

## Northern Floodplain Risk Management Committee

**Meeting Date:** Monday, 21 March, 2022  
**Location:** Council Chambers, City Administrative Centre, Bridge Road, Nowra  
**Time:** 4:00pm

**Please note:** Council's Code of Meeting Practice permits the electronic recording and broadcast of the proceedings of meetings of the Council which are open to the public. Your attendance at this meeting is taken as consent to the possibility that your image and/or voice may be recorded and broadcast to the public.

### Agenda

1. **Apologies**
2. **Election of Chairperson**
3. **Confirmation of Minutes**
  - Northern Floodplain Risk Management Committee - 19 May 2021
4. **Declarations of Interest**
5. **Presentations**
  - NFM22.3 Presentation - Purpose of the FRMC and NSW Government Flood Program – Department of Planning and Environment.
  - NFM22.4 Presentation - Lower Shoalhaven River Flood Study – Cardno
6. **Reports**
  - NFM22.1 Lower Shoalhaven River Floodplain Risk Management Study and Plan Update ..... 1
  - NFM22.2 General Update on Flood Projects .....5
7. **General Business**

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**Membership**

Chairperson – to be appointed by Committee  
All Councillors  
CEO or nominee

Community representatives:-

John Gould  
David Brawn  
Mark Kielly  
Plaxy Rowe  
Leonard White  
Phil Guy

Government Agency representatives:-

Local Aboriginal Land Council  
NSW State Emergency Services  
Department of Planning, Environment and Industry (DPIE)  
Other relevant Government Agency representatives

Quorum – Three (3) provided that a minimum of the Chairperson and two community representatives are present.

**Purpose:**

The principal objective of the North Floodplain Risk Management Committee is to assist Shoalhaven City Council in the development and implementation of one or more floodplain risk management plans for the north area of the Council. This will need to be in accordance with the NSW Floodplain Development Manual. The north area applies to the following catchments:

- Lower Shoalhaven River;
- Crookhaven River;
- Kangaroo River;
- Broughton Creek;
- Bomaderry Creek;
- Nowra and Browns Creek; and
- Lake Wollumboola.

**Role:**

1. To assist the Council in the development and implementation of the floodplain management plan for the areas listed under 'Purpose' (see above);
2. To assist the Council monitoring and assessing the effectiveness of the management plans during and after its implementation; and
3. To assist the Council providing input into known flood behaviour as part of the flood study.

## **NFM22.1 Lower Shoalhaven River Floodplain Risk Management Study and Plan Update**

**HPERM Ref:** D22/87287

**Department:** Environmental Services

**Approver:** James Ruprai, Director - City Development

### **Reason for Report**

To provide the Northern Floodplain Risk Management Committee (FRMC) with an update on the draft Lower Shoalhaven River Flood Study (completed as part of the Lower Shoalhaven River Floodplain Risk Management Study & Plan Update) and seek endorsement from the FRMC to commence public exhibition and community engagement of the Draft Flood Study report.

### **Recommendation (Item to be determined under delegated authority)**

The Committee receive the draft Lower Shoalhaven River Flood Study report for information and endorse the commencement of public exhibition and community engagement for the Draft Flood Study.

### **Options**

1. The Committee receive the draft Lower Shoalhaven River Flood Study report for information and endorse the commencement of public exhibition and community engagement of the Draft Flood Study report.

Implications: Nil.

2. The Committee could choose to provide an alternative recommendation for consideration by Council.

Implications: This option could delay the progress of the project, result in additional project costs and/or prevent the completion of a Flood Study and Floodplain Risk Management Study & Plan within the project timeframe.

### **Background**

The study area comprises the Lower Shoalhaven River floodplain from Burrier to the primary entrance to the Tasman Sea at Crookhaven Heads and the intermittently open and closed entrance at Shoalhaven Heads.

The objective of this study is to improve understanding of flood behaviour and impacts, and better inform management of flood risk in the study area in consideration of the available information. The study will also provide a sound technical basis for any further studies.

The previous Floodplain Risk Management Study and Plan (FRMS&P) for the Lower Shoalhaven River was completed in 2011. A review was recommended as per the NSW Floodplain Development Manual. It is noted that the Australian Rainfall and Runoff (ARR) Guidelines were updated in 2019 and this resulted in several changes to input parameters for design event flood modelling such as Bureau of Meteorology (BoM) design rainfall depths and ARR rainfall losses and design temporal patterns, in addition to significant advancements in computing power and modelling techniques. Hence, the Lower Shoalhaven

River FRMS&P update will result in updated contemporary flood investigations which utilise industry best practice guidelines.

The study outputs will inform decision making for investing in the floodplain, managing flood risk through prevention, preparedness, response and recovery activities, and informing and educating the community on flood risk and response to floods.

Funding was approved by the NSW Department of Planning, Industry and Environment (DPIE) for this study in October 2017 and Cardno were engaged to prepare the Lower Shoalhaven River FRMS&P in June 2018.

The Shoalhaven River entrance behaviour at Shoalhaven Heads has been 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, and the maximum width of the entrance under different flow conditions, and what this means for flood levels in the lower reaches of the river. 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.

### **Current Status of the Project**

The draft Lower Shoalhaven River Flood Study report has been completed by Cardno. A link will be provided to the draft Lower Shoalhaven River Flood Study report with the FRMC meeting agenda. A Summary Report has also been prepared for the public exhibition and community engagement phase and a link to this report will also be provided with the FRMC meeting agenda.

Cardno will provide a presentation to the Northern FRMC on the Lower Shoalhaven River Flood Study development and outcomes.

The draft Lower Shoalhaven River Flood Study report has been reviewed by Council Flood Engineers and the NSW Department of Planning and Environment (DPE). The draft Flood Study report has been provided to the NSW State Emergency Service (SES) for review. The draft Lower Shoalhaven River Flood Study report has been updated based on feedback from Council, DPE and the SES.

An independent expert peer review of the flood model development and outcomes was completed by WMAwater. The hydrologic and hydraulic models have been updated as required to the satisfaction of the peer reviewer.

The next step in the project programme is community engagement for the Draft Flood Study report.

A preliminary list of potential mitigation measures to be considered in the FRMS&P is currently being prepared. The feasibility of these measures, along with preliminary environmental assessment and aboriginal heritage due diligence will be completed for all potential options prior to further assessment in the FRMS&P. Council welcomes any suggestions from the FRMC on potential mitigation measures to be considered in the upcoming FRMSP phase.

It is also noted that Council has received a final extension to the DPE funding term completion date for this project. The project funding term completion date is 21 November 2022. It is expected that the Lower Shoalhaven River Flood Study and Floodplain Risk Management Study & Plan Update should be completed by this DPE funding term completion date.

A number of tasks that would normally form part of a FRMS&P such as a flood damages assessment have been completed as part of the current draft Flood Study. This will reduce the scope of work included in the FRMS&P.

## Community Engagement

The first round of community consultation was undertaken between November 2018 and February 2019. A project website was published by Council to inform the community about this project. The website has been developed to provide the community with detailed information about the study and gather information. The website will be updated during the duration of the project to provide relevant information at each stage of the study.

Council is seeking endorsement from the Northern FRMC to undertake community exhibition of the draft Lower Shoalhaven River Flood Study and seek input with regard to any mitigation measures to be considered in the FRMS&P. The four-week community exhibition phase is expected to commence in late April 2022 (pending endorsement from the FRMC). The following forms of community engagement are proposed.

- Media release to inform the community of the community engagement period.
- Mail out to property owners within the study area which comprise flood prone land and/or may experience flood isolation or flood evacuation difficulties. This will notify the property owner of the public exhibition period and provide a link to the project Get Involved page.
- Get Involved webpage. The Get Involved webpage will include a link to a pre-recorded presentation which discussed the Flood Study development and outcomes, links to the Summary and Full draft Flood Study reports, the ability to ask questions (response provided by Council, DPE or the consultant) and an online questionnaire to seek feedback from the community on the draft Flood Study and mitigation measures to be considered in the FRMS&P.
- Council is liaising with the SES to provide some flood education information on the Get Involved webpage during the community engagement period. This will include important links to the SES website, a Community Flood Safe brochure that has been specifically developed for the Lower Shoalhaven River floodplain and other flood safety information. This will help the community prepare for flood events, understand flood warning services, stay informed during a flood event, and ultimately improve the communities flood resilience and reduce their reliance on emergency services.

Drop-in sessions are not planned to be completed for the upcoming community engagement period. A pre-recorded presentation is expected to reach a wider audience as this allows property owners and residents to watch and view the information on the Get Involved webpage in their own time. The Get Involved webpage will then permit community members to provide comments, questions and statements in relation to the Flood Study.

The ongoing COVID-19 situation also presents a number of challenges with regard to physical drop-in sessions for the community.

## Financial Implications

The Lower Shoalhaven River FRMS&P is 2/3 funded by DPE and 1/3 funded by Council. This funding has been approved under the NSW State Government 'Floodplain Management Program' on a 2:1 basis. Council's matching 1/3 contribution comes from the existing general Floodplain Management Program budget.

Any potential delays to the community engagement period could, however, prevent the project being completed prior to the end of the DPE funding term completion date and this could result in increased project costs for Council.

### **Policy Implications**

The outcomes from the Lower Shoalhaven River Flood Study and Floodplain Risk Management Study & Plan Update will inform Council's Policy for Flood Planning Levels for the Lower Shoalhaven River Floodplain when this is reviewed this year.

All flood information completed in the Lower Shoalhaven River Flood Study and FRMS&P will be provided to the SES and then can be used to update the Shoalhaven Flood Emergency Sub Plan and other operational procedures accordingly.

## NFM22.2 General Update on Flood Projects

**HPERM Ref:** D22/87503

**Department:** Environmental Services

**Approver:** James Ruprai, Director - City Development

### Reason for Report

To provide the Northern Floodplain Risk Management Committee (FRMC) with an update on various flood related projects in the Northern FRMC region.

### Recommendation (Item to be determined under delegated authority)

The Committee receive the General Update on Flood Projects report for information.

### Options

1. The Committee receive the General Update on Flood Projects report for information.  
Implications: Nil.
2. The Committee could choose to provide an alternative recommendation for consideration by Council.  
Implications: Unknown.

### Flood Program

Council has a forward Flood Program which identifies and prioritises new and updated flood investigations for the Shoalhaven LGA. These flood investigations cover all phases of the floodplain risk management process from Flood Studies, Floodplain Risk Management Studies (FRMS), Floodplain Risk Management Plans (FRMP) and implementation of mitigation measures identified from these investigations.

Council can request grant funding from the Department of Planning and Environment (DPE), which administer the NSW Government Floodplain Risk Management Program. Flood investigations that are successful in obtaining grant funding are 2/3 funded by DPE and 1/3 funded by Council.

It is noted that flood investigations are typically recommended to be updated every ten years or following a significant flood event and/or changes within the catchment.

The majority of Council's flood investigations were developed prior to the update to the Australian Rainfall and Runoff Guidelines (ARR2019), which provide Australian Industry Guidelines for Flood Estimation. The recently completed Millards Creek Flood Study and Currarong Creek Flood Study, along with the ongoing Lower Shoalhaven River FRMS&P and St Georges Basin FRMS&P are being developed in accordance with ARR2019. Council's existing flood investigations will need to be progressively updated in accordance with the ARR2019.

A summary of Council's Flood Program priorities in the Northern FRMC region are provided below. Flood investigations have typically been identified as either a High, Medium, or Low priority.

### *High Priority*

- Update to Lower Shoalhaven Flood Study and FRMS&P – in progress.
- Update to Broughton Creek Flood Study – Council applied for DPE grant funding and included Council's 1/3 contribution in the Delivery Program Operational Program (DPOP).

### *Medium Priority*

- Update to Nowra and Browns Creek FRMS&P. Ideally including the entire Nowra urban areas.

### *Low Priority*

- Update to the Kangaroo Valley FRMS&P and Bomaderry Creek FRMS&P.

## **Grant Funding**

Council applied for DPE grant funding in the 2020-21 and 2021-22 Floodplain Management Program Grants round to update the Broughton Creek Flood Study but were unsuccessful on both occasions. Council has included the 1/3 funding contribution in the DPOP. We are investigating alternative sources of funding to undertake an update to the Broughton Creek Flood Study.

The 2022-23 DPE Floodplain Management Program Grants round is now open and closes on 7 April 2022. Council will be applying for DPE grant funding for a number of projects across the Shoalhaven LGA.

Council has applied for grant funding through the Federal Government Preparing Australian Communities Local Stream Program. This program provides funding for projects that improve the resilience of communities associated with large-scale natural hazards. This program pays 100% of eligible project expenditure for non-infrastructure projects. The following flood investigations are included in the Shoalhaven Flood Preparation and Emergency Response for Community Resilience grant application.

- Lower Shoalhaven River & St Georges Basin Catchment Flood Evacuation Capability Assessment and Planning – Focusing on Greenwell Point, Orient Point and parts of Culburra Beach, Sussex Inlet, and rural properties within the floodplains.
- Scoping study for an Intermittently Closed and Open Lakes and Lagoons (ICOLL) Catchment Flash Flood Warning Network – Covering Lake Conjola, Burrill Lake and Lake Tabourie.
- Clyde River Flood Study and Floodplain Risk Management Study & Plan.
- Willinga Lake Flood Study and Floodplain Risk Management Study & Plan.
- Floodplain Project Officer – Temporary full time for three years.

It is understood that successful projects will be announced in the first half of 2022.

## **Lower Shoalhaven River Flood Forecast Model**

Council has engaged a consultant to develop a flood forecast model using the WaterRIDE software for the Lower Shoalhaven River (and St Georges Basin) floodplain. This model will include all the design event results for the full range of events modelled in the Flood Study (20% AEP to PMF) and allow a surface to be interpolated from the library of flood layers based on a predicted or actual flood level at the Nowra Boat Shed water level gauge. This software allows roads and floor levels to be included, so when a surface is interpolated based on a predicted flood level, we would have access to flood depth, level, hazard, which roads would be inundated, which floors would be inundated and potentially other information to assist with flood intelligence and evacuation.

This model will assist Council Flood Engineers to provide flood intelligence during Lower Shoalhaven River flood events. The models will be provided to the SES.

**Flood Mitigation Assets**

Council has completed audits of the entire Lower Shoalhaven River floodplain levee network in 2020 and 2021. Funding has been obtained via Natural Disaster Relief and Recovery Arrangements (NDRRA) for flood damage to the Terara, O’Keefe’s Point and Comerong Island levees. The Comerong Island levee damage was repaired in 2021. Design documentation is currently being prepared to repair the Terara and O’Keefe’s Point levees.

Council is planning for a visual audit of all flood mitigation drains to be completed in April to May 2022. This will assist with ongoing maintenance of these flood mitigation drains.