

Flood Planning Levels for the Lower Shoalhaven River Floodplain

Adoption Date:	28/01/2003
Reaffirmed:	20/09/2005, 26/03/2013
Amendment Date:	21/02/2017, 01/08/2022, 23/01/2023
Minute Number:	MIN03.10, MIN05.1247, MIN13.264, MIN17.95, MIN22.508, MIN23.14
Review Date:	01/12/2024
Directorate:	City Development
Record Number:	POL23/7

1. Purpose

To set standard design modelling conditions for the determination of Flood Planning Levels for development on the Lower Shoalhaven River Floodplain.

2. Statement

Background information:

- The Lower Shoalhaven River Flood Study (April 1990) determined 1% Annual Exceedance Probability (AEP) flood levels for two different scenarios at Shoalhaven Heads Entrance – initially closed and initially open. The initially closed scenario produced higher levels than the initially open scenario. The impact of the different entrance conditions extends from Shoalhaven Heads upstream to Pig Island. The difference in 1% AEP flood levels in the vicinity of Shoalhaven Heads can be up to 0.7m. That is, 0.7m difference of a flood with a one in a hundred chance (1% AEP) of being exceeded in any year.
- The Lower Shoalhaven River Flood Study (*April 1990*) recommended the **closed** scenario as the design standard to set Flood Planning Levels (see Lower Shoalhaven River Flood Study page 25).
- In the **open** scenario, 499 buildings are flood affected in a 1% AEP flood event. In the **closed** scenario, 683 buildings would be flood affected during the same recurrence event. Adopting the **closed** scenario thus recognises the potential flood liability of an additional 184 buildings.
- The Shoalhaven River Entrance Management Plan for Flood Mitigation (November 2006) sets out detailed procedures of how to maintain a dry notch at the Shoalhaven River entrance at Shoalhaven Heads, how to breach the entrance, if necessary, during an event and how to monitor the entrance conditions.
- Even with the provision of a dry notch however, there is a high possibility of failure to mitigate flooding of low-lying areas, as sand conditions can change rapidly, and the dry notch may not exist or not be able to be accessed at the time of a flood.
- There is potential danger to operators while opening the entrance during a flood, which must be addressed under Council's Work, Health and Safety obligations.
- Maintenance of the dry notch must be undertaken in consultation with State Government Agencies due to land tenure and the presence of environmentally sensitive areas, including habitat for threatened and migratory birds. Licenses and approvals are issued by the relevant agencies for these works to be undertaken.
- The preparation of an updated Lower Shoalhaven River Flood Study (*Cardno, 2022*) was underway during the current review of this policy in August 2022. The Shoalhaven River entrance behaviour at Shoalhaven Heads was investigated using a detailed coastal hydrodynamic and morphological numerical model. The objective of this investigation was to better understand the relationship between the Shoalhaven River inflow (from catchment flooding), the rate at which the berm opens, the maximum width of the entrance under different flow conditions, and what this means for flood levels in the lower reaches of the Lower Shoalhaven River floodplain. The findings from this modelling were

used to inform and improve confidence in the entrance condition assumptions for design flood events in the Lower Shoalhaven River Draft Flood Study (Cardno, 2022).

- The Flood Planning Area as determined in the *Lower Shoalhaven River Flood Study (Cardno, 2022)* covers some locations not modelled in the *Lower Shoalhaven River Flood Study (April 1990)*. The extent of the *Lower Shoalhaven River Flood Study (Cardno, 2022)* extends further upstream within the Lower Shoalhaven River.
- Following the completion and adoption of the Lower Shoalhaven River Flood Study and Review of the Lower Shoalhaven River Floodplain Risk Management Study & Plan, this policy may be superseded and should then be updated or repealed. Flood Planning Levels for the Lower Shoalhaven River floodplain would then be determined from the outcomes of the Review of the Lower Shoalhaven River Floodplain Risk Management Study & Plan.

3. Provisions

Council has adopted the following recommendations in relation to the Lower Shoalhaven Floodplain:

- a) A dry notch weir for easier opening of the entrance be maintained for the period of the policy to assist in the protection of existing development at low levels.
- b) All future development only be approved at the higher Flood Planning Levels derived from the Shoalhaven Heads Entrance closed scenario as modelled in the *Lower Shoalhaven River Flood Study (April 1990)*, thereby assisting Council in satisfying its obligations under the NSW Floodplain Development Manual 2005.
- c) For locations outside the Flood Planning Area determined from the *Lower Shoalhaven River Flood Study (April 1990)*, but included in the Flood Planning Area as determined from the *Lower Shoalhaven River Flood Study (Cardno, 2022)*, all future development shall be approved at the Flood Planning Level derived from the *Lower Shoalhaven River Flood Study (Cardno, 2022)*.

4. Implementation

This policy is to be implemented by the City Development Flood Planning Levels (= minimum floor levels) for individual areas that are set by Council during the Floodplain Risk Management Study & Plan processes.

Enquiries in relation to determining minimum floor levels for development on individual properties within the affected area should be referred to the Floodplain Management unit of Council's City Development directorate. An on-line flood certificate request can be made from Council's website.

www.shoalhaven.nsw.gov.au

5. Review

This Policy will be reviewed by the Shoalhaven City Council's City Development (Floodplain Management unit) within one year of the election of every new Council or following the adoption of a new Floodplain Risk Management Study and Plan for the Lower Shoalhaven River floodplain. All information contained in the policy will be verified against the most current

flood information available from Flood Studies, Floodplain Risk Management Studies, and Plans.