4 shows a schematic approach to determining flood risk precincts.

a) High flood risk precinct

The High Flood Risk Precinct is an area where high flood damages, potential risk to life or evacuation problems would be anticipated, or where development/activities would significantly and adversely affect flood behaviour. Most development/activity should be restricted in this precinct. In this precinct, there would also be significant flood damages without compliance with flood related building and planning controls.

This precinct initially comprises areas that have been classified by Council in previous studies or in a Flood Assessment Report as 'High Hazard Floodway'. The High Flood Risk Precinct may also include:

- areas of 'High Hazard Flood Storage' or 'High Hazard Flood Fringe' if dangerous and life-threatening evacuation difficulties are anticipated; and
- some areas of 'High Hazard Floodway' might not be included if sufficient time/access was available to mitigate the risks to people and property.

b) Medium flood risk precinct

The Medium Flood Risk Precinct would usually comprise all the areas inundated in a 1% AEP flood that were not classified within the High Flood Risk Precinct. Note that in this precinct there would still be a significant potential for flood damage, but these damages could be minimised by the application of appropriate development controls.

This precinct initially comprises areas that have been classified by Council in previous studies or in a Flood Assessment Report as 'High Hazard Flood Storage', 'High Hazard Flood Fringe', 'Low Hazard Floodway', 'Low Hazard Flood Storage' or 'Low Hazard Flood Fringe'. The Medium Flood Risk Precinct may also include:

- some of these areas might be classified as High Flood Risk Precinct if they were dangerous and life-threatening evacuation difficulties were anticipated; and
- similarly, some areas previously classified as 'High Hazard Floodway' might be included if sufficient time/access was available to mitigate the risks to people and property.

c) Low flood risk precinct

This precinct is defined as all other land within the floodplain not identified within either the High Flood Risk Precinct or the Medium Flood Risk Precinct. This land is above the flood planning level but below the PMF.

The risk to both people and property is low within this precinct.

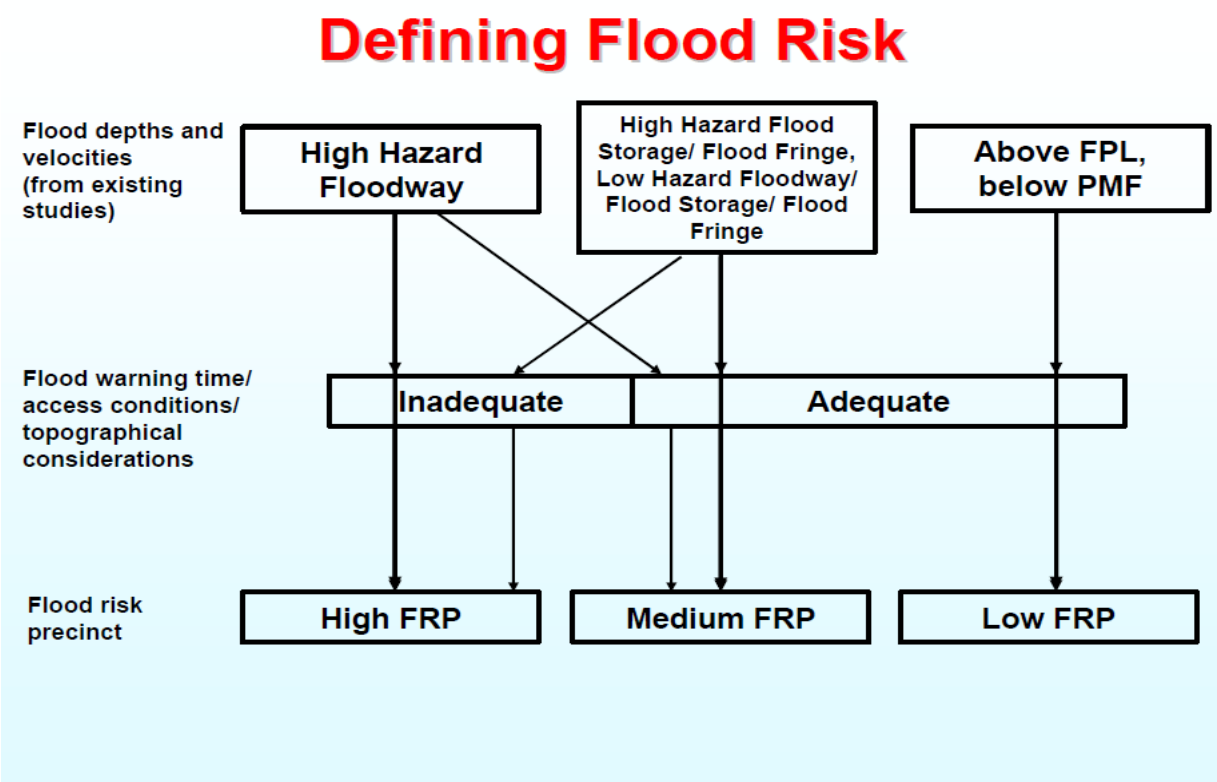


Figure 4 - Defining Flood Risk Precincts (Source: Caravan Park Food Safety Study 2008)

1.8.4. Climate Change Implications

Climate change is expected to have impacts upon sea levels and rainfall intensities, both of which may influence flood behaviour at specific locations. Potential impacts are therefore considered during the floodplain risk management process and are taken into account when design flood levels for each individual catchment are determined.

The NSW Government has adopted sea level rise planning benchmarks of 0.4m by 2050 and 0.9m by 2100 (measured as an increase above 1990 mean sea levels). The Government will continue to monitor these predictions, but in the interim the above bench marks must be considered in the assessment of flood risk. Figure 5 shows how the 1% AEP flood levels will incrementally factor in sea level rise planning benchmarks.

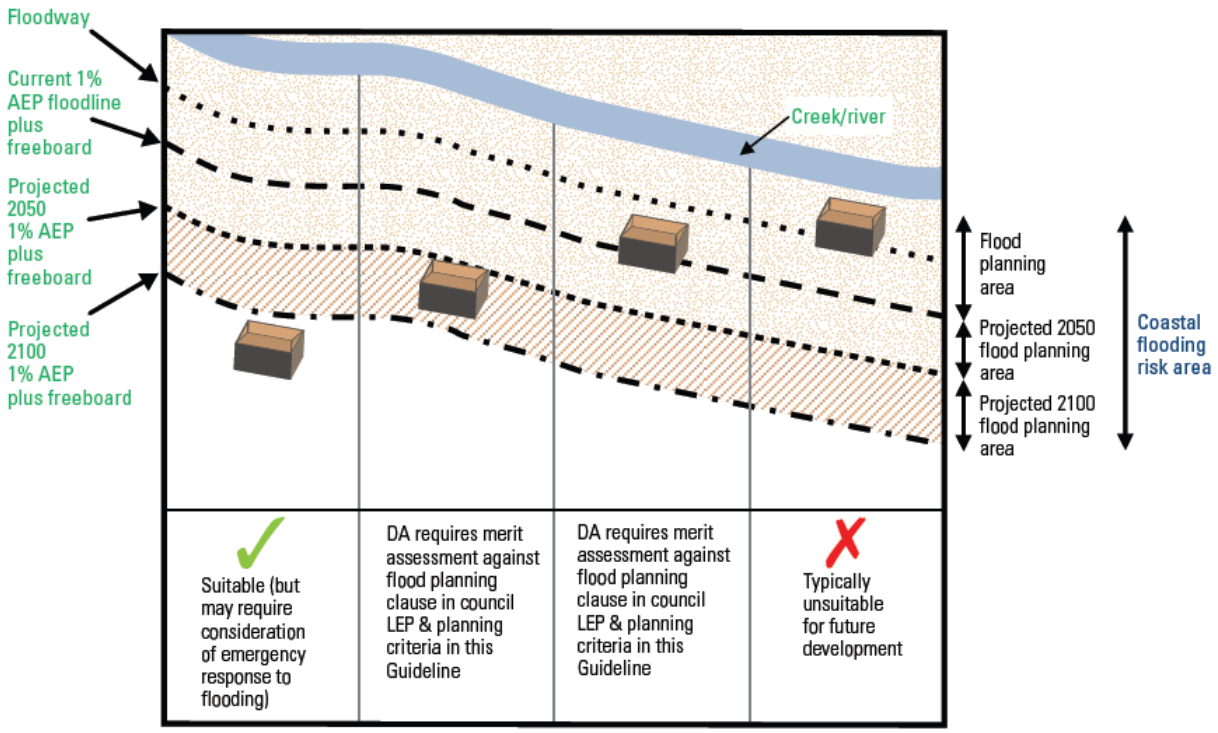


Figure 5 - Coastal Flooding Consideration in Development Assessment Process (Source: NSW Coastal Planning Guideline: Adapting to Sea Level Rise 2010)

No relevant planning benchmarks have been adopted by Government in relation to rainfall intensity changes. However, the State Government guidelines recommend the undertaking of a sensitivity analysis as part of the Floodplain Risk Management process, which assumes nominal increases in rainfall intensities. The sensitivity analysis is also to be undertaken as part of producing a Flood Assessment Report.

When flood levels in a flood certificate do not include the NSW Government's sea level rise benchmarks, and when an application is located on land below 4m AHD, the flood certificate will incorporate the following statement: "All applications for buildings, and the like, below 4m AHD **must increase all flood levels by 0.4m**. All subdivision and other long-term planning on land below 4m AHD **must increase all flood levels by 0.9m**.". This is a conservative assumption and applicants can choose to commission a site specific flood assessment report (refer section 1.15.2) to refine this number.

In order to meet the NSW Government requirements as outlined above, the following must be considered:

- All new applications for installations in caravan parks or the like must include the impact of a 0.4m sea level rise in the determination of the flood planning level. This can be done by adding 0.4m to identified flood levels or through a Flood Assessment Report which includes 0.4m sea level rise increase in design flood calculations.
- All applications for new complexes or extensions to existing complexes must address the impact of a 0.9m sea level rise in their design. This can be done by adding 0.9m to identified flood levels or through a Flood Assessment Report which includes 0.9m sea level rise increase in design flood calculations.

1.9. Performance Criteria for Caravan Park Development on Flood Prone Land

1.9.1. Objectives

a) To minimise risk to life and damage to property by controlling development on flood prone land;

b) To ensure that the impacts of the full range of flood sizes up to and including the PMF are considered when assessing caravan park development and the like within flood prone areas in the Shoalhaven;

c) To ensure that development does not have a significant impact on flood behaviour, people's safety, surrounding properties, structures or the environment in the specific area where the development is proposed.

d) To ensure that the impacts of climate change are considered when assessing caravan park development and the like within flood prone areas in the Shoalhaven;

e) To ensure that development on the floodplain is consistent with the NSW Flood Prone Land Policy (1984) and the NSW Floodplain Development Manual (2005)

f) To ensure that caravan park owners, developers and park occupants are conscious of the potential flood hazard and consequent risk associated with the use and development of land within the floodplain;

g) To ensure that all land uses and essential services are appropriately sited and designed in recognition of all potential floods;

h) To ensure that caravan park development on flood prone land does not place an unacceptable financial burden on landowners or the community;

i) To restrict intensification of development and activity in High Flood Risk Precincts, and where possible to reduce continued occupancy by long-term residents within High Flood Risk Precincts;

j) To protect the integrity of floodplains and floodways, including riparian vegetation, fluvial geomorphologic environmental processes and water quality.

1.9.2. Prescriptive Controls

a) Any portion of the structure below the Flood Planning Level is to be built from materials that will minimise potential damage due to inundation (section 1.15.3).

b) New complexes, extensions to existing complexes and new installations (excluding park owned moveable dwelling – short term) are located outside high flood risk precincts.

c) A Caravan Park Policy Compliance Report is submitted with all applications (section 1.10).

1.9.3. Performance criteria

Performance Criteria	Acceptable Solutions
P 1 Development or installation will not increase the risk to life or safety of persons during a flood event. P 2 Potential damage due to inundation of proposed development or installation is minimised. P 3 The development or installations will not unduly restrict or increase the level or flow of floodwaters or stormwater runoff on land in the vicinity. P 4 The development or installation will not exacerbate the adverse consequences of floodwaters flowing on the land with regard to erosion, siltation and destruction of vegetation. P 5 The development or installation will not unduly increase dependency on emergency services and the design minimises economic and social costs regarding damage during a flood event. P 6 Where necessary, procedures are in place (such as site specific warning systems), so that: a. people are aware of the need to evacuate and relocate motor vehicles and towable moveable dwellings during a flood, and b. people are capable of identifying an appropriate evacuation route. P 7 Risk in high flood risk precincts is	A 1 New installations, new park or extension to existing park satisfy the requirements of the Prescriptive Controls – New Installations Matrix (section 1.15.5). A 2 Buildings and installations are designed to withstand the forces of flood waters in accordance with current best practice engineering standards. OR Where appropriate, structures and installations are designed to collapse under the force of water in order to not obstruct the flood flow, but are sufficiently secured to not become floating debris and to not endanger people or animals. AND / OR Openings in structures and installations such as fences or the like will be provided below the flood planning level to allow free flow of water. AND, where relevant A 3 Structures and installations are located and designed to satisfy relevant best practice guidelines with regard to erosion, siltation and destruction of vegetation. AND, where relevant A 4 Foundations are designed by a suitably qualified geotechnical engineer to be suitable for ground with potentially reduced bearing

Performance Criteria	Acceptable Solutions
minimised where possible.	capacity under flood conditions. AND, where relevant A 5 All caravan parks and like complexes, including extensions, demonstrate a means of safe self evacuation to a refuge outside of the floodplain. A 6 When a lease for a long-term site, located in a high flood risk precinct is concluded, and the occupant of the long-term site indicates their intention not to seek a renewal of lease, continued use of the site as a long-term site is not encouraged.

1.10. Caravan Park Compliance Report

To enable Council to assess a development proposal, a Caravan Park Compliance Report is to be provided for every application.

Compliance Reports are required for applications for a new complex or new extensions to an existing complex, applications to operate and installation applications.

Requirements of a Compliance Report vary for each activity/development type. For individual requirements refer to checklist A, B or C (sections 1.11, 1.12 and 1.13 respectively). Sections 1.10.1 – 1.10.13 (below) detail all possible requirements for inclusion in a Compliance Report.

1.10.1. Existing Flood Information

Flood information is to be based on site conditions as found prior to the proposed development. Flood information can be provided as either:

1. **A Current Flood Certificate**

   Where available an up to date Flood Certificate including the Flood Risk Precinct for the Park must be submitted with your application (refer section 1.15.1 for information on how to obtain this document and whether you need a basic or detailed certificate).

   OR

2. **A Flood Assessment Report**

   A flood assessment report may be required for areas where:

   a) Flood data is not available but the site:
      - is within 40 metres of a creek; or
      - is within 10 metres of a major drainage system, local overland flood path or drainage easement; or
      - has a history of flooding; or
      - is considered to be flood prone by Council's Floodplain Engineer;

   OR

   b) Flood data is available but may require interpolation, extrapolation, or refinement to greater detail.

Where such a report is required, it must be submitted with the application as part of the Caravan Park Flood Compliance Report.

Flood Assessment Reports must be prepared by a suitably qualified and experienced civil engineer recognised under the National Professional Engineers Register (NPER) in this field. The full name of the person who prepared the report, relevant qualifications and registration number are to be provided on the front page of the report.

Please refer to section 1.15.2 for a detailed description on what information is required within such a report.

1.10.2. Compliance Assessment

A detailed assessment of how the proposed development will achieve all relevant objectives, prescriptive controls, performance criteria and/or acceptable solutions of this plan/policy is required. It is expected that you list all relevant prescriptive controls and performance criteria (see section 2.3 for all proposed development as well as section 1.15.5 for new installations) and explain how each individual criteria has been met.

1.10.3. Development Plans

Plans for the proposed development or works that indicate compliance with all relevant Development Controls must be submitted. This must include a **current community map** of the caravan park.

1.10.4. Survey Details

All survey details, as outlined below, are to be incorporated into the community plan. In addition to the requirement to lodge general survey details with the application, the survey details must be prepared by a Registered Surveyor and must also indicate the following:

a) Existing ground levels at the proposed development site;
b) The floor levels of all existing buildings or long term and permanent structures to be retained as well as proposed floor levels for all new buildings and structures;
c) The location of any existing buildings or structures; and
d) Where the land is only partly flood prone, provide the contour lines showing the 1% AEP flood height and Flood Planning Level.
e) Where multiple Flood Risk Precincts occur on the site (i.e. High and Medium) the boundaries of these are to be mapped.

All levels must be relative to Australian Height Datum (AHD). Levels relating to an arbitrary assumed datum are not acceptable.

1.10.5. Additional Survey Details

All additional survey detail, as outlined below, is to be incorporated into the community plan. For some development the requirements as detailed in section 1.10.4 may not be sufficient to assess the proposed development. Council may ask for the following additional information to be provided by the applicant:

a) Existing ground levels at 0.2 metre contour intervals across the entire property (contours are to extend across adjoining land to enable suitable consideration of the effect of the proposed development);
b) The ceiling heights of existing structures that are retained as well as for proposed new buildings and structures;
c) Existing and/or proposed drainage lines (including sizes and if piped or open channel) or easements and watercourses, or other means of conveying stormwater that are relevant to the flood characteristics of the site.

1.10.6. Fill or Excavation Details

A development application that includes significant land filling must be supported by the relevant documentation as required under DCP 106 Amendment 1 – Development on Flood Prone Land.

1.10.7. Hydraulic Impact Assessment Report

For some development a Hydraulic Impact Assessment Report will be required. The report shall demonstrate that the development will not increase flood hazard or flood damage to other properties or adversely affect flood behaviour for a 5% AEP up to the PMF scenario.

A Hydraulic Impact Assessment Report must be prepared by a suitably qualified and experienced civil engineer recognised under the National Professional Engineers Register (NPER) in this field. The full name of the person who prepared the report, relevant qualifications and registration number are to be provided on the front page of the report.

Refer to section 1.15.2 for a detailed description of what information is required for this report.

1.10.8. Structural Engineering Certificate

Some development may require a Structural Engineering Certificate to ensure that the proposed structures can withstand flood forces including debris and buoyancy forces up to a specified flood scenario.

Refer to section 1.15.2 for a detailed description of what information is required for this certificate.

1.10.9. Geotechnical Engineering Certificate

Flooding of developed areas has the potential to cause significantly reduced bearing capacities of building foundations and, for masonry structures, these may lead to capacity failures. As such, some proposed development may require certification of building foundations by a chartered geotechnical practitioner especially in light of changing flood behaviour due to climate change and sea level rise.

1.10.10. Flood Emergency Management Plan

All caravan parks and the like require a Flood Emergency Management Plan outlining the risk to the park and how it is to be managed. The Plan must demonstrate that permanent, fail-safe and maintenance free measures are incorporated in the development to ensure that the timely orderly and safe evacuation of people is possible from the area and that it will not add significant cost and disruption to the community or the SES. Recommended templates for a Flood Emergency Management Plan as well as a Flood Evacuation Procedures Sheet for display at a park are included in sections 1.15.6 and 1.15.7 of this document.

The Flood Emergency Management Plan may require the installation of flood marker posts or a more sophisticated flash flood warning system. These must be in appropriately visible locations within the park and are to be maintained in working order.

1.10.11. Evacuation Capability Assessment

Where the Flood Emergency Management Plan requires the park owner to execute evacuation measures to move people, animals and vans or the like to refuge areas within or outside of the park, an evacuation capability assessment is required. Such an assessment shall be undertaken by a suitably qualified professional and must assess whether the available warning time and resources are adequate to ensure the orderly and safe evacuation of people, animals and property from the park. Where appropriate, this should include an assessment throughout the park of the adequacy of quick release tie downs where used, the serviceability of draw bars and wheels, the ability to quickly detach services, as well as any impediments to evacuation posed by towable dwellings attached to non towable structures or objects.

The assessment should also address the evacuation implications of growth of the park over the following years and identify constraints to the likely growth if any such constraints exist.

The Evacuation Capability Assessment needs to be signed off by the park manager annually to receive approval to operate. This is to ensure that Park managers are aware of their responsibilities for maintaining the evacuation capability of the park.

1.10.12. Community Consultation Details

Some development may require a report on community consultation that was undertaken as part of the pre-development investigations. It should note all issues raised and how they were addressed.

Please note that Council may undertake further community consultation in accordance with *Council's Community Consultation Policy for Subdivision and Development Applications.*

1.10.13. Flood Compliance Report Checklists

Checklists A, B and C (section 1.11, 1.12 and 1.13 respectively) detail mandatory items to be submitted as part of the Caravan Park Compliance Report. Non-mandatory items are also listed in these checklists. Refer to section 1.15.5 or check with Council's Development and Environmental Services Group on telephone (02) 4429 3111, as to which non-mandatory items need to be provided with your application.

1.11. Checklist A – Caravan Park Compliance Report – new park or extension to existing park

Mandatory items to be submitted with an application for a new park or new extension to an existing park include:

MANDATORY ITEMS	SUPPLIED
Current Flood Certificate AND Flood Assessment Report which includes flood risk precinct information (refer section 1.10.1)	
Compliance Assessment (refer section 1.10.2)	
Development Plans (e.g. updated community plan/site plan) (refer section 1.10.3)	
Survey Plan (refer section 1.10.4)	
Hydraulic Impact Assessment Report (for development located in medium and high flood risk precincts) (refer section 1.10.7)	
Flood Emergency Management Plan (refer section 1.10.10)	
Evacuation Capability Assessment (refer section 1.10.11)	

The below items may be required to be submitted with an application for a new park or new extension to an existing park (refer section 1.15.5):

	REQUIRED?	SUPPLIED
Additional Survey Information (inserted into Survey Plan) (refer section 1.10.5)		
Fill or Excavation Details (refer section 1.10.6)		
Structural Engineering Certificate (refer section 1.10.8)		
Geotechnical Engineering Certificate (refer section 1.10.9)		
Community Consultation Details (refer section 1.10.12)		

1.12. Checklist B – Caravan Park Compliance Report – new installation

Mandatory items to be submitted with an application for a new installation include:

MANDATORY ITEMS	SUPPLIED
Current Flood Certificate or Flood Assessment Report including Flood Risk Precinct Information (refer section 1.10.1)	
Compliance Assessment (refer section 1.10.2)	
Development Plans (e.g. updated community plan/site plan) (refer section 1.10.3)	
Survey Plan (refer section 2.4.4)	

The below items may be required to be submitted with an application for a new installation (refer section 1.15.5):

	REQUIRED?	SUPPLIED
Additional Survey Information (inserted into Survey Plan) (refer section 1.10.5)		
Fill or Excavation Details (refer section 1.10.6)		
Hydraulic Impact Assessment Report (refer section 1.10.7)		
Structural Engineering Certificate (refer section 1.10.8)		
Geotechnical Engineering Certificate (refer section 1.10.9)		
Flood Emergency Management Plan (refer section 1.10.10)		
Evacuation Capability Assessment (refer section 1.10.11)		
Community Consultation Details (refer section 1.10.12)		

1.13. Checklist C – Caravan Park Compliance Report – approval to operate

Where NO changes have occurred since the last approval to operate was granted, below are the mandatory items to be submitted with an application for approval to operate:

MANDATORY ITEMS – NO changes since last approval to operate	SUPPLIED
Signed statement stating: no changes to the caravan park have occurred since the last approval to operate was granted	
Signed Evacuation Capability Assessment (refer section 1.10.11)	
Proof that actions identified in the Flood Emergency Management Plan and Evacuation Capability Assessment are implemented	

Where changes have occurred since the last approval to operate was granted, below are the mandatory items to be submitted with an application for approval to operate:

MANDATORY ITEMS – changes since last approval to operate	SUPPLIED
Current Flood Certificate or Flood Assessment Report including Flood Risk Precinct Information (refer section 1.10.1)	
Flood Emergency Management Plan (refer section 1.10.10)	
Evacuation Capability Assessment (refer section 1.10.11)	
Survey Plan (refer section 1.10.4)	
Current Community Plan	

The below items may be required to be submitted with an application for approval to operate (refer section 1.15.5):

	REQUIRED?	SUPPLIED
Additional Survey Information (refer section 1.10.5)		
Proof that actions identified in the Flood Emergency Management Plan and Evacuation Capability Assessment are implemented.		

1.14. Glossary

The following key terms will assist in working through the requirements contained in this plan/policy. For the purpose of this plan/policy, the following definitions have been adopted:

Amenity block means a community building used as a shower block, toilet block or laundry block.

Annexe is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

annexe is a moveable dwelling that:

- is an attachment to a re-locatable home or caravan, and
- is used as an extension of the habitable area of the re-locatable home or caravan, and
- is capable of being erected or removed within 24 hours.

Annual exceedance probability (AEP) means the chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage.

Associated structure is as defined by the Local Government Act 1993:

associated structure means:

- a carport, garage, shed, pergola, veranda or other structure designed to enhance the amenity of a moveable dwelling and attached to or integrated with, or located on the same site as, the dwelling concerned, or
- a separating wall between 2 moveable dwellings.

Australian height datum (AHD) is a common national surface level datum corresponding approximately to mean sea level.

Bearing capacity is defined in geotechnical engineering as the capacity of soil to support the loads applied to the ground, such as the loads from housing foundations for example.

Bypass channels redirect a portion of floodwater away from areas under threat from flooding, and so reduce flood levels along the channel downstream of the diversion.

Camp site is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

camp site means an area of land within a camping ground on which a campervan or tent may be installed or, in the case of a primitive camping ground, on which a campervan, tent or caravan may be installed, and that is designated as a camp site by the approval for the camping ground.

Caravan is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

caravan means a moveable dwelling that is designed so as to be registrable as a trailer under the *Road Transport (Vehicle Registration) Act 1997*, but does not include a camper trailer.

Carport means a covered car parking space with no walls other than the abutting walls of a moveable dwelling from which the structure projects, provided that no more than two sides of the car port are enclosed.

Community building is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

> ***community building*** means a building (such as a shower block, toilet block or laundry block) that is used or intended to be used in connection with a community amenity, and includes a building that is to be used as a manager's or caretaker's office or residence.

Community map is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

> ***community map*** means:
>
> (a) in relation to a manufactured home estate – means a scale map that accurately shows the road reserves, the community amenities and the dwelling sites within the manufactured home estate, and
>
> (b) in relation to a caravan park or camping ground – means a scale map that accurately shows:
>
> (i) the access roads, community amenities and community buildings within the caravan park or camping ground, and
>
> (ii) the number, size, location and dimensions of dwelling sites or camp sites within the caravan park or camping ground, and
>
> (iii) in relation to a dwelling site or camp site within the caravan park or camping ground, the particular off-site parking space or spaces (if any) designated for use by the occupier of the dwelling site or camp site.

Complex in this Policy means a caravan park, camping ground or manufactured home estate.

Compliance report is a document prepared by a suitably qualified engineer, detailing how a proposed development complies with the requirements of this Policy.

Development is defined in Part 4 of the Environmental Planning and Assessment Act, 1979.

Conveyance is a direct measure of the flow carrying capacity of a particular cross-section of a stream or stormwater channel. (For example, if the conveyance of a channel cross-section is reduced by half, then the flow carrying capacity of that channel cross-section will also be halved).

Development control plan (DCP) is a detailed guideline that includes procedures and development requirements to be followed when preparing and lodging development proposals. A DCP can apply to a particular type of development or to a particular area. A DCP refines or supplements a regional environmental plan or local environmental plan and is made according to the *Environmental Planning and Assessment Act 1979.* A DCP adds to the controls in the LEP and cannot therefore include anything that is contrary to the LEP.

Dwelling site is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

> ***dwelling site***:
>
> (a) in relation to a manufactured home estate – means an area of land within the manufactured home estate that is designated as a dwelling site by the approval for the manufactured home estate, and
>
> (b) in relation to a caravan park – means an area of land within the caravan park on which a moveable dwelling may be installed and that is designated as a dwelling site by the approval for the caravan park.
>
> (c)

Ensuite facility is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

> ***ensuite facility***, in relation to a dwelling site, means a building, part of a building or an associated structure that contains at least a shower, toilet and handbasin, is provided for the exclusive use of the occupiers of the site and is located on or adjacent to the site.

Effective warning time is the time available after receiving advice of an impending flood and before the floodwaters prevent appropriate flood response actions being undertaken.
environmental planning instrument means a state environmental planning policy, a regional environmental plan, or a local environmental plan.

Evacuation capability means the ability of a park manager and staff to evacuate people and to remove all the towable on-site moveable dwellings and other assets identified to be relocated (e.g. tourists' vans, vehicles, boats) from the flood prone area to a location above the PMF, having regard to the number of moveable dwellings and assets to be moved, the available resources with which to move them (caravan park staff and equipment, without recourse to the emergency services), the required time to move them, the capacity and suitability (e.g. in terms of impacts on traffic) of the evacuation route and intended storage location, and the effective warning time.

Flexible annexe is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005.

> ***flexible annexe*** means an annexe that (apart from any rigid support frame and any floor, or any door, window or other securable opening, constructed of non-flexible material) consists entirely of canvas or other flexible material.

flood affected means that a parcel of land is either fully or partly within the floodplain.

flood assessment report is a document prepared by a suitably qualified hydraulic engineer, detailing existing flood risk for a catchment.

flood certificate is a document providing flood information for a particular parcel of land - it can be obtained from Council.

flood compatible materials include those materials used in buildings that are resistant to damage when inundated.

Flood conveyance is a direct measure of the flow carrying capacity of a particular cross-section of a stream or stormwater channel.

flood fringe is that part of the floodplain remaining after the floodway and flood storage areas have been defined.

floodplain means the area of land which is subject to inundation by floods up to and including the probable maximum flood event, that is, flood prone land.

floodplain risk management plan is a plan developed in accordance with the principles and guidelines contained in the NSW Government Floodplain Management Manual. It usually includes both written and diagrammatic information describing how particular areas of flood prone land are to be used and managed to achieve defined objectives.

floodplain risk management study is a study that identifies and compares various flood risk management options. This includes an assessment of their social, economic, ecological and cultural impacts, together with opportunities to maintain and enhance river and floodplain environments.

flood planning area means the area of land below, or islands within, the flood planning level that are subject to flood related development controls.

flood planning level means the combination of flood level and freeboard selected for planning purposes, as determined in floodplain risk management studies and incorporated in floodplain risk management plans.

flood proofing means a combination of measures incorporated in the design, construction and alteration of individual buildings or structures subject to flooding, to reduce or eliminate flood damages.

flood prone land means the land susceptible to flooding by the probable maximum flood event (that is, land within the floodplain) as indicated on the map marked "Flood Prone Land" deposited in the office of the Council as amended from time to time.

floodway means those parts of the floodplain where a significant discharge of water occurs during floods. They are often aligned with natural defined channels. Floodways are areas that, even if only partially blocked, would cause a significant redistribution of flood flow, or a significant increase in flood levels. (and/or velocities).

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

flood study is a technical investigation of flood behaviour . It defines the nature of flood risk by establishing the extent, level and velocity of floodwaters. The study also provides information on the distribution of flood flows across various sections of the flood plain for the full range of flood events up to and including the PMF.

fluvial geomorphology is the branch of geology that examines the formation and structure of the features of the surface of the earth which is created by flowing rivers.

freeboard is a factor of safety typically used in relation to the setting of floor levels, levee crest levels etc. Freeboard is expressed as additional height on top of the flood level and provides a factor of safety to compensate for uncertainties in the estimation of flood levels across the floodplain. Freeboard is included in the flood planning level.

Garage means an enclosed single storey structure capable of accommodating not more than two motor vehicles which is either attached to a moveable dwelling or detached.

habitable room in a residential situation is a living or working area, such as a lounge room, dining room, rumpus room, kitchen, bedroom or workroom. In an industrial or commercial situation it is an area used for offices or to store valuable possessions susceptible to flood damage.

Holiday van is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

> ***holiday van*** means a moveable dwelling (other than a tent) that is or usually is continuously located on a short-term site and used primarily by its owner for occasional occupancy for holiday purposes.

hydraulics is a term given to the study of water flow in waterways - in particular, the evaluation of flow parameters such as water level and velocity.

hydraulic impact assessment report is a document prepared by a suitably qualified hydraulic engineer, detailing how a proposed development will change flood behaviour on and off the site as well as how the new development itself will be impacted by flooding.

Installation is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

> ***installation*** means:
>
> (a) in relation to a manufactured home or a relocatable home—the process of connecting together the major sections of the manufactured home or relocatable home, and any associated structures forming part of the manufactured home or relocatable home, and attaching them to footings, or
>
> (b) in relation to an associated structure—the process of constructing or assembling the components of the associated structure, and (if appropriate) attaching them to footings,
>
> and includes the connection of gas, electricity, telephone, water, sewerage and drainage services.

land filling means to place or allow to fall upon any land any ballast, rock, stone, shingle, gravel, sand, clay, earth, cinders, debris or any other matter or thing so as to alter the contours or levels of the land.

local drainage means small scale inundation in urban areas outside the definition of major drainage as defined in the FDM. Local drainage problems invariably involve shallow depths (less than 0.3m) with generally little danger to personal safety.

local overland flooding means inundation by local runoff rather than overbank discharge from a stream, river, estuary, lake or dam.

long-term site is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

> ***long-term site*** means a dwelling site that is specified in the approval for a caravan park as being a long-term site.

manufactured home is as defined within the Dictionary of the Local Government Act 1993:

> ***manufactured home*** means a self-contained dwelling (that is, a dwelling that includes at least one kitchen, bathroom, bedroom and living area and that also includes toilet and laundry facilities), being a dwelling:
> (a) that comprises one or more major sections, and
> (b) that is not a registrable vehicle within the meaning of the *Road Transport (Vehicle Registration) Act 1997*, and includes any associated structures that form part of the dwelling.

manufactured home estate is as defined by the Local Government Act 1993:

> ***manufactured home estate*** means: land on which manufactured homes are, or are to be, erected.

merit approach is an approach, the principles of which are embodied in the Floodplain Development Manual, which weighs social, economic, ecological and cultural impacts of land use options for different flood prone areas together with flood damage, hazard and behaviour implications, and environmental protection and well being of the State's rivers and floodplains.

moveable dwelling is as defined by the Local Government Act 1993.

> ***moveable dwelling*** means:
> (a) any tent, or any caravan or other van or other portable device (whether on wheels or not), used for human habitation, or
> (b) a manufactured home, or
> (c) any conveyance, structure or thing of a class or description prescribed by the regulations for the purposes of this definition.

park van is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

> ***park van*** means a moveable dwelling (other than a tent), whether or not capable of being registered under the *Road Transport (Vehicle Registration) Act 1997*, that:
> (a) is or usually is continuously located on a short-term site, and
> (b) is provided for hire, and
> (c) is used by a site occupier other than the owner of the moveable dwelling primarily for holiday purposes.

probable maximum flood (PMF) is the largest flood that could conceivably occur at a particular location, usually estimated from 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 floodplain.

probable maximum precipitation (PMP) is the greatest depth of precipitation for a given duration meteorologically possible over a given size storm area at a particular location at a particular time of the year, with no allowance made for long-term climatic trends (World Meteorological Organisation, 1986). It is the primary input to the estimation of the probable maximum flood.

regulation means the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds & Moveable Dwellings) Regulation 2005.

reliable access means the ability for people to safely evacuate an area subject to imminent flooding within effective warning time having regard to the depth and velocity of floodwaters, the suitability of the evacuation route, and without the need to travel through areas where the *"water depth - velocity product*" (for a 1% AEP flood event) is greater than $0.3m^2/s$.

relocatable home is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

> ***relocatable home*** means:
> (a) a manufactured home, or
> (b) any other moveable dwelling (whether or not self-contained) that comprises one or more major sections, including any associated structure that forms part of the dwelling,
>
> but does not include a tent, caravan or campervan or any moveable dwelling that is capable of being registered under the *Road Transport (Vehicle Registration) Act 1997.*

rigid annexe is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

> ***rigid annexe*** means an annexe that is not a flexible annexe.

risk means the chance of something happening that will have an impact. It is measured in terms of consequences and probability (likelihood). In the context of this Policy, it is the likelihood of consequences arising from the interaction of floods, communities and the environment.

roughness coefficients describe the resistance of the bed of a channel to the flow of water within it. They are used in equations calculating energy loss due to roughness of a surface.

short-term site is as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005:

> ***short-term site*** means a dwelling site on which a moveable dwelling that is ordinarily used for holiday purposes may be installed and that is specified in the approval for a caravan park as being a short-term site.

suitably qualified hydraulic engineer means an experienced and qualified professional engineer, recognised as a chartered professional engineer by the Institution of Engineers Australia in the field of civil engineering, flood risk management, emergency management, structural engineering or similar, acting at all times within their experience and qualifications, and able to demonstrate to Council that they have the experience and qualifications to act as required.

tourist and camping site means a short-term or camping site in a caravan park or a camping site in a camping ground that is available for hire by tourists and does not have or usually have a moveable dwelling continuously located on site.

towable on-site moveable dwelling means a moveable dwelling that is or usually is continuously located on site, and has been approved to be installed on the basis that the structure will be removed from the flood prone area within the effective warning time. It would typically be maintained with quick-release tie-downs, draw-bar and wheels attached

and serviceable, services readily detachable, and not attached to or impeded by non-towable moveable dwellings or associated structures or other objects.

1.15. Schedules

1.15.1. Schedule 1 – Flood Information Enquiries and Flood Certificates

As one component of your application you need to determine whether the land proposed for development is flood prone land. You can do this by:

a) Making a zoning enquiry with Council

A zoning enquiry can be undertaken by:

i. Searching Councils website www.shoalhaven.nsw.gov.au - the zoning details of properties within the Shoalhaven can be in the maps online.
ii. Attending Councils Customer Service Counter in the Administration Building to view the relevant LEP, or
iii. Contacting Council by either phone, email or in writing and request the zoning information for a subject site.

OR;

b) Consulting the Section 149 Planning Certificate or 149 certificate.

A 149 certificate for a parcel of land can provide guidance of whether or not the land is subject to “flood related development controls”.

Please note that land may still be flood prone even though the Section 149 Certificate contains no reference to flooding. Historical information is not contained in certificates and further research should be undertaken if the property is in the vicinity of a watercourse or if the contours suggest a local flowpath may cross the land. While existing flood information may not exist there is the possibility that a property is flood affected and further investigations by suitably qualified engineer would be warranted.

A 149 Certificate can be obtained by contacting Council.

If Council has identified the land as flood prone, you will need to obtain a **Flood Certificate** from Council. An application fee applies in accordance with Councils Fees and Charges. Figure 6 details the procedure for making a flood certificate request.

Figure 6 - Procedure for obtaining a Flood Certificate from Council

There are two types of certificates available and you will need to specify which type you are applying for:

A **basic flood certificate** will contain the following information (if available):

a) The 1% AEP flood level and the Flood Planning Level (including the relevant sea level rise component when available) for the individual property;
b) The hydraulic and hazard categorisation as per the NSW Floodplain Development Manual for the individual property;
c) The source of the provided data;
d) On request, the Flood Risk Precinct of the Caravan Park.

In addition to the above information, a **detailed flood certificate** will include the following information (if available):

a) PMF, 2%, 5%, 10% AEP flood levels (including the relevant sea level rise component where available);
b) flood velocity.

This information is generally required by structural engineers in order to provide hydraulic impact assessment reports for a development.

In order to prevent misunderstandings and in accordance with Council policy ("Public Access to Council Information Policy") no verbal advice in regards to flood levels will be provided.

1.15.2. Schedule 2 – Technical Reporting Requirements

Flood assessment report

A Flood Assessment Report must be prepared by a suitably qualified and experienced engineer recognised under the National Professional Engineers Register (NPER) in this field. The full name of the person who prepared the report, relevant qualifications and registration number are to be provided on the front page of the report.

The assessment report provides information on existing flood risk for a catchment and is to be commensurate with the NSW Floodplain Development Manual and must include the following information:

a) A description of the creek or drainage system that is relevant to the flood characteristics of the site, whether located on, adjacent to or remote from the development site;

b) A plan showing cross-sections through site - as a guide, the following cross-section information should be provided:
   - A minimum of 5 cross-sections, at a maximum distance of 20m apart, should be taken through the site, perpendicular to the likely flow path (i.e. the direction of the cross-section may not necessarily be in a single straight line);
   - One cross-section should be at the upstream end and one cross-section at the downstream end of the proposed development site;
   - Cross-sections should extend at least as high as the highest flood level available at the site and if possible be wide enough to cover the full width of the floodplain at that location; and
   - The cross-sections should be plotted at a suitable exaggerated scale (i.e. the vertical scale is not necessarily the same as the horizontal scale);

c) Flood levels for the PMF, 1%, 2%, 5% and 10% AEP events for the pre development scenario (all assumptions, calculations and modelling output tables must be provided);

d) Flood velocities and vectors for the 1% AEP event for the pre development scenario (all assumptions, calculations and modelling output tables must be provided);

e) Provisional Hazard categories based on depth and velocity as well as obvious other hazards such as evacuation difficulties as per the requirements of the 2005 NSW Floodplain Development Manual;

f) Provisional Hydraulic categories based on depth and velocity as per the requirements of the 2005 NSW Floodplain Development Manual; and

g) Plans showing the results of (c) to (f) as well as the location of the proposed development.

h) Caravan Park Flood Risk Precinct/s as per section 1.8.3.

Please note:

a) The modelling shall include climate change considerations as per current Government Guidelines for both sea level rise and predicted changes in rainfall.
b) The modelling shall include a 50% and 100% blockage analysis of all existing drainage structures that may affect the development site.
c) Localised flow effects shall be investigated and reported on where relevant.
d) The roughness coefficients used shall allow for fully vegetated stream conditions in order to account for potential revegetation of degraded areas without impact on flood levels.
e) In areas where local sub-catchment flooding, such as flows from drains, overland flow paths or similar, interact with overall catchment flooding from waterways and lakes; or, with ocean inundation a joint probability analysis of flood behaviour shall be undertaken.

Hydraulic Impact Assessment/Report

For some development a Hydraulic Impact Assessment/Report is required as part of the Flood Management Report, demonstrating that the development will not increase flood hazard or flood damage to other properties or adversely affect flood behaviour for a 5% AEP up to the PMF scenario. Flooding from all possible sources must be taken into account.

A Hydraulic Impact Assessment/Report must be prepared by a suitably qualified and experienced civil engineer recognised under the National Professional Engineers Register (NPER) in this field. The full name of the person who prepared the report, relevant qualifications and registration number are to be provided on the front page of the report.

This Schedule describes two methods for assessing hydraulic impacts of proposed developments. The two methods are:

- **Assessment method 1** — Cross-section Analysis (No Computer Modelling);
- **Assessment method 2** — Use of Existing Flood Study data or Preparation of a Site-Specific Model (Computer Modelling).

Method 1 will be sufficient for small scale development proposals. For larger developments, developments in sensitive areas, or where special circumstances exist, Council may require assessment method 2 to be used.

Both assessment methods need to be commensurate with the NSW Floodplain Development Manual. In some circumstances, Council may determine the method(s) to be used.

Assessment method 1 - Cross-section Analysis (No Computer Modelling)
In order to satisfy the requirement that the development will not increase flood hazard or potential flood damage to other properties or adversely affect flood behaviour for the full range of flood scenarios, the applicant must demonstrate that:

i. The proposed development will not involve fill volumes that occupy more than 1% of the available 20%, 5% and 1% AEP flood volume on the development site or involve cutting or filling in floodways.

Please note: *it is too simplistic to assume that earthworks will have a negligible impact on the hydraulics of a waterway if the net cut and fill volumes for the PMF balance out. Hydraulic processes are complex and a simple "total fill < total cut" equation will not guarantee that the flood storage capacity of a waterway corridor are maintained. It is therefore necessary to check net cut and fill volumes within the site over a range of flood events.*

ii. the proposed development will not adversely change flow direction and velocity or create any new preferential flow paths for the PMF, 1%, 2%, 5%, and 10% AEP flood events; and
iii. The proposed development will not change the flood conveyance at any of the cross sections up to and including the PMF.

Please note: *The flood conveyance should be calculated at each cross-section for pre-development and post-development conditions. Flood conveyance should be calculated at a range of water levels, at each cross-section, including the 1% AEP and PMF. All assumptions, particularly those relating to hydraulic roughness, must be documented, especially where the development results in a change in hydraulic roughness.*

In special circumstances, small size developments inside a floodway may not reduce conveyance (e.g. minor alterations or additions carried out in the 'lee' of an existing structure). In such cases, Council may require assessment using Assessment Method 1 and 2 of this Schedule to demonstrate that conveyance is not being reduced.

This method does not require computer modelling. It checks for changes in flood storage volume, flood behaviour and conveyance at critical cross sections only through the proposed development.

This approach, whilst simpler than computer modelling, assumes a thorough knowledge of flood behaviour to ensure that the cross-section locations are representative of the principal impacts of the development.

In addition to the survey details and pre development flood information, the following shall be submitted, accompanied by appropriate supporting written information:

a) Post development flood level plots for the PMF, 1%, , 2%, 5% and 10% AEP flood events at all cross sections (all assumptions, calculations and modelling output tables must be provided);
b) Post development in-stream and overbank flow velocity vector plots for the 1% AEP event at all cross sections (all assumptions, calculations and modelling output tables must be provided);
c) Calculation results for all calculations undertaken in order to demonstrate the above requirements and;
d) Pre and post development ground surface levels — this information should be shown on each cross-section, with areas of cut and fill clearly shown.

Assessment method 2 - Use of Existing Flood Study or Preparation of Site-Specific Flood Study (Computer Modelling)

This method requires computer modelling. An existing flood study model may be used if available and suitable (e.g. it contains sufficient local detail).

For large scale developments or developments in critical locations, a flood study using a fully dynamic one or two dimensional hydraulic computer model may be required. Such a flood study would be prepared in a manner consistent with the NSW Floodplain Development Manual, *Australian Rainfall and Runoff — A Guide to Flood Estimation* (Institution of Engineers, Australia) and relevant Council codes.

In addition to the survey details and pre development flood information, the following shall be submitted in plan form, accompanied by appropriate supporting written information:

a) Post development water surface contours — these should be provided in metres to Australian Height Datum (m AHD);
b) Post development flood profiles — these should be provided at a suitable vertical and horizontal scale such that any changes in flood levels are easily identified;
c) Post development velocity vectors — these show direction and relative size of flood velocities and should be provided in metres per second (m/s);
d) Difference plots for flood levels and velocities for the 20% and 1% AEP flood events.
e) Post development contours of flood velocities multiplied by depth of flooding over ground level indicating provisional hydraulic categories as per the requirements of the 2005 NSW Floodplain development manual — these should be provided to one decimal place.
f) Post development provisional hazard categories based on depth and velocity as well as obvious other hazards such as evacuation difficulties as per the requirements of the 2005 NSW Floodplain Development Manual.

An interpretation of the results clearly indicating the effects of the proposed development on general and local flood behaviours and potential impacts on neighbouring properties is to be provided. This interpretation should clearly inform the last section of the Caravan Park Compliance Report which seeks to provide a detailed assessment of how the proposed development will achieve the objectives and performance criteria of this plan/policy.

Please note:

- *A range of flood sizes should be chosen for the above analyses so that the full impacts of the development can be assessed. Typically, the flood sizes to be considered would be: a 20% AEP, 5% AEP, 1% AEP and probable maximum flood.*
- *For the post-development scenario, all proposed works and structures, including any revegetation and enhancements should be included in the analysis.*
- *All assumptions relating to hydraulic roughness should be clearly documented.*
- *Flood levels and velocities need to be computed not only at the site but also at an appropriate distance upstream and downstream to allow the principal impacts of the development to be determined.*

Structural conditions for developments affected by flood

Where required, a structural engineer must certify that a building and/or structure will be able to withstand hydrostatic and hydrodynamic forces of flood waters including debris and buoyancy forces based on relevant depth, velocity and debris loadings for the specific site.

Some guidance on this issue is provided in Appendix A of the Hawkesbury and Nepean floodplain Management Steering committees - *Reducing Vulnerability of Buildings to Flood Damage.*

1.15.3. Schedule 3 – Flood Proofing

There are many different ways in which to reduce flood damages and flood proofing is generally recommended for any building, installation or structure on land that is considered by Council to be flood prone. Flood proofing refers to the design and construction of buildings, installations and the like with appropriate water resistant materials such that flood damage is minimised, should it be inundated. Certain types of materials are better able to withstand inundation than others, for example, plasterboard and chipboard, both materials commonly used for the internal wall linings and cupboard fittings of a house, can be badly damaged on inundation and may have to be replaced. In contrast, double brick construction can withstand inundation and may only require a hose and scrub down when the flood subsides.

Adequate flood proofing of structures and buildings in flood liable areas is an effective and equitable means of reducing flood damage. More information on flood proof materials can be found in schedule 5 of DCP 106 Amendment 1 – Development on Flood Prone Land.

1.15.4. Schedule 4 – Installation / Activity Types

The installation and activity types (IA types) listed in table 1 are not exhaustive, they are indicative only. **Where an installation or activity does not fit within the IA types, assessment will be undertaken based on merit in accordance with the NSW Floodplain Development Manual provisions**. Council will determine, based on the documentation provided to Council, which IA type the proposal fits into.

Description of installation/activity types

Please note: *Applications for substantive structures and buildings, such as a Manager's residence, Office, Community Building or Amenity Block are not covered within this policy but will require compliance with DCP 106 Amendment 1 – Development on Flood Prone Land.*

The operator of a caravan park or manufactured home estate must obtain Council approval before installing a manufactured home, re-locatable home, rigid annex or associated structure on flood liable land.

Table 1 - Installation / activity type description

Installation/Activity Type (abbreviation)	**Installation/Activity Type** (full description)
Long-term moveable dwelling or relocatable home	Long-term site in caravan park or dwelling site in manufactured home estate occupied by moveable dwelling. Sometimes described as "permanents".
Privately owned moveable dwelling – short term	Short-term site occupied by privately owned moveable dwelling. Sometimes described as "annuals" or "semi-permanents". This may include manufactured homes.
Park owned moveable dwelling – short term	Short-term site occupied by moveable dwelling (other than a tent) owned by park and provided for tourist hire. This may include manufactured homes.
Rigid annexe	Rigid annexe is an annexe that is not a flexible annexe as defined by the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005.
Minor Associated structure	Associated structures such as a carport, small shed (<6m^2), pergola, veranda or similar
Large Associated structure	Garage or large shed (≥ 6m^2)

1.15.5. Schedule 5 – Prescriptive Controls – New Installations

Note: development controls in the matrix only apply to **new** installations. Existing installations do not need to be retrofitted.

Flood risk precinct	High						Medium						Low					
Installation / Activity Types	Long-term moveable dwelling or relocatable home	**Privately** owned moveable dwelling – short term	**Park** owned moveable dwelling – short term	Rigid annexe	Minor associated structure	Large Associated Structure	Long-term moveable dwelling or relocatable home	**Privately** owned moveable dwelling – short term	**Park** owned moveable dwelling – short term	Rigid annexe	Minor associated structure	Large Associated Structure	Long-term moveable dwelling or relocatable home	**Privately** owned moveable dwelling – short term	**Park** owned moveable dwelling – short term	Rigid annexe	Minor associated structure	Large Associated Structure
Minimum Floor Level			3				1	2	3									
Building components			1,2				1,2	1,2	1,2	1,2	1,2	1,2						
Design & Maintenance			1,3,4				1,3,4	1,3,4	1,3,4	2	2	1,4	4	4	4			
Hydraulic Impact			1,2				1,2	1,2	1,2	1	1	1,2						
Evacuation Access			1,2,3,4				1,2,3,4	1,2,3,4	1,2,3,4				1,2,3,4	1,2,3,4	1,2,3,4			
Management			1,2				1,2	1	1	1	1	1						

		Not permitted		No flood related development controls

Legend: Prescriptive Controls – New Installations

Minimum Floor Level

1. 1.1% AEP flood level plus 0.5m freeboard
2. 5% AEP flood level plus 0.5m freeboard
3. 5% AEP flood level

Building Components

1. Any portion of the structure below the Flood Planning Level to be built from materials that will minimise potential damage due to inundation.
2. Where practicable, electrical installations to be above the Flood Planning Level. Otherwise, they must be able to be isolated in the event of flooding.

Design and Maintenance

1. Appropriate engineer's report to certify that the structure can withstand forces of flood-water, debris and buoyancy up to the 1% AEP flood.
2. Appropriate engineer's report to certify that the structure will not become floating debris during a 1% AEP flood.
3. Re-distribution of dwelling type sites within the complex should occur where existing location of structures poses substantial risk to occupants and property.
4. If required as a flood refuge, appropriate engineer's report to certify that the structure can withstand forces of flood-water, debris and buoyancy up to the PMF.

Hydraulic Impact

1. Applicant to demonstrate that the development will not increase flood effects elsewhere. Council may require this to be certified by an appropriate engineer.
2. Appropriate consulting engineer’s report for earthworks of volumes exceeding 250 cubic metres or with a length of more than 20m in high hazard areas.

Evacuation Access

1. Sufficient time/access must be available to evacuate pedestrians to an area of refuge (above at least the 1% AEP flood level but preferably above the PMF and with suitable community facilities).
2. Reliable access should be available for ambulance, SES, fire brigade, police and other emergency services up to a 1% AEP flood event.
3. Sufficient time and access should be available to evacuate vehicles and towable vans/dwellings/structures to an area above the 1% AEP flood level.
4. Applicant to ensure that the Caravan Park Flood Evacuation Plan is updated to include the new installation.

Management

1. Applicant to demonstrate that there is an area where hazardous and valuable goods can be stored above the 1% AEP level plus freeboard.
2. Applicant to demonstrate that there is an area where animals can find refuge above the 1% AEP level plus freeboard.

1.15.6. Schedule 6 – Flood Emergency Management Plan Template

INSERT NAME OF CARAVAN PARK FLOOD EMERGENCY PLAN

WHY PLAN FOR FLOODING?

Future flooding is inevitable.

Although a long time may elapse between floods, prevailing weather conditions can change quickly.

Planning for flooding saves lives and prevents injury.

A flood can be life threatening to you, your staff and park patrons.

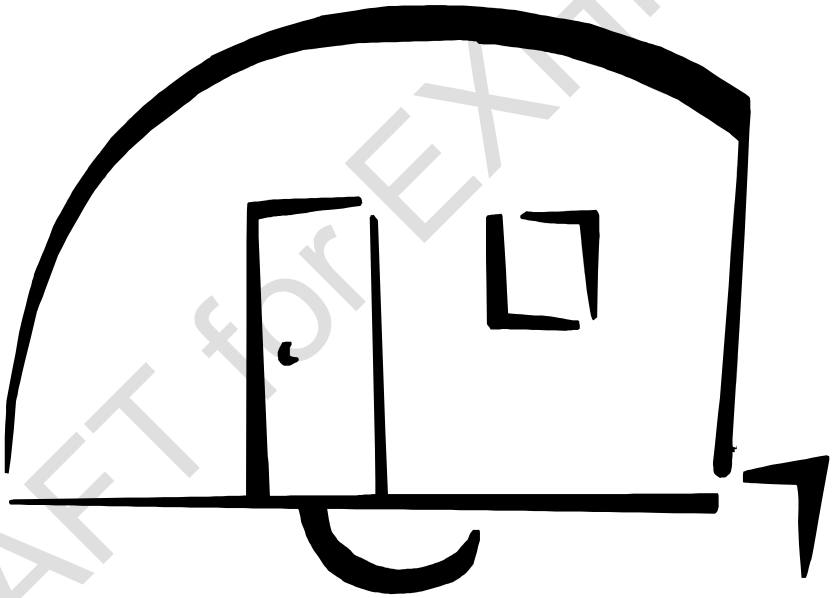
Planning for flooding reduces damage and speeds the clean-up process.

A flood can cause hundreds of thousands of dollars worth of damage to caravan park assets.

To contribute towards compliance with Occupational Health and Safety standards.

To meet the requirements of the Approval to Operate.

INSERT PHOTO OF CARAVAN PARK



INSERT CAPTION

ACKNOWLEDGMENT AND DISCLAIMER

This flood emergency plan is based on a template prepared by Bewsher Consulting Pty Ltd for Shoalhaven City Council, and funded by the Natural Disaster Mitigation Programme 2006/07 (two-thirds) and Council (one-third). Responsibility for the contents of each plan rests with the individual caravan park. The Consultant, Council and Commonwealth accept no responsibility or liability for the implementation or effectiveness of this plan, nor for any injury, death or damage that may result from a flood.

PART A – BACKGROUND INFORMATION

Table 1

This section should be completed by the park owner/manager.

Caravan park name	
Alternative or former caravan park name	
Caravan park street address	
Caravan park postal address	
Caravan park phone no.	
Zoning	
Land tenure (e.g. Crown, freehold, leasehold)	
Name of creek/river/lake posing flood risk	

PART B – EMERGENCY CONTACTS

Table 2

This section should be completed by the park owner/manager.

	PHONE(S)
Park owner (INSERT NAME OF OWNER)	
Park manager (INSERT NAME OF MANAGER)	
SES (INSERT NAME OF LOCAL UNIT)	**132 500** (emergency help) INSERT NUMBER
Bureau of Meteorology NSW Flood Warning Centre	**1300 659 218** www.bom.gov.au/hydro/flood/nsw/

Fire (INSERT NAME OF LOCAL UNIT)	**000** (emergency) INSERT NUMBER
Police (INSERT NAME OF LOCAL STATION)	**000** (emergency) INSERT NUMBER
Medical (INSERT NAME OF LOCAL DOCTOR)	**000** (emergency) INSERT NUMBER
Shoalhaven City Council	4429 3111 (office hours) 4421 3100 (after hours emergencies)
RTA traffic enquiries	**132 701** www.rta.nsw.gov.au/trafficreports/index.html
DOCS Disaster Recovery	**1800 018 444**

PART C – FLOOD RISK ASSESSMENT

Flood History

Table 3

*Information about flood history may be obtained from Council, flood studies and long-term residents. Flooding may include inundation by large waves and raised ocean levels. Indicate the **RECORD** flood. Rows may be added or deleted as appropriate.*

DATE OF FLOOD AFFECTING CARAVAN PARK SITE *(most recent first)*	LOCAL CONSEQUENCES

Flood Levels and Extents

Table 4

Information about potential floods may be obtained from Council and flood studies. For any single park there may be a range of flood levels for the one 'design' event e.g. 2.1–2.3 m AHD.

	HISTORICAL MAXIMUM YEAR: ……	10% AEP 10 YEAR ARI	5% AEP 20 YEAR ARI	2% AEP 50 YEAR ARI	1% AEP* 100 YEAR ARI*	0.5% AEP 200 YEAR ARI	0.2% AEP 500 YEAR ARI	PMF# PMF#
Flood level (m AHD) ^								
Proportion of sites flooded (%)								

Source/date of flood data:	

* AEP = annual exceedence probability (measured as a percentage), which is a term used to describe the probability of floods occurring. Large floods occur rarely, whereas small floods occur more frequently. For example, a 1% AEP flood occurs (or is exceeded) on average once every 100 years. It has a 1% chance of occurring in any one year.

ARI = average recurrence interval (measured in years), which is a term used to describe the probability of floods occurring. Large floods occur rarely, whereas small floods occur more frequently. For example, a 100 year ARI flood occurs (or is exceeded) on average once every 100 years. It has a 1% chance of occurring in any one year.

PMF = probable maximum flood, which is the largest flood likely to ever occur. It has a very rare chance of occurring.

^ m AHD = metres Australian Height Datum, which is common national plane of level approximately equivalent to the height above sea level.

Ground Levels, Floor Levels and Flood Depths

Table 5

Ground and floor levels may be available from council or from survey plans prepared by a registered professional surveyor. Flood depths are calculated by subtracting ground/floor levels from flood levels. Additional rows may be inserted as required.

FEATURE	GROUND LEVEL (m AHD)	FLOOD DEPTH OVER GROUND (M)			FLOOR LEVEL (m AHD)	FLOOD DEPTH OVER FLOOR (M)		
		20 YEAR ARI	100 YEAR ARI	PMF		20 YEAR ARI	100 YEAR ARI	PMF
Office								
Amenities block(s) (A) (B)								
Lowest site in park (INSERT SITE NUMBER)								
Highest site in park (INSERT SITE NUMBER)								
Park entrance								
Low-point on **access road**								
Low-point on **levee** (indicate “n/a” if no levee)								

Source/date of ground/floor level survey:	

Flood Hazard Classification and Flood Planning Level(s) *Table 6*

Information about flood hazard classification and flood planning level(s) may be obtained from Council. For any single park there may be more than one flood hazard classification. High hazard means that the flood depths and velocities would likely be dangerous.

Flood hazard and hydraulic categorisation:	
Flood planning level(s) (m AHD):	

Elements at Risk

Table 7

This section should be completed by the park owner/manager. The number of sites with readily moved structures refers to structures that could be moved in the often short time available after a flood warning, and should be realistic. Vans or cabins that are affixed to a rigid annexe or to services such as sewerage that are not easily detached, that have their draw-bars removed and tyres flat would not generally qualify as 'readily moved structures'. Note that the purpose of this Table is to inform emergency response, not to assess compliance with any regulation.

TYPE OF SITE	NUMBER OF SITES	NUMBER OF SITES WITHIN 100Y ARI FLOOD EXTENT	NUMBER OF SITES WITH READILY MOVED STRUCTURES	APPROX. NUMBER OF PEOPLE (PEAK SEASON)	APPROX. NUMBER OF PEOPLE (NON-PEAK SEASON)
Long-term vans/ cabins ('permanents')					
Holiday vans/cabins ('annuals')					
Park cabins (for hire)					
Park vans (for hire)					
Powered sites (for casual visitors)					
Unpowered sites (for casual visitors)					
TOTAL					

Other assets within 100 year ARI flood extent (e.g. manager's house, office, kiosk/shop, amenities block(s), sewage treatment plant, boats, fuel, gas)	

Flood Warning Arrangements and Constraints *Table 8*

Information about flood warning arrangements and constraints may be obtained from the SES.

	NAME (NUMBER)	ARE HEIGHT/TIME PREDICTIONS ISSUED? (Y/N)	AGENCY
Reference gauge			

Flood warning time and duration *Table 9*

	TIME (DAYS/HOURS)
***Available* flood warning time**, which is a broad measure of the flood warning time typically available for a given catchment. Flash flooding is often defined as flooding which peaks within six hours of the causative rain.	
***Effective* flood warning time**, which is the time available after receiving advice of an impending flood and before the floodwaters prevent appropriate flood response actions (e.g. evacuation) being taken.	
Duration of the 100 year flood	

Consequences at threshold flood levels *Table 10*

A local description/indicator could be 'low point on internal access road' or 'site no. 25 flooded'. Note that relating consequences at a caravan park to a sometimes distant flood gauge involves uncertainty due to flood slopes. Rows may be added as appropriate.

	LOCAL DESCRIPTION/ INDICATOR	LOCAL LEVEL (m AHD) ^ *(Refer to Table 5)*	GAUGE HEIGHT AT REFERENCE GAUGE (m) *(Refer to Table 8)*
Egress from park is cut			
Flooding commences at park			
Park entirely inundated			

^ m AHD = metres Australian Height Datum, which is common national plane of level approximately equivalent to the height above sea level.

Evacuation Arrangements and Constraints

Information about evacuation arrangements and constraints may be obtained from the SES. Note that the evacuation setting may vary with the magnitude of flooding.

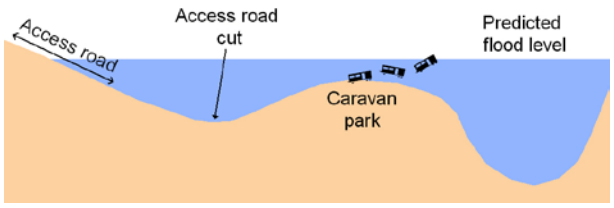
Giving thought to access and topographic setting and using the diagrams below, classify the evacuation setting represented by the caravan park for a range of floods:

Evacuation setting *Table 11*

20 YEAR ARI EVACUATION SETTING	100 YEAR ARI EVACUATION SETTING	PMF EVACUATION SETTING

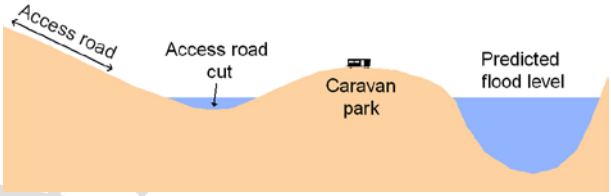
LOW FLOOD ISLAND (LFI)

Access road cut and no overland or alternative road access possible; island below predicted flood level



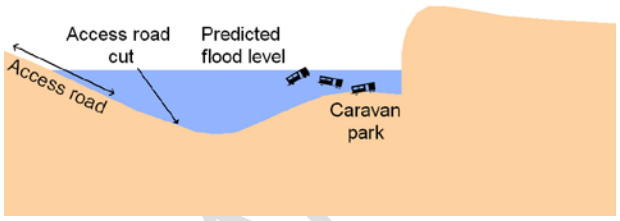
HIGH FLOOD ISLAND (HFI)

Access road cut and no overland or alternative road access possible; island above predicted flood level



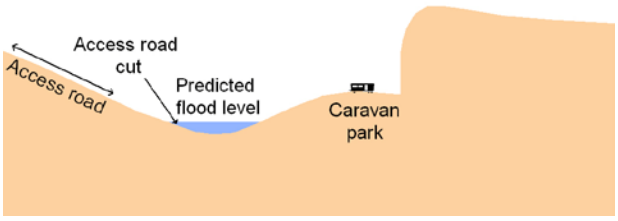
LOW TRAPPED PERIMETER (LTP)

Access road cut and no overland or alternative road access possible; site below predicted flood level



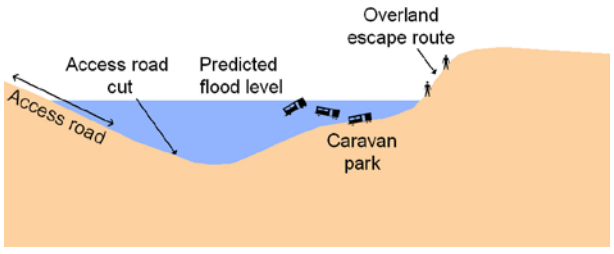
HIGH TRAPPED PERIMETER (HTP)

Access road cut and no overland or alternative road access possible; site above predicted flood level



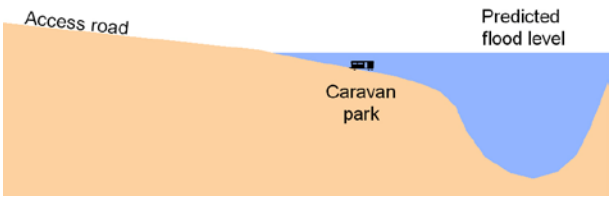
OVERLAND ESCAPE ROUTE (OER)

Access road cut but overland escape/rescue possible (on foot or AWD vehicle); site below predicted flood level



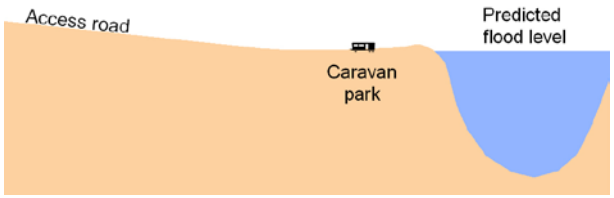
RISING ROAD ACCESS (RRA)

Access uninterrupted and via all-weather rising road (usual route or alternative); site below predicted flood level



INDIRECTLY AFFECTED AREA (IAA)

Access uninterrupted and via all-weather rising road (usual route or alternative); site above predicted flood level; one or more services failed



Key evacuation information *Table 12*

This section should be completed by the park owner/manager.

	DESCRIPTION
Assembly area	
Evacuation route	
Evacuation centre (people)	
Mobile caravan, vehicle, boat storage area	
Hazardous substances storage area	

Summary of flood risk

This section should be completed by the park owner/manager. It should consist of a short, simple statement about flood risk at your caravan park.
In addition to the previous material, Indicate how fast floodwaters are expected to be, whether the park is at risk of flooding from raised ocean levels, and what level of protection, if any, is afforded by a levee.

PART D – KEY PRIORITIES AND TRIGGERS

*This section should be completed by the park owner/operator, with assistance from the SES. The key priorities in any flood emergency are **ENSURING SAFETY** and **REDUCING PROPERTY DAMAGE**.*

If you are in an area with a flood height prediction system, use river height predictions to trigger action. You should commence actions even when a Flood Watch is issued.

If you are in an area without a flood height prediction system, you will have to use other triggers (e.g. Severe Weather Warning, Severe Thunderstorm Warning, heavy rain, rising water).

If you are in an area adjacent to a coastal lake or estuary you may be subject to flooding from high ocean levels. The Bureau of Meteorology may issue a Severe Weather Warning for such events.

*Refer to Table 10 to identify threshold flood levels. Refer to Table 14 for the detailed actions for each trigger. For this exercise, **assume peak occupancy**. Note that **the time allowed for the key responses such as evacuation must be less than the effective warning time** (Table 9). This can be achieved by using an earlier trigger (e.g., a Flood Watch instead of a Flood Warning) and/or by increasing resources.*

Examples of triggers

Flood height prediction system

- Flood Watch issued
- Flood Warning issued –

  predicted …… m at ……. gauge within …… hours' time

No flood height prediction system

- Severe Weather Warning issued
- Severe Thunderstorm Warning issued
- Based on heavy rain/river levels/predicted tides, evacuation route anticipated to close within …… hours' time
- Based on heavy rain/river levels/predicted tides, lowest sites anticipated to flood within …… hours' time

Examples of key actions

(Note that not all examples will suit a particular park)

- Monitor the threat of flooding via www.bom.gov.au/hydro/flood/nsw/ and own observations
- Advise park occupants
- Self-evacuation of park occupants
- Assist any occupants with special needs
- Move any mobile vans and vehicles to storage area(s) *(note that prior approval may be required to move privately-owned assets)*
- In the case of 'annuals' with absent owners, lift property from annexes to vans *(note that prior approval may be required)*

Key triggers initiating main responses *Table 13*

TRIGGER	KEY ACTION	RESOURCES	TIME NEEDED

PART E – FLOOD ACTION

Table 14

This section should be completed by the park owner/manager. Rows may be added, deleted or modified as appropriate.

PREPARE – BEFORE THE FLOOD				
ACTION	WHEN	WHO	HOW (e.g. Resources)	COMPLETED
Maintain a flood emergency kit (e.g. first aid kit, portable radio, torch, waterproof bags, etc)	Always	Manager		☐
Back up records, accounts and computer files and store off site and out of floodplain		Manager		☐
Document OH&S procedures for a flood (see NSW SES Business FloodSafe toolkit for ideas)*		Manager		☐
Display evacuation procedures in office, amenities block(s), park-owned dwellings		Manager		☐
Check that vans/cabins are tied down to prevent their being blown or washed away		Manager, owners of permanents and holiday vans	Inspections	☐
Check that moveable dwellings intended to be shifted before a flood retain their mobile status		Manager, owners of permanents and holiday vans	Inspections	☐
Anchor any fuel tanks located below the 100 year ARI flood level		Manager		☐
Investigate possibility of obtaining flood insurance for park-owned dwellings		Owner		☐

PREPARE – BEFORE THE FLOOD				
ACTION	WHEN	WHO	HOW (e.g. Resources)	COMPLETED
				☐

* Business FloodSafe Toolkit and Home FloodSafe Toolkit may be downloaded from www.ses.nsw.gov.au

RESPOND – FLOOD POSSIBLE				
ACTION	WHEN *(see Table 13)*	WHO	HOW (e.g. Resources)	COMPLETED
Obtain information about flooding via www.bom.gov.au, SES, radio station (INSERT NAME/FREQUENCY)	e.g. Flood Watch issued/local conditions	Manager		☐
Check availability of staff and others to assist in emergency		Manager		☐
Check availability of equipment (e.g. trucks) to assist with evacuating people and relocating property		Manager		☐
Advise park occupants of possible flood, assembly areas, evacuation routes, evacuation centres		Manager/staff	Door-knock, loud-speaker, notice board	☐
Notify any advance bookings or prospective visitors of situation		Staff	Phone	☐
If isolation is likely, ensure sufficient non-perishable food and other necessities to last a week		Staff		☐
				☐

RESPOND – DURING A RISING FLOOD				
ACTION	WHEN *(see Table 13)*	WHO	HOW (e.g. Resources)	COMPLETED
Obtain information about flooding via www.bom.gov.au, SES, radio station (INSERT NAME/FREQUENCY)	e.g. Flood Warning issued/local conditions	Manager		☐
Warn park occupants of flood and request they vacate park via evacuation route or wait for assistance (if without private transport)		Manager/staff		☐
Arrange transport to evacuation centre for any people without private transport		Staff (possibly with SES assistance)		☐
Maintain a register of departing park occupants (see Appendix) and make available to Police or SES upon request		Manager/staff	Registration form (see Appendix)	☐
Notify any advance bookings or prospective visitors of situation		Staff	Phone	☐
Use safe manual handling procedures (for moving assets and equipment); wear protective clothing (including non-slip footwear and puncture-resistant gloves)		Staff		☐
Relocate any mobile vans and vehicles to storage area(s) (if prior approval given, for privately-owned vans)		Staff (possibly with SES assistance)		☐

RESPOND – DURING A RISING FLOOD				
ACTION	WHEN *(see Table 13)*	WHO	HOW (e.g. Resources)	COMPLETED
Relocate or tie down any unattended boats (if prior approval given, for privately-owned boats)		Staff (possibly with SES assistance)		☐
Lift items from annexes to vans for absentee 'annuals' (if prior approval given)		Staff (possibly with SES assistance)		☐
Secure objects that are likely to float or cause damage (including gas bottles)		Staff (possibly with SES assistance)		☐
Block toilets, sinks and floor wastes with sand bags		Staff (possibly with SES assistance)		☐
Relocate chemicals/poisons above potential flood level		Staff (possibly with SES assistance)		☐
Turn off electricity, gas and water at sites and to park when required		Manager/staff		☐
				☐

RECOVER – AFTER THE FLOOD				
ACTION	WHEN	WHO	HOW (e.g. Resources)	COMPLETED
Check with SES and Police before allowing people back into flooded area	Flood receded and warning lifted	Manager		☐
Have electric and gas fixtures checked by qualified personnel		Manager		☐
Never use matches, cigarette lights or any other naked flame since flammable gas may be trapped inside		Manager/staff/occupants		☐
Beware of sharp debris, snakes and spiders, and wading in contaminated water; wear protective clothing (including non-slip footwear and puncture-resistant gloves)		Manager/staff/occupants		☐
Boil all water supplies until declared fit to drink		Manager/staff/occupants		☐
Dispose of any food or medication contacted by floodwater		Manager/staff/occupants		☐
Remove debris and clean, repair and disinfect premises		Manager/staff/occupants		☐
Salvage, clean and dry as much as possible		Manager/staff/occupants		☐

Replace any lost furniture, fittings and floor coverings with more flood resistant products		Owner, owners of 'permanents' and 'annuals'		☐
Return any vans/vehicles/boats that were moved off site		Staff (possibly with SES assistance)		☐
Implement strategies for winning back customers		Regional tourism body, owner/manager		☐
				☐

PART F – OTHER RESOURCES

Other resources available to caravan park owners/managers to assist in planning for flood and other hazards such as bushfire are listed below:

RESOURCE	PUBLISHER	WEB-SITE
FloodSafe Caravan Parks (Flood Protection Advice for Caravan Park Managers)	NSW SES	www.ses.nsw.gov.au/infopages/6631.html
Riverine and Flash Flood Business FloodSafe Toolkits (including 'Don't let your business go under' poster)	NSW SES	www.ses.nsw.gov.au/infopages/3129.html
NSW Flood Warning Centre	Bureau of Meteorology	www.bom.gov.au/hydro/flood/nsw/
Bushfire Safety	NSW RFS	www.rfs.nsw.gov.au
Caravan Park Fire Safety Guideline (Jul 2006)	Victorian CFA	www.cfa.vic.gov.au/documents/guidelines_caravan_parks.pdf
Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005	NSW Government	www.legislation.nsw.gov.au

PART G – FLOOD RISK MAP

The map should show on an aerial photograph or site plan base (to scale):

- the level/extent of the 100 year ARI flood (see Table 4);
- the ground/floor levels of key 'elements at risk' (see Table 5);
- the location of levees (where applicable);
- the assembly point(s) and the evacuation route (see Table 12);
- local flood gauge post (where applicable); and
- any other distinctive features influencing flood risk and response.

Any copies of a coloured map should be made in colour to preserve clarity.

Should any modifications to the map be required in the future, the background layers (excluding aerial photography), together with a list of organisations and persons qualified to update the map using a Geographical Information System (GIS), may be available from Council.

APPENDIX: CARAVAN PARK EVACUATION REGISTRATION FORM

DISTRIBUTION:
Retain original
Fax one copy to SES and/or Police upon request

Caravan Park:
Date/Time:

GIVEN NAME/SURNAME	USUAL ADDRESS	CONTACT DETAILS/ MOBILE PHONE NO	AUTHORITY TO RELEASE UPON PUBLIC ENQUIRY
			Yes / No
			Yes / No
			Yes / No
			Yes / No
			Yes / No
			Yes / No
			Yes / No
			Yes / No
			Yes / No

			Yes / No
			Yes / No
			Yes / No
			Yes / No
			Yes / No
			Yes / No

1.15.7. Schedule 7 – Flood Evacuation Procedures Template for Display at Park

INSERT NAME OF CARAVAN PARK
FLOOD EVACUATION PROCEDURES

Please be informed that **parts of this caravan park are liable to flooding**. More detail about the extent of this risk is contained in the park's Flood Emergency Plan, which is available for inspection at the park office.

The site occupier shall evacuate the premises when directed to do so by park management, an authorised Council officer, the Police, State Emergency Services personnel, Fire Brigade officers, or any other person on whom the park has delegated authority to give directions in an emergency.

The following table details the **actions park patrons shall take** in the event of an evacuation:

PREPARE

- *For owners of moveable dwellings on long-term sites or holiday van sites:* check and secure tie downs; elevate furniture and equipment as high as possible when vacating van for extended period
- *For owners of moveable dwellings intended to be relocated before a flood:* maintain van in condition allowing it to be towed (e.g. drawbar attached, tyres inflated, services readily detachable)

RESPOND

- Obtain updated flood information from park manager and radio station …… on frequency ……
- Isolate power and other services to moveable dwellings, and close down gas bottles
- Secure items that could float away, and elevate furniture as high as possible
- *For residents who need to evacuate:* collect personal papers, photos, medicines, toiletries and clothing
- Relocate mobile vans, boats and trailers to designated storage area
- Check for road closures with park management
- Register with park management as exiting the park
- Exit park via evacuate route

NEVER DRIVE, RIDE OR WALK THROUGH FLOODWATER –
THESE ARE THE MAIN CAUSES OF DEATH DURING FLOODS

EMERGENCY CONTACTS
Life-threatening emergency: 000
Park manager: INSERT NUMBER
SES: 132 500

This sheet should be accompanied by a **map** that shows the evacuation assembly point(s), evacuation route, location of fire hoses, and the extent of the 100 year ARI flood.
This sheet and map should be **displayed** in the park office, amenities block(s) and all park cabins/vans.
This sheet and map should be **distributed** annually to permanents and owners of holiday vans, and upon arrival to casual visitors.

PART 2. OTHER MATTERS

2.1. Implementation

The Development and Environmental Services Group has responsibility for implementation of this plan/policy through the development approvals process.

2.2. Review

This plan/policy shall be reviewed within one year of the election of every new Council in accordance with Section 165 (4) of the Local Government Act 1993.

2.3. Application of ESD Principles

Applying this plan/policy ensures ESD principles are considered in terms of flooding for a new complex, extension to existing complex, new installation or an approval to operate in flood affected Caravan Parks.

2.4. Disclaimer

In certain circumstances Council reserves the right to make modifications to this plan/policy after its adoption without further consultation. Such circumstances are limited to modifications that will not alter the substance or intent or requirements of the adopted plan and may include correction of typographic errors, changes to internal procedures relating to the plan, changes to document formatting, alterations to appendices that do not form part of the actual plan, amendments resulting from changed or new legislation or consequential to the adoption by Council of another policy, etc..

Every effort has been made to provide complete and accurate information. However, Shoalhaven City Council assumes no responsibility for any direct, indirect incidental or consequential damages arising from the use of information in this document.

Caravan Parks in Flood Prone Areas (DCP 123) - LAP

Adopted by Council:

And

Became effective from:

RD Pigg
General Manager
Date