

Uralla Shire

Local Flood Emergency Sub Plan



URALLA SHIRE FLOOD EMERGENCY SUB PLAN

A Sub Plan of the Local Emergency Management Plan (EMPLAN)

Volume 1 of the Uralla Shire Flood Emergency Sub Plan

Version 3.0

AUTHORISATION

The Uralla Shire Flood Emergency Sub Plan is a sub plan of the Uralla Shire Local Emergency Management Plan (EMPLAN). It has been prepared in accordance with the provisions of the **State Emergency Service Act 1989 (NSW)** and is endorsed by the Local Emergency Management Committee in accordance with the provisions of the **State Emergency and Rescue Management Act 1989 (NSW)**.

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Authorised

Signature:



NSW SES Local Commander – New England

Print Name: Johnathon Tarran

Date: 21/09/2023

Endorsed

Signature:



Chair, Local Emergency Management Committee

Print Name: Alexander Manners.

Date: 3 - 10 - 23

VERSION HISTORY

Version Number	Description	Date
1.0	Uralla Local Flood Plan	May 2006
2.0	Uralla Local Flood Plan	October 2013
3.0	Uralla Local Flood Plan	October 2023

AMENDMENT LIST

Suggestions for amendments to this plan should be forwarded to:

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Amendments in the list below have been entered in this plan.

Amendment Number	Description	Updated by	Date
01	Update of references to 'Flood Development Manual' – replaced with 'Flood Risk Management Manual'	Melissa Lloyd	
02	Update of wording in section 5.4 relating to flood warnings, to reflect the change to the Australian Warning System	Melissa Lloyd	
03	Update of wording from 'DPIE' to 'DPE'	Melissa Lloyd	
04	Recovery Operations – updated 6.22 reference from Resilience NSW to NSW Reconstruction Authority	Melissa Lloyd	
05	Insertion of text under Section 5.9.4 - "The roles and responsibilities for Agriculture and Animal Services are outlined in the Agriculture and Animal Services Functional Area Supporting Plan."	Melissa Lloyd	

DISTRIBUTION LIST

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1 OUTLINE AND SCOPE

1.1 PURPOSE

1.1.1 The purpose of this plan is to set out the multi-agency arrangements for the emergency management of flooding in the Uralla Shire Local Government Area (LGA).

1.2 AUTHORITY

1.2.1 This plan is written and issued under the authority of the [State Emergency and Rescue Management Act 1989 \(NSW\)](#) ('SERM Act'), the [State Emergency Service Act 1989 \(NSW\)](#) ('SES Act') and the NSW State Emergency Management Plan (EMPLAN).

1.2.2 This plan is a sub plan to the Uralla Shire Local Emergency Management Plan (EMPLAN) and is endorsed by the Local Emergency Management Committee (LEMC).

1.3 ACTIVATION

1.3.1 This plan does not require activation. The arrangements set out in this plan are always active.

1.3.2 The Uralla Shire Emergency Management Plan (EMPLAN) is active at all times in anticipation of the need to coordinate support and resources requested by combat agencies, including the NSW State Emergency Service (NSW SES).

1.4 SCOPE

1.4.1 The area covered by this plan is the Uralla Shire LGA. The Uralla Shire LGA and its principal towns, villages, rivers and creeks are shown in Appendix A.

1.4.2 The Council area is in the NSW SES North Western Zone and for emergency management purposes, is part of the New England Emergency Management Region.

1.4.3 The plan sets out the Uralla Shire level emergency management arrangements for prevention, preparation, response and initial recovery for flooding in the Uralla Shire LGA.

1.4.4 In this plan a flood is defined as a relatively high water level which overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam, and/or local overland flooding associated with drainage before entering a watercourse, and/or coastal inundation resulting from super-elevated sea levels and/or waves (including tsunami) overtopping coastline defences.

1.4.5 This plan outlines the local level arrangements for the management of downstream consequences of flooding due to dam failure, however it does not cover the management of flooding of an underground mine by inrush or other cause, which should be covered by the Mine Emergency Sub Plan for the respective mine.

1.5 GOALS

- 1.5.1 The primary goals for flood emergency management in NSW are:
- a. Protection and preservation of life.
 - b. Establishment and operation of flood warning systems.
 - c. Issuing of community information and community warnings.
 - d. Coordination of evacuation and welfare of affected communities.
 - e. Protection of critical infrastructure and community assets essential to community survival during an emergency incident.
 - f. Protection of residential property.
 - g. Protection of assets and infrastructure that support individual and community financial sustainability and aid assisting a community to recover from an incident.
 - h. Protection of the environment and conservation values considering the cultural, biodiversity and social values of the environment.

1.6 KEY PRINCIPLES

- 1.6.1 The protection and preservation of human life (including the lives of responders and the community) is the highest priority.
- 1.6.2 Evacuation is the primary response strategy for people impacted by flooding.

1.7 ROLES AND RESPONSIBILITIES

- 1.7.1 General responsibilities of emergency service organisations and functional areas are set out in the NSW State EMPLAN and NSW State Flood Sub Plan.
- 1.7.2 Specific roles and responsibilities for agencies, functional areas and organisations in relation to flooding within Uralla Shire are detailed within this plan, Appendix B and Appendix C.
- 1.7.3 Any agency with agreed responsibilities in this plan that are temporarily unable, or no longer able to fulfil their responsibilities in response operations must as soon as possible notify:
- a. The NSW SES Incident Controller (for local or zone level responsibilities during response operations).
 - b. The NSW SES Zone Duty Commander (for regional level responsibilities outside of response operations).

1.8 PLAN MAINTENANCE AND REVIEW

1.8.1 NSW SES will maintain the currency of this plan by:

- a. Ensuring that all supporting emergency services and functional areas, organisations and officers mentioned in it are aware of their roles and responsibilities.
- b. Conduct a minimum of one exercise every five years or within two years of the plan being reviewed.
- c. Reviewing the contents of the plan:
 - When there are changes which alter agreed plan arrangements.
 - When changes to land use strategic plans and policies increase the population at risk.
 - After a flood including recommendations from after action reviews, reports, or inquiries.
 - As determined by the NSW SES Commissioner.
- d. The plan is to be reviewed no less frequently than every five years or after a significant flood event.

1.9 SUPPLEMENTARY DOCUMENTS

1.9.1 Supplementary and supporting material of the Local Flood Emergency Sub Plan is maintained on the [NSW SES website Flood, Storm and Tsunami Plans](#) including:

- a. Flood Plan Glossary.
- b. NSW SES Dam Failure Notification Flowchart.
- c. NSW SES Resupply Flowchart.

2 OVERVIEW OF NSW FLOOD HAZARD AND RISK

2.1 THE FLOOD THREAT

2.1.1 NSW SES maintains information on the nature of flooding and effects of flooding on the community in the Uralla Shire LGA. This is outlined in Volume 2 – Hazard and Risk in Uralla Shire.

2.1.2 Declared dams in or upstream of the Uralla Shire Local Government Area.

Dam Name	Owner	High Risk Dam
Kentucky Creek Dam	Uralla Shire Council	No

3 PREVENTION/ MITIGATION

3.1 INTRODUCTION

3.1.1 The Floodplain Development Manual outlines the NSW Government's Flood Prone Land Policy which details the framework for managing flood prone land in New South Wales. Incorporation of floodplain risk management into land use planning is one of the key means to limit the exposure to flood risks to our communities and help build long term resilience to future flood events.

3.2 LAND USE PLANNING

3.2.1 **Strategy:** Effective land use planning is a key focus for minimising the impacts of flooding. NSW SES will work with land use planning and consent authorities to inform and influence the consideration of the risks arising from flood, storm and tsunami, to prevent the creation of intolerable impacts of these hazards on the community.

Actions:

- a. NSW SES will provide strategic input about land use planning matters which have or will create significant flood risk to life and/or property due to flooding.
- b. NSW SES will provide responses to land use planning proposal referrals that have or will create significant flood risk to life and/or property due to flooding.

3.3 FLOODPLAIN RISK MANAGEMENT

3.3.1 **Strategy:** Advocate for consideration of emergency management in decision making to reduce risks to the existing community and minimise the growth in future, continuing and residual risk due to development through input to the floodplain management program.

Actions:

- a. NSW SES will provide coordinated and consistent emergency management advice to councils and other agencies in relation to the management of land that is subject to flooding or coastal inundation.
- b. NSW SES will provide advice, support, technical resources and training for NSW SES representatives to contribute effectively on local Floodplain Management Committees.

4 PREPARATION

4.1 INTRODUCTION

4.1.1 Preparation includes arrangements or plans to deal with an emergency or the effects of an emergency.

4.2 FLOOD EMERGENCY PLANNING

4.2.1 **Strategy:** NSW SES develop, review and maintain Flood Emergency Sub Plans.

Actions:

- a. Develop and review this NSW SES Local Flood Emergency Sub Plan as required. Local Flood Emergency Sub Plans outline the specific arrangements for management of flood events within an LGA, and may include cross boundary arrangements.
- b. Review plans as per Section 1.8.

4.2.2 Local EMPLAN Consequence Management Guides (CMG's) for flood are not required for communities covered by NSW SES Local Flood Emergency Sub Plans however may be utilised in place of Local Flood Emergency Sub Plan if agreed to by NSW SES.

4.3 FLOOD INTELLIGENCE SYSTEMS

4.3.1 **Strategy:** NSW SES develop and maintain a flood intelligence system to identify flood behaviour, its impact on the community and required response actions.

Actions:

- a. Gather and assess flood information for the full range of flood types and severities.
- b. Collect, collate, and assess information on the characteristics of communities at risk and the potential effects of flooding on communities at risk.
- c. Share flood intelligence information with supporting agencies.

4.4 DEVELOPMENT OF WARNING SYSTEMS

4.4.1 **Strategy:** Develop, maintain and prepare systems for the provision of flood warnings and associated warning services.

Actions:

- a. All levels of government work in partnership to develop and maintain flood warning infrastructure.
- b. NSW SES maintains a list of the requirements for flood warnings for flood gauges in NSW (including flood classifications, warning times required and key statistics) and can be found in the supplementary document to the NSW State Flood Plan (see Section 1.9). Gauges of relevance within the Uralla Shire LGA are also listed in Volume 3 of this plan.
- c. NSW SES will recommend new warning services and changes to warning alert levels for gauges to the NSW and ACT Flood Warning Consultative Committee.
- d. The State Government, in partnership with Local Government, is responsible for developing and maintaining flash flood warning systems for local catchments where required.

- e. Dam Owners will provide Dam Emergency Plans (where required) and consult with NSW SES on alert levels and messaging. Alert level definitions are listed in Dam Emergency Plans.
- f. NSW SES maintains a dedicated dam failure hotline and procedures to ensure priority dissemination of dam failure warnings.
- g. NSW SES develops and maintains warning and flood information products by:
 - Utilising flood intelligence data.
 - Developing warning and flood information products.
 - Continuously reviewing warning and flood information products.
 - Consulting with affected communities, key stakeholders, Dam Safety NSW and the NSW and ACT Flood Warning Consultative Committee, and maintains Operational Readiness.
 - Participating in the development of public information and warning systems.
- h. Gauge owners adequately maintain flood warning gauges and systems, including those identified in the 'Service Level Specification' maintained by the Australian Bureau of Meteorology (Bureau) and those identified in the 'Provision and Requirements for Flood Warning in New South Wales' maintained by NSW SES.

4.5 BRIEFING, TRAINING AND EXERCISING

4.5.1 **Strategy:** Ensure NSW SES, supporting agencies, functional areas and the community are prepared and familiar with the strategies and arrangements within the Flood Emergency Sub Plan and supporting documents.

Actions:

- a. NSW SES will consult stakeholders throughout the development of plans.
- b. NSW SES will inform stakeholders of content changes after revisions.
- c. NSW SES will ensure their facilities and resources are maintained and operationally ready.
- d. NSW SES will train personnel for their expected flood operation roles.
- e. NSW SES will regularly brief stakeholders on the exercise arrangements contained in the NSW Flood Emergency Sub Plan.

4.6 COMMUNITY RESILIENCE TO FLOODING

4.6.1 **Strategy:** NSW SES provides and maintains a flexible volunteer workforce to support community resilience.

Actions:

- a. Ensure ongoing recruitment and training of a diverse range of volunteers.
- b. Ensure pre-planning to facilitate the management of spontaneous volunteers and community members during a flood.

4.6.2 **Strategy:** NSW SES works with individuals, communities, businesses and government agencies to build flood resilience.

Actions:

- a. Partner with and engage communities to understand and manage the risks associated with floods, including providing business continuity guidance (NSW SES Business FloodSafe), family preparedness (NSW SES Home FloodSafe) and other engagement strategies.
- b. Collate, assess and disseminate flood information to the community.
- c. Collaborate with individuals, businesses, government agencies and communities when developing flood intelligence, preparedness and response information.
- d. Plan for floods collaboratively with communities through community and stakeholder participation and engagement.
- e. Collaborate with community sector and recognise the needs of individuals within communities who have an increased susceptibility during floods.

5 RESPONSE

5.1 INTRODUCTION

5.1.1 Flood response operations will begin:

- a. On receipt of a Bureau Severe Weather Warning or Thunderstorm Warning that includes heavy rain or storm surge; or
- b. On the receipt of a Bureau Flood Watch or Flood Warning; or
- c. On receipt of warnings for flash flood; or
- d. On receipt of a dam failure alert; or
- e. When other evidence leads to an expectation of flooding.

5.2 INCIDENT MANAGEMENT ARRANGEMENTS

5.2.1 **Strategy:** Maintain effective control of flood operations across NSW.

Actions:

- a. NSW SES uses the Australasian Inter-service Incident Management System (AIIMS) to manage the flood response.
- b. Control of flood response will be at the lowest effective level and may be scaled to suit the incident.
- c. The NSW SES State Controller (or delegate) will appoint Incident Controllers and establish Incident Control Centres (see NSW SES facilities on map in Appendix A).
- d. The NSW SES Incident Controller, in consultation with participating supporting emergency services and functional areas will determine the appropriate

breakdown of an Area of Operations into Divisions and/or Sectors in accordance with the principles of AIIMS.

5.2.2 **Strategy:** Maintain Incident Control Centre(s).

Actions:

- a. NSW SES will operate Incident Control Centre(s) as required.
- b. The NSW SES Incident Control Centre(s) will:
 - Control resources from NSW SES and coordinate resources of supporting emergency services and functional areas.
 - Manage Request for Assistance (RFA) tasking and ensure they are actioned in a timely manner.
 - Undertake response planning and determine future resourcing requirements.
 - Coordinate information flow, including warnings, public information and social media.

5.2.3 **Strategy:** Provide effective liaison between NSW SES and supporting agencies or functional areas in accordance with Local EMPLAN.

Actions:

- a. Supporting emergency services and functional areas should provide Liaison Officers to NSW SES Incident Control Centre(s) and/or Emergency Operation Centres (EOC) as required.
- b. NSW SES will provide Liaison Officer(s) to EOC as required.
- c. Where possible EOC to be co-located with NSW SES Incident Control Centres for Flood Emergency Response.

5.2.4 **Strategy:** Coordinate resources and logistics support to ensure operational effectiveness.

Actions:

- a. The NSW SES Incident Controller will notify agencies of potential access issues between locations, for the consideration of pre-deploying of resources.
- b. NSW SES may request resources and logistics support directly from a supporting emergency service or functional area.
- c. Wherever possible, supporting organisations are to provide their own logistic support in consultation with NSW SES where appropriate.
- d. The NSW SES Incident Controller will control air support operations and may utilise supporting agencies in the management of aircraft.

5.3 USE OF INFORMATION AND COLLECTION OF INTELLIGENCE

5.3.1 **Strategy:** Ensure flood information is effectively utilised, communicated and collected during and after a flood.

Actions:

- a. Information relating to the consequences of flooding, response strategies, situational awareness and operational updates will be distributed by NSW SES to supporting emergency services and functional areas listed under this Plan.
- b. All supporting emergency services, functional areas and Council will accurately record and report information relevant to their activities and any real time flood information (including road closure information) to the NSW SES Incident Controller. This may be in the form of a combined Emergency Operations Centre (EOC) report, or direct from agencies where an EOC has not been established.
- c. NSW SES may establish and operate a Joint Intelligence Unit to coordinate the collection, collation, interpretation, mapping, actioning and dissemination of information.
- d. Reconnaissance, mapping, damage assessments, intelligence validation and post flood evaluation will be coordinated by NSW SES. This may occur post impact and continue into the recovery phase.
- e. NSW SES may request Engineering to assist with the gathering of flood intelligence including (not limited to) maximum flood extents, peak flood heights, recording major flood damage at key high velocity locations and preparation of After-Flood Report.

5.3.2 **Strategy:** Ensure flood intelligence is incorporated into operational decision-making.

Action: NSW SES will use flood intelligence, official forecasts, warnings, and flood scenario products to undertake an assessment of the predicted impact of a flood and to inform operational decision-making.

5.4 PROVISION OF INFORMATION AND WARNINGS TO THE COMMUNITY

5.4.1 **Strategy:** Timely and effective warnings are distributed to the community.

Actions:

- a. The Bureau issues public weather and flood warning products before and during a flood. These may include:
 - Severe Thunderstorm Warnings – Detailed - issued for all capital cities and surrounding areas when individual severe thunderstorms are within range of the capital city radars.
 - Severe Thunderstorm Warnings - Broad-based - issued for the entire Australian State or territories affected highlighting broad areas where severe storms may occur within the next 3 hours.
 - Severe Weather Warnings with reference to heavy rainfall and/or storm surge.

- Flood Watches.
 - Flood Warnings.
- b. Dam Owners will utilise the Dam Emergency Plan to provide warnings and information to NSW SES and communities (where appropriate).
 - c. NSW SES Incident Controllers will issue the following NSW SES Flood Warnings aligning to the Australian Warning System:
 - Advice.
 - Watch And Act.
 - Emergency Warning.
 - d. NSW SES liaises with the Bureau to discuss the development of flood warnings as required.
 - e. NSW SES provides alerts and deliver flood information to affected communities using a combination of public information.
 - f. NSW SES may request supporting agencies redistribute NSW SES alerts and information, including through the provision of doorknocking teams.
 - g. Road closure information will be provided to the community through the following agencies/methods:
 - Local Government Council websites.
 - Transport for NSW 'Live Traffic' website: <https://www.livetraffic.com/> or 'Transport InfoLine': 131 500. VMS messaging on roadways may also be used to advise motorists.
 - h. The Public Information and Inquiry Centre will be established by NSW Police Force where required to provide information regarding evacuees and emergency information. Contact details will be broadcast once the centre is established.
 - i. The Disaster Welfare Assistance Line will be established by Disaster Welfare Services where required to provide information on welfare services and assistance. Assistance line contact details will be broadcast once Disaster Welfare Services commence.

5.5 PROTECTION OF PROPERTY

5.5.1 **Strategy:** Coordinate the protection of property from destruction or damage arising from floods.

Action: NSW SES, supporting agencies, and community volunteers will assist the community (where resources are available, feasible and safe to do so) in:

- a. The protection of properties including critical infrastructure through flood protection systems (e.g. sandbagging) to minimise entry of water into buildings.
- b. The raising or moving of household furniture and commercial stock/equipment.

5.6 ROAD AND TRAFFIC CONTROL

5.6.1 **Strategy:** Coordinate the closing and re-opening of flood affected roads.

Actions:

- a. Uralla Shire Council will coordinate the closure and reopening of council managed roads once inspections have been carried out by the relevant authority.
- b. Transport for NSW will coordinate the closure and reopening of the state road network.
- c. NSW Police Force may close and re-open roads but will normally only do so if the Uralla Shire Council or Transport for NSW have not already acted and if public safety requires such action.
- d. NSW SES will assist with erecting road closure signs and barriers when time and resources permit.

5.6.2 **Strategy:** Coordinate traffic control measures in flood affected areas.

Actions:

- a. The NSW SES Incident Controller may direct the imposition of traffic control measures into flood affected areas in accordance with the provisions of the *State Emergency Service Act, 1989* and the *State Emergency Rescue Management Act, 1989*.
- b. The NSW SES Incident Controller may request the Local Emergency Operations Controller provide suitable personnel to assist with traffic coordination.

5.7 PROTECTION OF ESSENTIAL SERVICES

5.7.1 Arrangements for the protection of local assets are outlined in Volume 3 of this NSW SES local Flood Emergency Sub Plan. In addition, Local and Region EMPLAN's contain infrastructure inventories.

5.7.2 **Strategy:** Minimise disruption to the community by ensuring protection of infrastructure and supply of essential energy, utility services and lifelines.

Actions:

- a. Transport Services Functional Area is to coordinate the provision of information about the assessment and restoration of transport network infrastructure.
- b. Energy and Utility Services Functional Area is to coordinate the assessment and restoration of essential energy and utility services (not including telecommunications).
- c. Telecommunications Services Functional Area is to coordinate the assessment and restoration of telecommunications and the Public Safety Network.
- d. Engineering Services Functional Area is to:
 - Coordinate the assessment and restoration of critical public buildings for example hospitals.

- Assessment and operation of flood protection levees.
 - Protection of property.
 - Construction and repair of levees.
 - Dam safety assessment and dam stability.
 - Water supply and sewerage operations.
 - Other critical infrastructure.
- e. Functional Areas and Council will keep NSW SES informed of the status of utilities and infrastructure.

5.8 EVACUATION

5.8.1 Evacuation is NSW SES's primary response strategy for managing the population at risk of flooding.

5.8.2 Community specific evacuation arrangements are located in Volume 3 of this Plan.

5.8.3 **Strategy:** Conduct planning to ensure all evacuation constraints are considered.

Actions:

- a. Evacuations will take place when there is a risk to public safety. Circumstances may include:
- Evacuation of people when their homes or businesses are likely to flood.
 - Evacuation of people who are unsuited to living in isolated circumstances, due to flood water closing access.
 - Evacuation of people where essential energy and/or utility services are likely to fail or where buildings have been or may be made uninhabitable.
- b. NSW SES will consider the following in evacuation decisions:
- Duration of evacuation.
 - Characteristics of the community.
 - Numbers requiring evacuation.
 - Availability of evacuation routes and transport.
 - The ability for existing levees or other flood protection works to fulfil their intended function.
 - Time available for evacuation.
 - Evacuee management requirements.
 - Resources and delivery of evacuation information.
 - Length of isolation.
- c. NSW SES Incident Controllers, planning and intelligence officers will carefully consider the risks involved in conducting evacuations.

- d. All evacuation decisions will be made as per the current NSW SES policies and procedures, and consistent with the NSW Evacuation Management Guidelines.
- e. Potential Evacuation Centres are located in Volume 3 / Local EMPLAN.
- f. NSW Police Force will coordinate the provision of overall security for evacuated areas.

5.8.4 **Strategy:** Evacuate people pre-emptively from dangerous or potentially dangerous places and or locations created by the flood hazard to safe locations away from the hazard.

- a. NSW SES will control and coordinate the evacuation of affected communities.
- b. The NSW SES Commissioner (or delegate) will warn communities to prepare for a possible evacuation, where circumstances allow such lead time.
- c. The NSW SES Commissioner (or delegate) will order any necessary evacuations and provide information to the community about when and how to evacuate.
- d. Support to evacuation operations may be requested from other emergency services and supporting agencies using arrangements in the local EMPLAN and supporting plans.
- e. Health Services Functional Area will coordinate the evacuation of hospitals, health centres and aged care facilities (including nursing homes) in consultation with NSW SES and Welfare Services.
- f. School administration offices (Government and Private) will coordinate the evacuation of schools in consultation with NSW SES and Welfare Services, if not already closed.
- g. Caravan Park proprietors will inform the NSW SES Incident Controller when caravan park evacuations have been completed.
- h. People who are reluctant or refuse to comply with any Emergency Warning will be referred to NSW Police Force.

5.9 EVACUEE MANAGEMENT AND WELFARE

5.9.1 Research and experience in flood operations shows that most evacuees go to family, friends and commercial accommodation outside the impact area.

5.9.2 **Strategy:** Maintain the welfare of communities and individuals affected by the impact of a flood.

Actions:

- a. NSW SES will provide initial welfare for evacuees where required but will hand the responsibility over to Welfare Services Functional Area as soon as possible. NSW SES will brief Welfare Services Functional Area at the earliest opportunity regarding the level of assistance required.
- b. Welfare Services Functional Area will manage evacuation centres for affected residents and travellers in accordance with Welfare Services Functional Area Supporting Plan.

- c. Schools Administration (Government and Private) will manage the safety of students directly affected by flooding and will work with NSW SES in the temporary closure of schools and will coordinate with NSW SES, Transport and Welfare Services in the management of school evacuees.
- d. Disaster Victim Registration will be controlled and coordinated by NSW Police Force with the assistance of NSW SES and the Welfare Services Functional Area.
- e. NSW SES will provide details of all residents assisted in evacuations to the Welfare Services Functional Area as early as possible.
- f. Where the expected remaining number of evacuees and the duration of evacuation is assessed to be beyond the capability and capacity of the established evacuation centre arrangements the SEOCON may establish Major Evacuation Centres or Mass Care facilities.
- g. The decision to establish Major Evacuation Centres or Mass Care Facilities will be made by NSW SES and SEOCON in consultation with members of the State Emergency Management Committee.

5.9.3 **Strategy:** Coordinate available and accessible health services for flood affected communities.

Action: The provision of environmental health advice, assessment of public health risks and coordination of immediate mental health support will be provided by Health Services Functional Area.

5.9.4 **Strategy:** Maintain the welfare of animals impacted by a flood.

Actions:

- a. Agriculture and Animal Services Functional Area will coordinate the welfare of livestock, pets, companion animals and wildlife including support to primary producers, animal holding establishments and community members.
- b. Agriculture and Animal Services Functional Area role will coordinate the evacuation, emergency care of animals and assessment, humane destruction and disposal of affected animals, and supply of emergency fodder, water and aerial support where necessary.

The roles and responsibilities for Agriculture and Animal Services are outlined in the [*Agriculture and Animal Services Functional Area Supporting Plan*](#).

5.10 FLOOD RESCUE

5.10.1 **Strategy:** Control and coordinate flood rescue of people and domestic animals.

Actions:

- a. NSW SES will perform flood rescue, where training and equipment is suitable and where a risk assessment has indicated that the risk to rescuers is acceptable.
- b. Flood rescue operations will be conducted in accordance with the State Rescue Board NSW State Rescue Policy which sets out the framework, governance,

responsibilities and requirements for the management and conduct of flood rescue in NSW.

- c. NSW SES may request other supporting emergency services to undertake flood rescues on behalf of NSW SES. Agencies must be authorised/accredited to undertake flood rescue operations in accordance with State Rescue Board requirements, as prescribed by NSW SES. Supporting emergency services must supply information regarding rescues performed to NSW SES. Notification arrangements with NSW Police Force are outlined in the State Rescue Board NSW State Rescue Policy.
- d. Rescue agencies will conduct rescue of domestic small and large animals as per the State Rescue Board NSW State Rescue Policy (and may include Large Animal Rescue of family horses and cows at a residence or property). The rescue of livestock (which includes commercial animals found on farming and breeding enterprises) will be coordinated through Animal and Agriculture Services Functional Area.

5.11 RESUPPLY

5.11.1 **Strategy:** Coordinate resupply to towns and villages isolated by flooding to minimise disruption to the community.

Actions:

- a. NSW SES will advise communities and businesses if flood predictions indicate that areas are likely to become isolated, and indicative timeframes where possible.
- b. Retailers should be advised to ensure sufficient stock is available for the duration of the flood.
- c. When isolation occurs, NSW SES will establish loading points where retailers can instruct suppliers to deliver goods.
- d. NSW SES will endeavour to support the delivery of mail to isolated communities but may not be able to do so according to normal Australia Post timetables.
- e. NSW SES will assist hospitals with resupply of linen and other consumables where able.
- f. NSW SES may request resupply assistance from supporting agencies.
- g. NSW SES may conduct resupply operations as per the designated resupply plan for the event.
- h. Where additional supplies are required Engineering Services Functional Area be requested to coordinate the supply of goods and services in response to and recovery from the emergency.

5.11.2 **Strategy:** Coordinate resupply to rural properties isolated by flooding.

Actions:

- a. When requested, NSW SES will establish a resupply schedule and coordinate the resupply for isolated rural properties.

- b. NSW SES will provide local suppliers with designated loading points. Resupply items are to be packaged by the supplier.
- c. Isolated households unable to afford resupply items will be referred to Welfare Services Functional Area for assistance.

5.12 RETURN

5.12.1 **Strategy:** Coordinate the safe return of communities to flood affected areas when the immediate danger to life and property has passed.

Actions:

- a. The NSW SES Incident Controller will determine when it is safe to progressively return in consultation with the relevant Emergency Operations Controller and supporting agencies considering the ongoing risk to public safety.
- b. The NSW SES Incident Controller will specify the level of access to affected communities as the following:
 - Not suitable for access; or
 - Limited access by emergency services and response agencies; or
 - Limited access by residents and/or business operators; or
 - Full access.
- c. The NSW SES Incident Controller will issue an Advice Warning advising 'Reduced Threat: Return with Caution' when the immediate danger to life and property has passed for areas.
- d. NSW SES will facilitate the return of evacuees to their homes.

5.13 END OF RESPONSE OPERATIONS

5.13.1 **Strategy:** Conclude response operations.

Actions:

- a. Response operations will conclude when:
 - There is a reduced likelihood of additional flooding within the Area of Operation and flood waters have receded.
 - All requests for assistance related to the flood have been completed.
 - The need for warning and evacuation no longer exist.
 - There is no further likelihood of rescuing people.
 - Resupply is no longer required (resupply operations may occur concurrently with the recovery phase).
 - Response to fire and hazardous material incidents have concluded (not including subsequent clean-up of contaminated sites).
 - All affected areas have had a 'Reduced Threat: Return with Caution' issued.

5.14 POST IMPACT ACTIONS

5.14.1 **Strategy:** Learnings from the event are used to inform recovery and future events.

Actions:

- a. NSW SES will continue to engage with communities after significant floods through convening one or more community forums, workshops or other opportunities to provide communities a chance to provide feedback, address any concerns and provide input into the recovery process. These will typically include other agencies such as the Bureau, Welfare Services and Uralla Shire Council representatives.
- b. NSW SES will conduct After Action Reviews, at the conclusion of response operations, which will involve all stakeholders. Findings will be shared and incorporated into improved disaster resilience planning.
- c. NSW SES will provide information and data throughout the emergency response to inform community recovery. A report will be developed at the request of the SERCON at the conclusion of the response within an area. Should a response summary report be required it will include the following:
 - The emergency action plan in place at conclusion of the response emphasising any continuing activities including community meetings/ engagement activities.
 - Resources allocated to the emergency response and associated exit strategies.
 - Details of any areas or situations with potential to re-escalate the emergency.
 - A recommendation for the conclusion of NSW SES as lead agency to transition to NSW Reconstruction Authority as the lead agency for Recovery.
 - Any actions that are incomplete or outstanding.
 - Damage Assessment Data and Information obtained throughout the response phase which will further support the long-term recovery of communities.
- d. NSW SES will undertake/coordinate a comprehensive review of intelligence and plans following significant flood events.

5.14.2 **Strategy:** Participate in post flood data collection analysis.

Actions: NSW SES works with relevant stakeholders and Uralla Shire Council(s) on post flood data collection analysis including review of flood intelligence where necessary.

6 RECOVERY OPERATIONS

6.1 INTRODUCTION

6.1.1 Recovery is the process of returning an affected community to its proper level of functioning after an emergency. It will generally commence simultaneously with the Response phase.

6.1.2 Recovery operations will be initiated and conducted as outlined in the NSW State EMPLAN and as further detailed in the NSW Recovery Supporting Plan.

6.2 NSW SES RECOVERY ROLE

6.2.1 **Strategy:** NSW SES will support recovery operations and established Recovery Committees.

6.2.2 **Actions:**

- a. NSW SES will provide representation to Recovery Committees as required and may have an ongoing role in the Recovery phase.
- b. NSW SES roles on Recovery Committees may include providing information about any continuing response, guidance on mitigation strategies and general advice and assistance to the committee as a subject matter specialist and/ or expert.
- c. NSW SES will provide information to NSW Reconstruction Authority to support applications to Treasury for Natural Disaster Relief and Recovery Arrangements.
- d. NSW SES, in conjunction with a Recovery Committee, will provide a service to support the information needs of a community immediately following a flood.
- e. NSW SES and where required supporting agencies will assist with clean-up operations after floods, where possible when resources and personnel permit.
- f. NSW SES may coordinate immediate relief in collaboration with NSW Reconstruction Authority.

7 ABBREVIATIONS

For a full list of abbreviations refer to the NSW State Flood Plan - Abbreviations

8 GLOSSARY

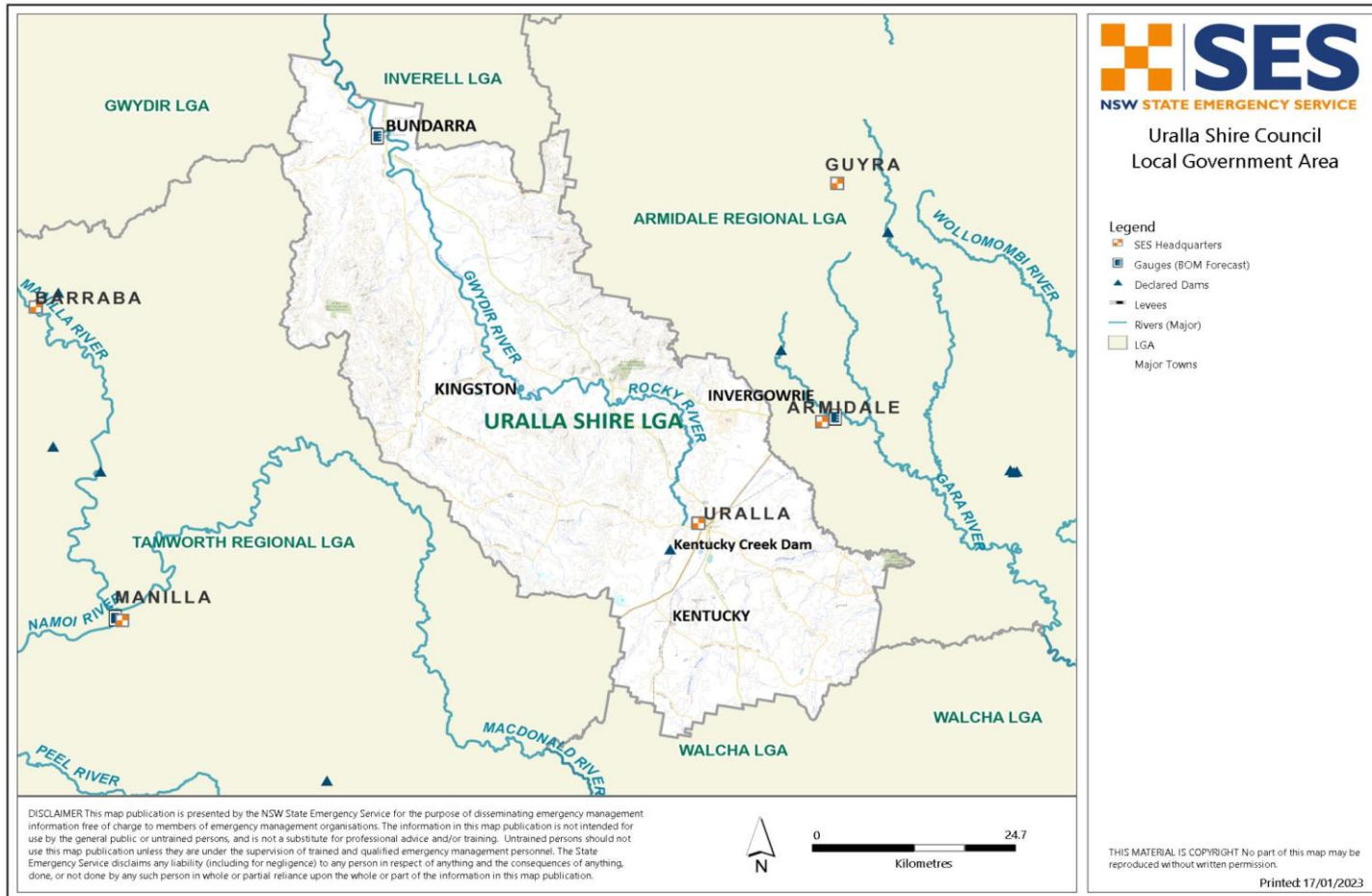
Common emergency service terminology can be found within the Australian Disaster Resilience Glossary.

Readers should refer to EMPLAN Annex 9 – Definitions.

Refer to the NSW State Flood Plan for a complete glossary of terminology used throughout this plan and within NSW SES Flood Plans.

For a full list of definitions refer to the Supporting Document - State Flood Plan Glossary
<https://www.ses.nsw.gov.au/media/2650/glossary.pdf>

9 Appendix A – Map of Uralla Shire Council Area



10 Appendix B – Roles and Responsibilities

AGENCY	RESPONSIBILITIES
NSW State Emergency Service	NSW SES is the designated Combat Agency for floods, storms and tsunami and controls response operations. NSW SES roles and responsibilities in relation to floods are outlined in the NSW State Flood Emergency Sub Plan .

AGENCY	RESPONSIBILITIES
Agriculture and Animal Services Functional Area	The roles and responsibilities for Agriculture and Animal Services are outlined in the Agriculture and Animal Services Supporting Plan and NSW State Flood Plan.
Australian Government Bureau of Meteorology	The roles and responsibilities for the Australian Government Bureau of Meteorology (Bureau) are outlined in the NSW State Flood Plan.
Caravan Park Proprietor(s)	<ul style="list-style-type: none"> • Prepare a flood emergency plan for the Caravan Park. • Ensure that owners and occupiers of movable dwellings are aware that the caravan park is flood liable by providing a written notice to occupiers taking up residence and displaying this notice and emergency management arrangement within the park. • Ensure that owners and occupiers of movable dwellings are aware that if they are expecting to be absent for extended periods, they should: <ul style="list-style-type: none"> – Provide the manager of the caravan park with a contact address and telephone number in case of an emergency. – Leave any movable dwelling in a condition allowing it to be relocated in an emergency (i.e.: should ensure that the wheels, axles and draw bar of the caravans are not removed and are maintained in proper working order). • Ensure that occupiers are informed of Flood Information. At this time, occupiers should be advised to: <ul style="list-style-type: none"> – Ensure that they have spare batteries for their radios. – Listen to a local radio station for updated flood information. – Prepare for evacuation and movable dwelling (cabins) relocation. • Ensure that owners and occupiers of caravans are aware of what they must do to facilitate evacuation and movable dwelling relocation when flooding occurs. • Coordinate the evacuation of people and the relocation of movable dwellings when floods are rising and their return when flood waters have subsided. Movable dwellings will be relocated back to the

AGENCY	RESPONSIBILITIES
	<p>caravan park(s) by owners or by vehicles and drivers arranged by the park managers.</p> <ul style="list-style-type: none"> • Secure any movable dwellings that are not able to be relocated to prevent floatation. • Inform NSW SES of the progress of evacuation and/or movable dwellings relocation operations and of any need for assistance in the conduct of these tasks.
<p>Childcare Centres and Preschools</p>	<ul style="list-style-type: none"> • When notified of possible flooding or isolation, childcare centres and preschools should. <ul style="list-style-type: none"> – Liaise with NSW SES and arrange for the early release of children whose travel arrangements are likely to be disrupted by flooding and/or road closures. – Assist with coordinating the evacuation of preschools and childcare centres.
<p>Dams Safety NSW</p>	<p>The roles and responsibilities for Dams Safety NSW (formerly NSW Dam Safety Committee) are outlined in the NSW State Flood Plan.</p>
<p>Department of Defence</p>	<p>Arrangements for Defence Assistance to the Civil Community are detailed within the State EMPLAN (section 448).</p>
<p>Energy and Utilities Services Functional Area</p>	<p>The roles and responsibilities for Energy and Utilities Services are outlined in the Energy and Utility Services Supporting Plan (EUSPLAN).</p> <p>Roles and responsibilities in addition to the Supporting Plan are:</p> <ul style="list-style-type: none"> • Assist NSW SES with identification of infrastructure at risk of flood damage where resources are available. • Facilitate local utility service distribution providers (electricity, gas, water, wastewater) to: <ul style="list-style-type: none"> – Provide advice to NSW SES of any need to disconnect power/gas/water/wastewater supplies or of any timetable for reconnection. – Advise NSW SES of any hazards from utility services during flooding and coastal erosion/inundation. – Advise the public with regard to electrical hazards during flooding and coastal erosion/inundation, and to the availability or otherwise of the electricity supply. – Clear or make safe any hazard caused by power lines or electricity distribution equipment. – Reconnect customers' electrical / gas / water / wastewater installations, when certified safe to do so and as conditions allow.

AGENCY	RESPONSIBILITIES
	<ul style="list-style-type: none"> – Assist NSW SES to identify infrastructure at risk of flooding for incorporation into planning and intelligence.
Engineering Services Functional Area	The roles and responsibilities for Engineering Services are outlined in the Engineering Services Supporting Plan and NSW State Flood Plan.
Environmental Services Functional Area	The roles and responsibilities for Environmental Services are outlined in the Environmental Services (ENVIROPLAN) Supporting Plan.
Floodplain Management Australia	The roles and responsibilities for Floodplain Management Australia are outlined in the NSW State Flood Plan.
Fire and Rescue NSW	The roles and responsibilities for Fire and Rescue NSW are outlined in the NSW State Flood Plan.
Forestry Corporation of NSW	The roles and responsibilities for Forestry Corporation of NSW are outlined in the NSW State Flood Plan.
Health Services Functional Area	The roles and responsibilities for Health Services are outlined in the Health Services (HEALTHPLAN) Supporting Plan and NSW State Flood Plan.
Local Emergency Operations Controller (LEOCON)	<ul style="list-style-type: none"> • Monitor flood operations. • If requested, coordinate support for the NSW SES Incident Controller.
Local Emergency Management Officer (LEMO)	<ul style="list-style-type: none"> • If requested by the NSW SES Incident Controller, advise appropriate agencies and officers of the start of response operations.
Manly Hydraulics Laboratory (MHL)	The roles and responsibilities for Manly Hydraulic Laboratory are outlined in the NSW State Flood Plan.
Marine Rescue NSW	The roles and responsibilities for Marine Rescue NSW are outlined in the NSW State Flood Plan.
NSW Ambulance	The roles and responsibilities for NSW Ambulance are outlined in the Health Services (HEALTHPLAN) Supporting Plan and NSW State Flood Plan.
NSW Department of Education, Association of Independent Schools of NSW, and National Catholic Education Commission	The roles and responsibilities for NSW Department of Education, Association of Independent Schools of NSW, and National Catholic Education Commission are outlined in the NSW State Flood Plan.
NSW Department of Planning and Environment (Environment and Heritage Group)	The roles and responsibilities for NSW Department of Planning and Environment (Environment and Heritage Group) are outlined in the NSW State Flood Plan (referred to as DPIE EES).
NSW Department of Planning and Environment (Water)	The roles and responsibilities for NSW Department of Planning and Environment (Water) are outlined in the NSW State Flood Plan.

AGENCY	RESPONSIBILITIES
NSW Food Authority	The roles and responsibilities for NSW Food Authority are outlined in the Food Safety Emergency Sub Plan.
NSW National Parks and Wildlife Services	The roles and responsibilities for NSW National Parks and Wildlife Services are outlined in the NSW State Flood Plan.
NSW Police Force	The roles and responsibilities for NSW Police Force are outlined in the NSW State Flood Plan.
NSW Reconstruction Authority	The roles and responsibilities for NSW Reconstruction Authority are outlined in the NSW State Flood Plan.
NSW Rural Fire Service	The roles and responsibilities for NSW Rural Fire Service are outlined in the NSW State Flood Plan.
Owners of Declared Dams within or upstream of the LGA	The roles and responsibilities for Owners of Declared Dams are outlined in the NSW State Flood Plan.
Public Information Services Functional Area	The roles and responsibilities for Public Information Services are outlined in the Public Information Services Supporting Plan and NSW State Flood Plan.
SEOCON/SEOC	The roles and responsibilities for the SEOCON/SEOC are outlined in the NSW State Flood Plan.
Surf Life Saving NSW	The roles and responsibilities for Surf Life Saving NSW are outlined in the NSW State Flood Plan.
Telecommunications Services Functional Area	The roles and responsibilities for Telecommunications Services are outlined in the Telecommunications Services (TELCOPLAN) Supporting Plan.
Transport for NSW	<ul style="list-style-type: none"> • Transport for NSW coordinates information on road conditions for emergency services access. • Transport for NSW coordinates the management of the road network across all modes of transport. • Transport for NSW in conjunction will assist NSW SES with the evacuation of at-risk communities by maintaining access and egress routes. • Assist NSW SES with the communication of flood warnings and information provision to the public through Live Traffic and Social Media according to the VMS protocols and procedures. • Assist NSW SES with identification of road infrastructure at risk of flooding.

AGENCY	RESPONSIBILITIES
Transport Services Functional Area	The roles and responsibilities for Transport Services are outlined in the Transport Services Functional Area Supporting Plan and NSW State Flood Plan.
Uralla Shire Council	<p>Preparedness</p> <ul style="list-style-type: none"> ● Establish and maintain floodplain and coastal risk management committees and ensure that key agencies are represented. ● Develop and implement floodplain risk management plans in accordance with the NSW Government’s Flood Prone Land Policy and the Floodplain Development Manual. ● Provide levee studies, flood studies and floodplain management studies to NSW SES. ● Maintain Dam Emergency Plans for the Kentucky Creek dam and provide copies to NSW SES. ● Provide information on the consequences of dam failure to NSW SES for incorporation into planning and flood intelligence. ● Coordinate the development of warning services for catchments prone to flash flooding (small catchments), where appropriate. ● Maintain council-owned flood warning networks and flood mitigation works. ● Participate in NSW SES-led flood emergency planning meetings, to assist in the preparation of Flood Sub Plans. ● Maintain a plant and equipment resource list for the council area. ● Contribute to community engagement activities. <p>Response</p> <ul style="list-style-type: none"> ● Subject to the availability of council resources, assist NSW SES with flood operations including: <ul style="list-style-type: none"> – Traffic management on council managed roads. – Provision of assistance to NSW SES (plant, equipment and personnel where able and requested). – Property protection tasks including sandbagging. – Assist with the removal of caravans from caravan parks. – Warning and/or evacuation of residents and other people in flood liable areas. – Provision of back-up radio communications. – Resupply of isolated properties. – Technical advice on the impacts of flooding.

AGENCY	RESPONSIBILITIES
	<ul style="list-style-type: none"> – Close and reopen council roads (and other roads nominated by agreement with Transport for NSW) and advise NSW SES, NSW Police Force and people who contact the council for road information. – Assist NSW SES to provide filled sandbags and filling facilities to residents and business in areas which flooding is expected. • Assist with making facilities available for domestic pets and companion animals of evacuees during evacuations. • Operate flood mitigation works including critical structures such as detention basins and levees and advise NSW SES regarding their operation. • Manage and protect council-owned infrastructure facilities during floods. • Provide advice to NSW SES and the Health Services Functional Area during floods about key council managed infrastructure such as sewerage treatment and water supply. • Advise the Environmental Protection Authority of any sewerage overflow caused by flooding. • Work with NSW SES and NSW Department of Planning and Environment to collect flood related data during and after flood events. <p>Recovery</p> <ul style="list-style-type: none"> • Provide for the management of health hazards associated with flooding including removing debris and waste. • Ensure premises are fit and safe for reoccupation and assess any need for demolition. • Provide services, assistance and advice to State Government in accordance with the State Recovery Plan.
VRA Rescue NSW	The roles and responsibilities for VRA Rescue NSW are outlined in the NSW State Flood Plan.
Water NSW	The roles and responsibilities for Water NSW are outlined in the NSW State Flood Plan.
Welfare Services Functional Area	The roles and responsibilities for Welfare Services are outlined in the Welfare Services Functional Area Supporting Plan and NSW State Flood Plan.

11 Appendix C – Community Specific Roles and Responsibilities

Community Members	<p>Preparedness</p> <ul style="list-style-type: none"> • Understand the potential risk and impact of flooding. • Prepare homes and property to reduce the impact of flooding. • Understand warnings and other triggers for action and the safest actions to take in a flood. • Households, institutions and businesses develop plans to manage flood risks, sharing and practicing this with family, friends, employees and neighbours. • Have an emergency kit. • Be involved in local emergency planning processes. <p>Recovery</p> <ul style="list-style-type: none"> • Assist with community clean-up if required and able to do so. • Participate in After Action Reviews if required.
Service and sporting clubs	<p>Bundarra Lions Club</p> <p>Assist with;</p> <ul style="list-style-type: none"> • Lifting and/removing household furniture and commercial stock. • Sandbagging • Rapid Relief Team
Aboriginal organisations or groups	<ul style="list-style-type: none"> • Act as the point of contact between NSW SES and the Anaiwan and Kamilaroi community. • Inform the NSW SES Unit Commander about flood conditions and response needs. • Disseminate flood information, including flood and evacuation warnings, to the Anaiwan and Kamilaroi community. • Armidale Local Aboriginal Land Council (LALC) – 02 6772 2447
Communication	<ul style="list-style-type: none"> • Coordinate the restoration of telephone facilities damaged by flooding. • Coordinate additional telecommunications support for the NSW SES Headquarters as required. • Assist the NSW SES to identify infrastructure at risk of flooding for incorporation into planning and intelligence.
Community assistance groups	<p>Rapid Relief Team</p>

HAZARD AND RISK IN URALLA SHIRE

Volume 2 of the Uralla Shire Local Flood Plan

Last Update: August 2017

AUTHORISATION

The Hazard and Risk in Uralla Shire has been prepared by the NSW State Emergency Service (NSW SES) as part of a comprehensive planning process. The information contained herein has been compiled from the latest available technical studies.

Approved



Manager Emergency Risk Management

Date: 2/8/17

Approved



NSW SES Namoi Region Controller

Date: 26/04/2017

Tabled at LEMC

Date:

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VERSION LIST

The following table lists all previously approved versions of this Volume.

Description	Date
Uralla Local Flood Plan – Annex A	June 2006

AMENDMENT LIST

Suggestions for amendments to this Volume should be forwarded to:

The Uralla Local Controller
 NSW State Emergency Service
 PO Box 268, URALLA NSW 2358

Amendments promulgated in the amendments list below have been entered in this Volume.

Amendment Number	Description	Updated by	Date

Document Issue: Version 2-18042016

1 THE FLOOD AND COASTAL EROSION THREAT

1.1 OVERVIEW

- a. The Uralla Local Government Area is located in the New England Area of New South Wales in the Gwydir River Basin. The Gwydir River flows through the LGA.
- b. The Uralla LGA is shown on MAP 1.

1.2 LANDFORMS AND RIVER SYSTEMS

Gwydir River Basin

- a. The Gwydir River, often known as the Bundarra River in its first stages, is formed by the confluence of Rocky River and Booralong Creek near Yarrowyck. On both of these tributaries the flood plain is narrow, with floods only causing marginal overbanking (1).
- b. There is a widening of the flood plain below the confluence on some of the river bends where low banks allow some overspill, and where some of the tributaries enter the main channel. This is evident where Abington and Laura Creeks join the Gwydir and through a series of river flats 10 kilometres above Bundarra (1).
- c. The Gwydir River flows generally west towards Kingstown before turning north and flowing into Lake Copeton where it is held by Copeton Dam.

1.3 STORAGE DAMS

- a. Dam locations are shown on MAP 1.

Table 1: Prescribed Dams in Uralla Shire LGA; summary of information about each storage.

Kentucky Creek Dam (2)	
Owner / Operator	Uralla Shire Council
Description of Dam	Concrete Gravity with Earth abutments, Spillway Free overall. It is used as a water supply and has a capacity of 500ML.
Location	Located 7.2 km south west of Uralla on the Waterworks Road Kentucky, on Kentucky Creek.
Communities Downstream	Failure of the dam would result in inundation of Green Gully Road, and Kingstown Road and Thunderbolts Way at Bundarra (Emu Crossing) (2).
Monitoring System	There is no documented monitoring system
Warning System	A full Darn Safety Emergency Plan (DSEP) has not been prepared for the Kentucky Creek Dam, as no identifiable lives would be at risk from dam failure (2).
Other	N/A

Lake Tullimba Dam	
Owner / Operator	University of New England (no DSEP)
Description of Dam	Used for irrigation and livestock plus water storage. Capacity of 1200ML
Location	Located on Head Station Creek
Communities Downstream	Unknown
Monitoring System	Unknown
Warning System	Unknown
Other	Unknown

1.4 WEATHER SYSTEMS AND FLOODING

- a. Most of the floods recorded have occurred in the summer months, particularly January and February when summer cyclonic weather systems often move south from Queensland and the Northern Territory. In these wetter months the catchment is often saturated and more liable to flooding (3).
- b. Fronts passing the state from west to east, usually during the cooler months of the year, normally constitute the principle flood producing mechanisms of the southern inland parts of the state and winter flooding from frontal systems is less common in the more northern inland parts of the state (3).

1.5 CHARACTERISTICS OF FLOODING

- a. Floodwaters in the upper reaches of the Gwydir River flow relatively swiftly and the overflows that do occur only take place on average once every 10 years. At Yarrowyck on the Gwydir River the flood rise from the breaking of the banks until the peak of the 1% AEP flood is only 1.4 metres (1).
- b. A flood crest could travel from the top of the catchment to Bundarra in as little as 8 hours (1).
- c. The Gwydir River Basin Schematic is shown in Annex 1.

1.6 FLOOD HISTORY

- a. Since records commenced at Bundarra in 1936 there have been nine floods that have broken the banks and five that have reached or exceeded the major flood level of 10.7m at the Bundarra Bridge Gauge (418900) (1).
- b. The 1955 flood is generally considered to have been the greatest in the region although the 1949 flood is believed to have exceeded 1955 in the upper reaches of Rocky River and other tributaries near the watershed boundaries. Other significant floods occurred in 1864, 1950 and 1956 (1).
- c. Historical information collected from newspaper reports gives an indication of the nature of the flood threat in the area as follows:

1949 Flood

- d. In 1949 a flood resulted from rains of 50 to 100 mm over a period of three days in the Bundarra area plus heavy rain (300 mm at Armidale) and snow in the Guyra, Black Mountain, Armidale and Uralla areas over the same period. Two days after the snow falls the Gwydir River began to rise rapidly in Bundarra, peaking the next day at a height of 14.33m at the Bundarra Bridge Gauge (418900). Up to 150 people were evacuated from the low lying areas of the town into the town's two hotels, the hospital and the School of Arts Hall with some moving to stay with relatives or friends. Some houses had over 2 metres of water through them. A number of rural properties including "Clerkness", "Stony Batter", "Winscombe" and "Dalkeith" Stations suffered heavy losses and damage.

1955 Flood

- e. The Gwydir River broke its banks, rose to a height of 13.72m at the Bundarra Bridge Gauge (418900) and began to recede on the same day with a number of houses inundated by up to 3 metres of water with 16 reported to have suffered damage. Laura Creek bridge was washed away during this flood.

Table 2: Top Ten Floods at the Bundarra Bridge Gauge (418900) – Min: 8.00m, Mod: 9.10m, Maj: 10.70m

Date	Peak Height (m)	Min/Mod/Maj
01/01/1910	9.14	Moderate
08/05/1963	9.47	Moderate
14/01/1964	10.74	Major
08/11/1966	7.92	Below Minor
30/01/1971	7.92	Below Minor
09/01/1974	8.53	Minor
11/02/1976	9.16	Moderate
30/01/1984	8.68	Minor
24/01/1996	8.75	Minor
06/09/1998	9.85	Moderate

1.7 FLOOD MITIGATION SYSTEMS

- a. There are no flood mitigation systems within the Uralla Shire LGA.

1.8 EXTREME FLOODING

- a. Modelling in Uralla shows in the extreme event (3 x 1% AEP) flood extents would extend into properties adjacent to Rocky Creek and Uralla Creek up to 100m from the creek channels. The high hazard floodway would be limited to the 1% AEP extents (remaining generally within creek banks) (4).
- b. The impacts of extreme flooding in Bundarra are unknown.

2 EFFECTS ON THE COMMUNITY

2.1 COMMUNITY PROFILE

Table 3: Census of Housing and Population data (2011)

Census Description	Uralla (A)	Bundarra	Uralla
Total Persons	6,034	404	3,008
Aged 0-4 yrs	381	25	188
Aged 5-14 yrs	889	57	415
Aged 65 + yrs	945	91	515
Of Indigenous Origin	355	18	269
Who do not speak English well	3	0	4
Have a need for assistance (profound/severe disability)	291	43	171
Living alone (Total)	516	43	306
Living alone (Aged 65+)	225	32	134
Residing in caravans, cabins or houseboats or improvised dwellings	43	0	31
Occupied Private Dwellings (Households)	2,203	149	1,133
No Motor Vehicle	106	13	84
Caravan, cabin, houseboat or improvised dwell	23	3	20
Rented via State or Housing Authority	16	5	13
Rented via Housing Co-Op or Community Church Group	0	0	3
No Internet Connection	578	65	337
Unoccupied Private Dwellings	348	31	175
Average persons per occup dwelling	2.6	2.4	2.5
Average vehicles per occup dwelling	1.9	1.6	1.8

SPECIFIC RISK AREAS - FLOOD

Gwydir River Basin

2.2 BUNDARRA

2.2.1 Community Overview

- a. Bundarra is located along the Gwydir River 76km north west of Uralla. In 2011 the population of Bundarra was 404 with 149 occupied dwellings (3).
- b. Bundarra is shown on MAP 2.

2.2.2 Characteristics of flooding

- a. Bundarra is affected by riverine flooding from the Gwydir River however flash flooding can also occur with as little as 2 hours warning.

2.2.3 Flood Behaviour

- a. The Gwydir River at Bundarra it is generally low risk but can rise quickly (3).
- b. The Gwydir River at Bundarra bend diverts the river from a northerly to south westerly course. The north bank is quite steep and flooding is confined to the narrow strip of land around the road bridge linking the two parts of the town (1).

2.2.4 Classification of Floodplain

- a. Bundarra is classified as having rising road access (7).

2.2.5 Inundation

- a. The Bureau of Meteorology issues flood warnings to the Bundarra Bridge Gauge (418900).
- b. On the north side of the Gwydir River the lower parts of the grounds of the Area Health Centre / Grace Munro Centre are affected by flooding. All of the permanent structures are located well above the flood planning level, however properties west of Thunderbolt Way, on the south side of Dawkins Street may be affected by flooding in the 1% + 0.5m (gauge height unknown) flood (1) (5).
- c. Floodwaters break the southern bank of the Gwydir River at approximately 9.15m at the Bundarra Bridge Gauge (418900) while the southern approaches to the road bridge are inundated at 10.14m at the Bundarra Bridge Gauge (418900). Flooding commences in the low parts of White Street, Bombelli Street at approximately 10.4m at the Bundarra Bridge Gauge (418900) and in Bendemeer Street, Towline Street and Court Street at approximately 10.7m at the Bundarra Bridge Gauge (418900). A 1% AEP flood could result in depths varying from 200 to 800 mm above floor levels in up to 19 residences (1).

- d. Major flood events generally remain over the Gwydir River banks for two to three days (1).

2.2.6 Isolation

- a. At 10.14m at the Bundarra Bridge Gauge (418900) the southern approaches to the road bridge become inundated causing properties on the northern side of the Gwydir River to become isolated from properties on the southern side (1).
- b. In major flood events (10.7m at the Bundarra Bridge Gauge (418900)) the town is cut off from the south for several days (1).

2.2.7 Flood Mitigation Systems

- a. There are no flood mitigation systems located in Bundarra.

2.2.8 Dams

- a. There are no dams located upstream of Bundarra.

2.2.9 At Risk Facilities

- a. There is one health centre, one preschool and one school at risk of flooding within the Bundarra. These are shown in Annex 2.

2.2.10 Other Considerations

- a. No other considerations.

2.3 URALLA

2.3.1 Community Overview

- a. Uralla is located 465km north of Sydney and 23km south west of Armidale at the intersection of the New England Highway and Thunderbolts Way. In 2011 the township of Uralla had a population of 2,388 people (3).
- b. Uralla is shown on MAP 3.

2.3.2 Characteristics of Flooding

- a. Uralla is affected by flash flooding from Uralla and Rocky Creek, and the MacKenzie Street tributary (4).

2.3.3 Flood Behaviour

- a. The 1% AEP flood extents are generally confined to the creek channels and have been classified as floodways. Flood fringe areas only extend 4m from the inundation limit (4).
- b. The MacKenzie Street tributary flows into Rocky Creek at the Barleyfields Road/Wood Street intersection.
- c. Uralla Creek flows into Rocky Creek at the Urall Street/Sailsbury Street intersection.
- d. The creeks are relatively steep in riverine terms, with slopes of 0.85 percent, 1.5 percent and 1.7 percent for Uralla Creek, Rocky Creek and the Mackenzie tributary respectively. The difference between the design 1% AEP and design 5% AEP events along Uralla Creek is in the order of 0.4 m to 0.6 m generally.
- e. The Main Northern Railway culvert on Rocky Creek is significant in that it causes a spillage from Rocky Creek to the un-named tributary immediately east of the railway. The spillage may affect one residence (3).

2.3.4 Classification of Floodplain

- a. Uralla is classified as having rising road access (4).

2.3.5 Inundation

- a. There are no flood warning gauges located in Uralla however there is a daily rainfall gauge with readings provided to the BOM (1).
- b. In the 1% AEP event flood extents are generally confined to the creek channels and do not impact on properties (4).
- c. In events above the 1% AEP properties located adjacent to the creek channels may be affected by floodwaters. Modelling has indicated 3 properties may be affected by over floor flooding and 15 may be affected by over ground flooding (4).

2.3.6 Isolation

- a. Uralla may become divided by the Uralla Creek in events higher than the 1% AEP when the Bridge Street/Sailsbury Street intersection closes isolating the east side from the west side.

2.3.7 Flood Mitigation Systems

- a. There are no flood mitigation systems located in Uralla.

2.3.8 Dams

- a. There are no dams that impact Uralla.

2.3.9 At Risk Facilities

- a. There are no facilities at risk of flooding in Uralla.

2.3.10 Other Considerations

- a. No other considerations.

ROAD CLOSURES AND ISOLATED COMMUNITIES

2.4 ROAD CLOSURES

a. Table 4 lists roads liable to flooding in the Uralla Shire LGA.

Table 4: Roads liable to flooding in Uralla Shire LGA (1).

Road	Closure location	Consequence of closure	Alternate Route	Indicative gauge height
Main Road 73 (known as Thunderbolts Way) to Armidale and Uralla	Cut at Emu Bridge about 3km south of Bundarra.			
Shire Road 13 (Gwydir River Rd) to Armidale and Uralla.	Can be cut at Toryburn Bridge which was damaged in 1949 and washed away in 1955. It was replaced with a low level timber bridge.			
Barraba Road	Can be cut at Bakers Creek.			
Bingara Road	Can be cut at Spring Gully 7km from Bundarra and Myall Swamp 10km from Bundarra.			
Kingstown to Torryburn Road	Can be cut at the causeways west of the Gwydir River vicinity Kingstown.			
Thunderbolts Way, Bundarra (9)	Southern approach to Gwydir River Bridge	Causes north side of Bundarra to become isolated from the south side	none	Closes at 10.14m at the Bundarra Bridge Gauge (418900)
Bridge Street, Uralla (4)	Sailsbury Street intersection	Causes the west side of Uralla to become isolated from the west	none	Closes in events above the 1% AEP

2.5 SUMMARY OF ISOLATED COMMUNITIES AND PROPERTIES

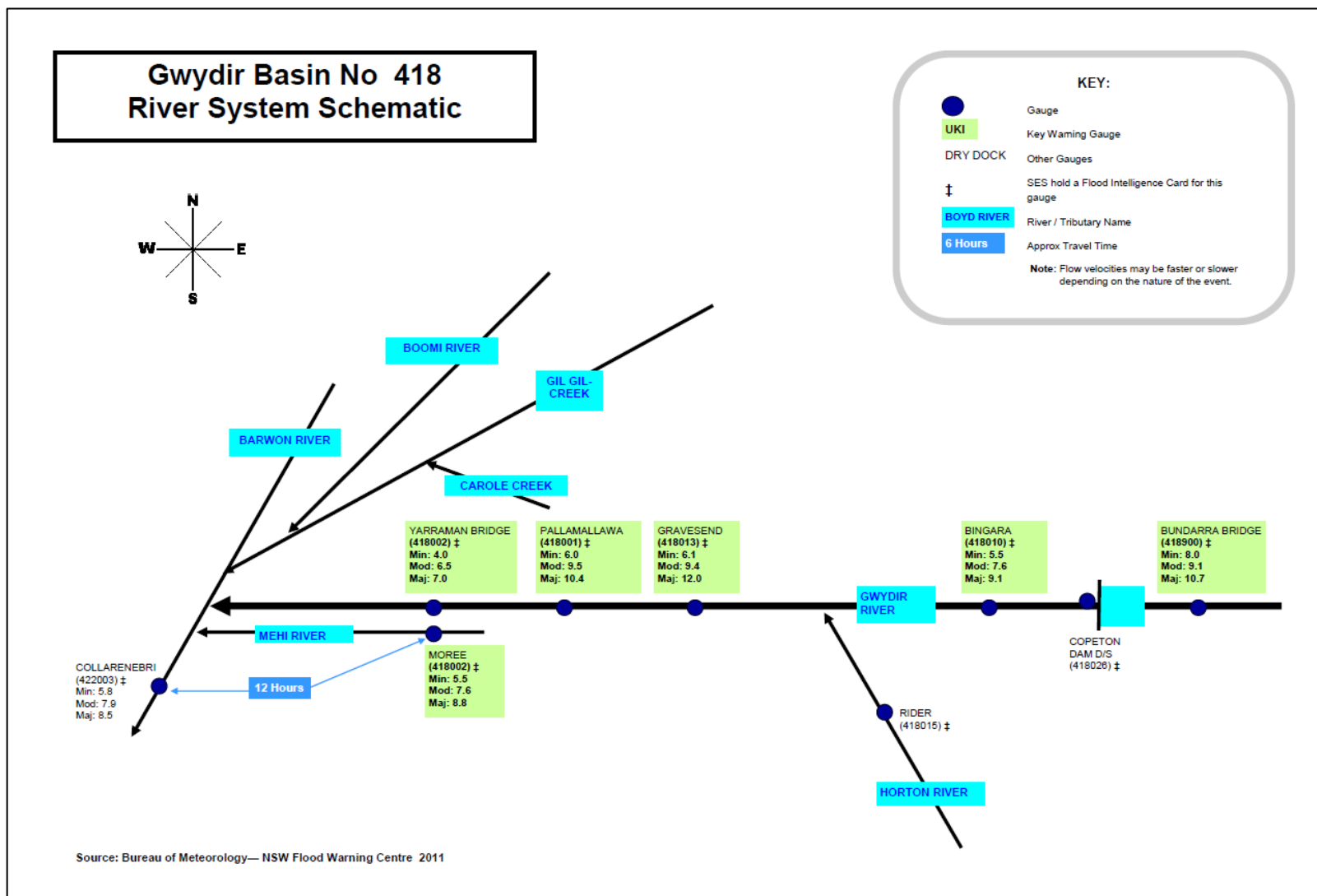
a. Table 5 lists communities liable to isolation and potential periods of isolation.

Table 5: Potential Periods of Isolation for Communities in the Uralla Shire LGA

Town / Area (River Basin)	Population/ Dwellings	Flood Affect Classification	Approximate period isolation	Days								NOTES	
				1	2	3	4	5	6	7	8		
Bundarra	150pp, 32 dwellings	High Flood Island with Rising Road Access within the town	unknown										

Note: Periods of isolation are a guide only. Liaison with the Local Controller and communities/residents involved is essential during periods of potential and actual isolation.

ANNEX 1: GWYDIR RIVER BASIN SCHEMATIC

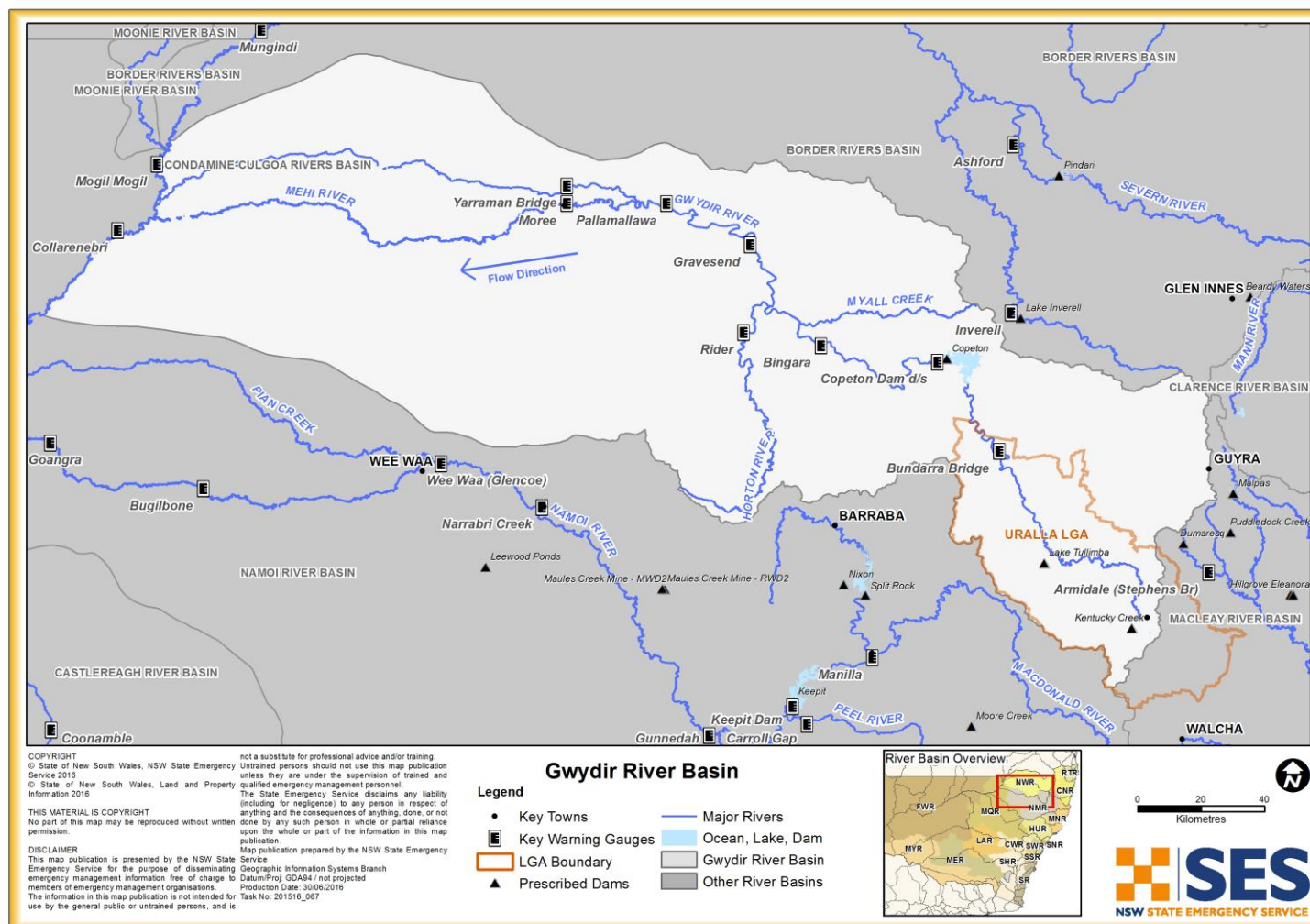


ANNEX 2: FACILITIES AT RISK OF FLOODING AND/OR ISOLATION

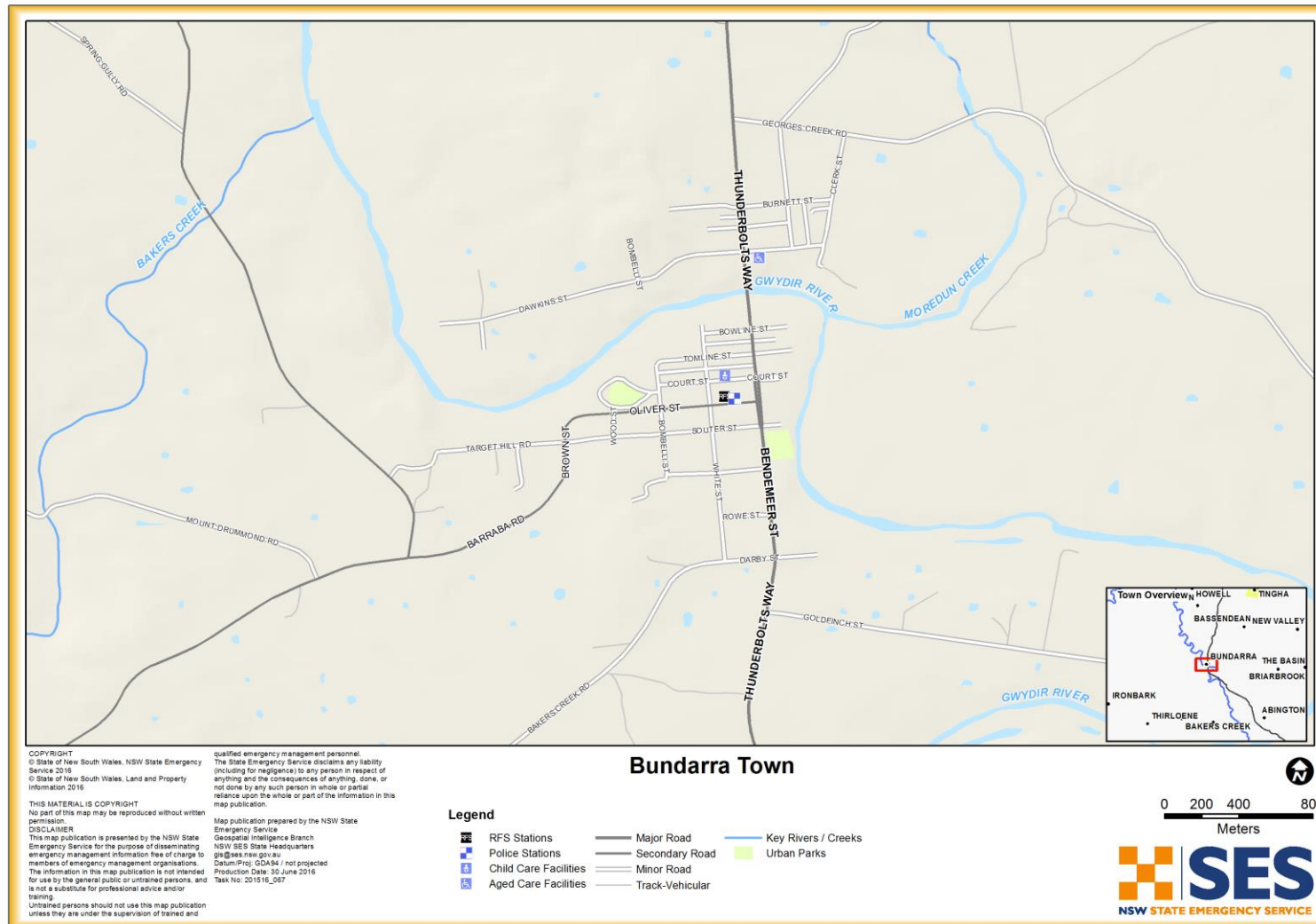
Gwydir River Valley

Facility Name	Street	Suburb	Comment
Schools			
Bundarra Central School	Bowline Street	Bundarra	Part of yard flooded in moderate floods. All yard in major floods. Building above flood level.
Child Care Centres			
Bundarra Pre-School	Court Street	Bundarra	Affected by flooding in the 1% AEP event.
Facilities for the aged and/or infirm			
Area Health Centre	Dawkins Street	Bundarra	Yard flooded in major event
Utilities and infrastructure			
Church Hall	Bendeemer Street	Bundarra	Yard flooded in major event
Hotel	Bendeemer Street	Bundarra	Yard flooded in major event
Camping Ground / Caravan Parks			
Nil			

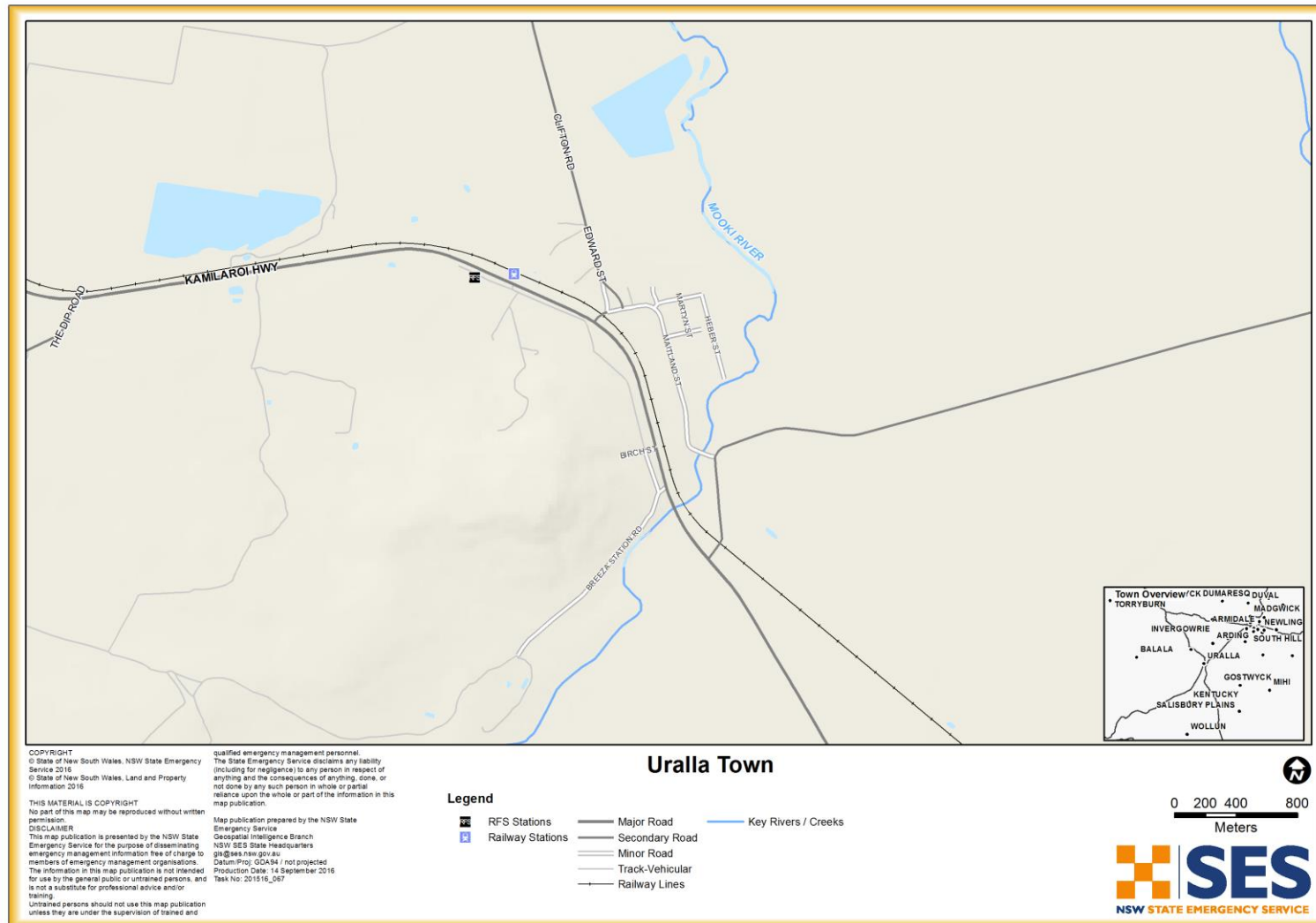
MAP 1 GWYDIR RIVER BASIN



MAP 2 BUNDARRA TOWN MAP



MAP 3 URALLA TOWN MAP



LIST OF REFERENCES

1. **NSW State Emergency Service.** *Uralla Local Flood Plan.* June 2006.
2. **Uralla Shire Council.** *Kentucky Creek Dam Modified Dam Safety Emergency Plan.* August 2010.
3. **NSW State Emergency Service.** *Armidale Local Flood Plan.* 2013.
4. **Paterson Consultants Pty Ltd.** *Rocky and Uralla Creeks Flood Study.* 2014.
5. **Australian Bureau of Statistics.** *2011 Census - Population Statistics.*
6. *local source.*
7. **Shire of Uralla.** *Uralla Local Environmental Plan - Flood Planning Map.* 2012.
8. **NSW State Emergency Service.** *Flood Intelligence Card - Bundarra Bridge Gauge .* 1998.
9. [http://www.environment.nsw.gov.au/coasts/floodplainmgmtgrantsloz.htm#Uralla.](http://www.environment.nsw.gov.au/coasts/floodplainmgmtgrantsloz.htm#Uralla)

SES RESPONSE ARRANGEMENTS FOR URALLA

Volume 3 of the Uralla Local Flood Plan

Last Update: May 2006

ANNEX C - DISSEMINATION OF SES FLOOD BULLETINS

The Namoi SES Region Headquarters distributes SES Flood Bulletins and other flood related information (including Flood Warnings) to the following regional media outlets:

Television Stations:

Station	Location
Prime Television	Tamworth
NBN Television	Tamworth
ABC Television	Tamworth
Ten Television	Tamworth

Radio Stations:

Station	Location	Frequency	Modulation
2NZ & GEM FM	Inverell		
2AD	Armidale		

Newspapers:

Name	Location
Inverell Times (Tuesday and Friday)	Inverell
Armidale Express (Monday, Wednesday and Friday)	Armidale
Northern Daily Leader (Monday to Saturday)	Tamworth

Other Agencies:

Flood Bulletins will be issued to all agencies listed with responsibilities under this Plan.

ANNEX D - TEMPLATE EVACUATION WARNING MESSAGE FOR BUNDARRA

Evacuation Warning for []

Date/Time of Issue: []

Authorised By: []

The Bureau of Meteorology has predicted a flood level of [] metres at [] (*place*) at [] (*time*). This means that the following area(s) may be inundated [].

It is recommended that you prepare to evacuate/for evacuation within the next [] hours. If you leave it later, the roads may be congested or closed.

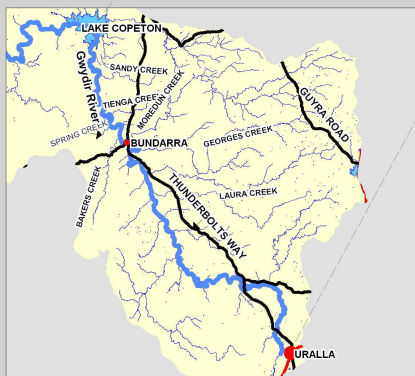
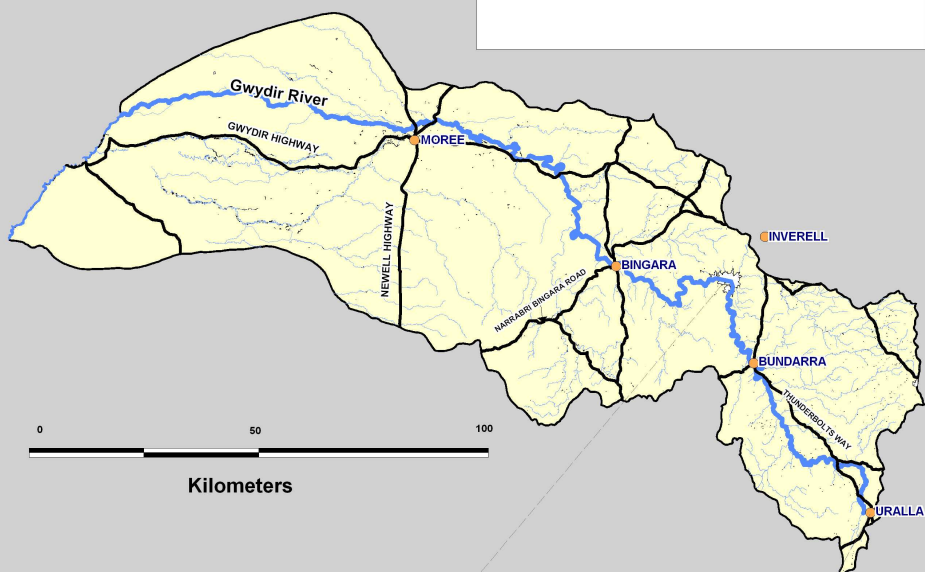
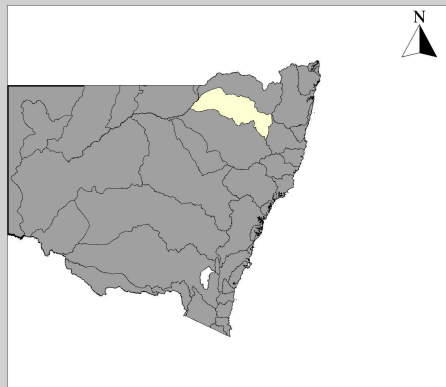
To prepare for evacuation, you should:

- Raise belongings by placing them on tables, beds and benches. Put electrical items on top. Some items may be able to be placed in ceilings.
- Gather medicines, personal and financial documents and mementos together to take with you.
- Listen to radio stations [] for further information and to confirm this warning.
- If possible, check to see whether your neighbours need help.
- Make arrangements for care of pets or companion animals.

If evacuation is necessary:

- Turn off the electricity, gas and water.
- Take three days' supply of clothes with you.
- If you have a car, drive to the evacuation centre at [] (*specify route if appropriate*).
- If you don't have a car, buses will operate on normal routes. Special transport can also be provided on request if necessary, telephone [].
- So that you can be accounted for, it is important that you register at the evacuation centre.
- After registering, you may go to the house of a friend or relative. Alternatively, accommodation will be arranged for you.
- The Police will provide security for your property while you are away.

Map 1 - Gwydir River Catchment



(c) NSW SES 2005

