

Hay Shire

Local Flood Emergency Sub Plan



HAY SHIRE FLOOD EMERGENCY SUB PLAN

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

Volume 1 of the Hay Shire Flood Emergency Sub Plan

Endorsed by the Emergency Management Committee

11 October 2023

Version 3.0

AUTHORISATION

The Hay Shire Flood Emergency Sub Plan is a sub plan of the Hay 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)**.

Authorised

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NSW SES Local/Unit Commander

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Shane Hargrave

Date:

11 October 2023

Endorsed

Signature:



Chair, Local Emergency Management Committee

Print Name:

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Date:

11 October 2023

VERSION HISTORY

Version Number	Description	Date
1.0	Hay Shire Local Flood Plan	June 2007
2.0	Hay Shire Flood Emergency Sub Plan	March 2013

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

DISTRIBUTION LIST

Available for general use and distribution on the NSW State Emergency Service website
www.ses.nsw.gov.au

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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 Hay 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 Hay Shire Local Emergency Management Plan (EMPLAN) and is endorsed by the 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 Hay 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 Hay Shire LGA. The Hay 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 Southern Zone and for emergency management purposes, is part of the Riverina Murray Emergency Management Region.

1.4.3 The plan sets out the Hay Shire level emergency management arrangements for prevention, preparation, response and initial recovery for flooding in the Hay 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 tsunamis) overtopping coastline defences.

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 Hay 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 at: <https://www.ses.nsw.gov.au/about-us/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 Hay Shire LGA.
- 2.1.2 Although there are no declared dams in the Hay Shire LGA, these declared dams upstream may contribute to flooding in the Murrumbidgee River LGA.

Dam Name	Owner	High Risk Dam
Burrinjuck Dam	WaterNSW	No
Blowering Dam	WaterNSW	No

3 PREVENTION/ MITIGATION

3.1 INTRODUCTION

- 3.1.1 The Floodplain Risk Management 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 Hay 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. NSW SES maintains a dedicated dam failure hotline and procedures to ensure priority dissemination of dam failure warnings.
- f. 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.
- g. Gauge owners adequately maintain flood warning gauges and systems, including those identified in the 'Service Level Specification' maintained by the 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. Partners 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. NSW SES will 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 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 as required.
- b. NSW SES will provide Liaison Officer(s) to Emergency Operations Centres as required.
- c. Where possible Emergency Operation Centres 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 post 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 and 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. NSW SES Incident Controllers will issue the following NSW SES Flood Warnings aligning to the Australian Warning System:
 - Advice
 - Watch and Act
 - Emergency Warning
- c. NSW SES liaises with the Bureau to discuss the development of flood warnings as required.
- d. NSW SES provides alerts and delivers flood information to affected communities using a combination of public information.
- e. NSW SES may request supporting agencies redistribute NSW SES alerts and information, including through the provision of doorknocking teams.
- f. 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.
- g. 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.
- h. 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. Hay 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 and liaise with The Transport Management Centre (TMC) regarding impacts on road networks.
- c. NSW Police Force may close and re-open roads but will normally only do so (if the Hay 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.

- 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 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. The Transport Services Functional Area is to coordinate the provision of information about the assessment and restoration of transport network infrastructure.
- b. The Energy and Utility Services Functional Area is to coordinate the assessment and restoration of essential energy and utility services (not including telecommunications).

- c. The Telecommunications Services Functional Area is to coordinate the assessment and restoration of telecommunications and the Public Safety Network.
- d. The 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. The 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 **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 the Local EMPLAN.
- f. NSW Police Force will coordinate the provision of overall security for evacuated areas.

5.8.3 **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. The 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 Evacuation Order 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 the Welfare Services Functional Area as soon as possible. NSW SES will brief the Welfare Services Functional Area at the earliest opportunity regarding the level of assistance required.

- b. The Welfare Services Functional Area will manage evacuation centres for affected residents and travellers in accordance with the 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 the Health Services Functional Area.

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

Actions:

- a. The 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. The 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.

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 the Welfare Services Functional Area for assistance.

5.12 RETURN

5.12.1 **Strategy:** Coordinate the 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 an ‘All Clear’ 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 Hay 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 Hay Shire Council 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 SECON and SERCON.

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 Hay 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 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 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 caravan park(s) by owners or by vehicles and drivers arranged by the park managers.

AGENCY	RESPONSIBILITIES
	<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.
Childcare Centres and Preschools	<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.
Dams Safety NSW	The roles and responsibilities for Dams Safety NSW (formerly NSW Dam Safety Committee) are outlined in the NSW State Flood Plan.
Department of Defence	Arrangements for Defence Assistance to the Civil Community are detailed within the State EMPLAN (section 448).
Energy and Utilities Services Functional Area	<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. – 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.

AGENCY	RESPONSIBILITIES
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.
Hay 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 Risk Management Manual. • Provide levee studies, flood studies and floodplain management studies to NSW SES. • Coordinate the development of warning services for catchments prone to flash flooding. • 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.
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.

AGENCY	RESPONSIBILITIES
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.
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.
SEOCN/SEOC	The roles and responsibilities for the SEOCN/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.

AGENCY	RESPONSIBILITIES
	<ul style="list-style-type: none"> • 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.
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.
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.
Private companies or other organizations	<p>Provide general assistance and support.</p> <ul style="list-style-type: none"> • Crighton's Cranes. • Motormatics.
Service and sporting clubs	<p>Assist with the filling of sandbags.</p> <ul style="list-style-type: none"> • Hay Scouts. • Local Football Clubs. • Country Womens Association. • Red Cross.
Aboriginal organisations or groups	<p>There are two Aboriginal organisations that need to be contacted during flood events in Hay.</p> <ul style="list-style-type: none"> • Nari Nari Tribal Council (02) 6993 2243. • Hay Aboriginal Land Council (02) 6993 2243. • Act as the point of contact between NSW SES and local indigenous communities. • Inform the NSW SES Incident Controller about flood conditions and response needs. • Disseminate flood information, including flood and evacuation warnings, to local indigenous communities within the Hay LGA.
Communication	<ul style="list-style-type: none"> • Riverine Grazier News Paper. • 2HAY-FM Radio.

Name of farmer or flood warning networks	<ul style="list-style-type: none"> • Booligal Area – Jim Crossly – Riverside and Toms Lake. • Simon Booth – Humewood. • Michael and Belinda Booth – Riverlea. • Oxley Area – Bruce Crouch – Oxley Village – and Manager of Tupra Station. • Corrong Area – Anthony and Tina Booth – Noonamah Station. • Other Farmers as needed at the time.
Community assistance groups	<ul style="list-style-type: none"> • Hay Bakery. • Members of the Hay community. • Students from Hay High School.

HAZARD AND RISK IN HAY SHIRE

Volume 2 of the Hay Shire Local Flood Plan

Last Update: June 2007 (amended October 2012)

ANNEX A - THE FLOOD THREAT

General

1. Riverine flooding in the Hay Shire Council area can occur from the Murrumbidgee River, the Lachlan River or the Mirrool Creek.

The Murrumbidgee River Catchment

2. The Murrumbidgee River is 1,600 kilometres long and is the third longest river in the state. It rises in the Snowy Mountains at an altitude of approximately 1600 metres in steep high-rainfall country, initially flowing south-eastwards before turning north near Cooma. It flows through the Australian Capital Territory and west into Burrinjuck Dam storage lake. Numerous tributaries drain from the high country and join the river above the dam.
3. From Burrinjuck Dam the river flows through undulating foothills to the urban centre of Wagga Wagga, being joined by several tributaries along the way. The most notable of these is the Tumut River, on which is built a series of dams associated with the Snowy Hydro-electric Scheme, and the State Water owned and operated Blowering Dam. The Tumut River enters the Murrumbidgee upstream of Gundagai. Other tributaries entering the river above Wagga Wagga include Jugiong, Muttama, Adelong, Billabong, Hillas, Tarcutta and Kyeamba creeks.
4. From Wagga Wagga the river traverses open plains country characterised by considerable anabranch and effluent creek development. The main tributaries and anabranches below Wagga Wagga are Houlaghlans, Sandy, Bullenbung, Beaver/Old Man and Bundidgerry creeks. The Old Man and Bundidgerry creeks rejoin the main channel within the Narrandera Shire. The important tributaries of the Bundidgerry are the Boggy and Cowabbie creeks which drain the Coolamon and south western part of Temora council areas.
5. Within the Hay Council area several effluents, anabranches and tributaries make up a complex system of channels on the floodplain of the Murrumbidgee River. These include Gum Creek (which leaves the river within the Murrumbidgee Shire), and Coonoon, Budgee, Shallow Gum, Pimpara, Five Mile, Uara, Fiddlers, Nimmie and Pollen creeks. The floodplain is broad, flat and relatively treeless. Most of it is of less than 100 metres elevation.

The Lachlan River Catchment

6. The Lachlan River is 560 kilometres long and drains an area of 84,700 kilometres. It rises in the Great Dividing Range between Bathurst and Goulburn and flows in a westerly direction, being joined by the Abercrombie, Boorowa and Belubula rivers, Mandagery Creek and several minor tributaries including Hovells, Koorawatha, Ooma, Yeo Yeo (Bland), Goobang, Euglo, (Humbug), Tinda, Crowie and Booberoi creeks. The river enters the Hay Shire council area about 15 kilometres upstream of Booligal and flows in a south westerly

direction before losing definition in the Great Cumbung Swamp from where its flood waters join the Murrumbidgee River. Significant flow into the Murrumbidgee River normally only occurs during periods of flooding.

7. Within the Hay council area the drainage pattern is complex, including several effluent creeks, the Cabbage Garden Creek anabranch and the tributary Mirrool Creek. Pimpara Creek is an effluent from the river which carries water to the Murrumbidgee River. The area drained by these water courses is flat and featureless.
8. The **Mirrool Creek**, which rises west of Temora, is the only significant tributary to enter the Lachlan River within the Hay council area. Much of its flow path is poorly defined, parts of it appearing more as intermittent lakes and swamps than as incised creek beds.

Flood Characteristics

9. Very large areas of the Hay Shire Council area are subject to flooding from the Murrumbidgee and Lachlan Rivers, and from the Mirrool Creek. The extremely flat terrain of the region dictates that drainage is very slow. Flood depths are not great, but inundation can last for some months.
10. The anabranches and effluent creeks carry water only during periods of high flow on the rivers. At other times they are dry, as are the many intermittent lakes and swamps. The effluents from the Lachlan River spread water over a very large area during times of flood, and only rarely does this water rejoin the main channel. On both rivers, channel capacity declines towards the west and flood flows spill out more frequently in downstream areas than elsewhere. The width of the inundated area downstream of Maude is much greater than that upstream of Hay.
11. Warning times for floods are very long, flows on the Murrumbidgee River having taken 10-26 days to travel from Wagga Wagga to Hay depending upon the magnitude of the flood and the condition of the floodplain at its onset. After prolonged dry periods, the billabongs, effluents and anabranches take up much of the flow causing strong attenuation of the severity of the event. Warning times are also very long on the Lachlan River.

Flood Behaviour

12. Major flow paths exist to the north and south of Hay. To the south, water has broken out at the Keringal Escape and flowed south before meeting the Bungah Creek which rejoins the main stream at South Hay. To the north, water breaks out east of Hay and travels across the floodplain to the north-east and north of Hay. This behaviour is represented in Map 7.

Weather Systems and Flooding

13. All major floods along the Murrumbidgee have occurred during months when the Southern Oscillation Index (SOI) was positive, with about two thirds occurring during La Nina events when the SOI is strongly positive. Floods

within the Hay Shire Council area can be caused by the following types of weather systems;

- a. Inland troughs (open U shaped low pressure systems) that bring tropical moisture from northern Australia to central and southern NSW. Some of these trough systems are accompanied by closed low pressure cells that form in central or southern NSW. This type of system is the main cause of flooding on the Murrumbidgee, with most having occurred during spring and summer, and a couple in March.
- b. Sequences of southern air masses coming from the Antarctic region and moving in a north easterly direction over the catchment. This flood producing mechanism operates primarily between the months of April and October.
- c. Low-pressure systems located over the east coast of Australia and causing moist airflows over the Snowy Mountains. Major floods in August 1974 and June 1952 were caused by this system, and in all likelihood the major floods in the winters of 1852 and 1853.
- d. Short duration, high intensity convective thunderstorms that occur over small areas during summer. These may cause town drainage systems to surcharge and minor creeks to rise rapidly. Such thunderstorms do not cause mainstream riverine flooding.

Peak Height Flow Times for Floods on the Murrumbidgee River

14. Burrinjuck Dam to Wagga Wagga: 42 to 76 hours
15. Tumut to Wagga Wagga: 33 to 61 hours
16. Gundagai to Wagga Wagga: 19 to 52 hours
17. Wagga Wagga to Narrandera: 3.5 to 5 days
18. Narrandera to Hay: 6 to 21 days

Storage Dams

19. **Talbingo Dam**, consists of a 161 metre high rockfill structure with a central clay core. The dam has a gross capacity of 921,400 megalitres, with an active capacity of 160,400 megalitres. Releases from the dam are through the Tumut 3 Intake Structure, which has a discharge capacity of 1.133 megalitres per second. The dam's spillway is an ungated crest in a deep unlined channel excavation on the western rim of the reservoir, with a discharge capacity of 4.248 megalitres per second. Discharges via the spillway are avoided whenever possible as it has no scour protection. Releases from Talbingo Dam flow through Jounama Pondage to Blowering Dam. Talbingo Dam is normally operated as close to full supply as practicable.

20. **Jounama Pondage**, consists of a 44 metre rockfill structure with a central clay core. The dam has a gross capacity of 43,500 megalitres with an active capacity of 27,800. Jounama has a gated spillway capable of discharging 3.965 megalitres per second. The dam collects discharges from Talbingo Dam, Jounama and Buddong Creeks to form a pumping pool to aid in electricity production at Tumut 3 Power Station and maintain a small degree of flow regulation into Blowering Dam. It is subjected to moderate water level fluctuations and currents which make it unsuitable for recreation. Due to Jounama's small size the likely impact of its failure would be minimal with discharges being absorbed by Blowering Dam.
21. **Blowering Dam**, completed in 1968, consists of a 112 metre high earth and rockfill structure with a central clay core, concrete chute spillway, four outlet valves and a 80MW hydro-electric power station. At full supply level the lake formed has a surface area of 4460 hectares. The dam has a catchment area of 1,630 square kilometres and a storage capacity of 1,630,000 megalitres. The dam stores water that has been released from upstream storages. The large amount of water released from those storages to meet the demand for electricity in winter, is held in Blowering until summer when it is needed by farmers for irrigation. Releases are controlled by the four outlet valves and the Hydro-electric power station, which have a combined capacity of 23,000 ML/day. Blowering's spillway has a capacity of 203,000 ML/day. Releases flow down the Tumut River, towards Tumut.
22. **Burrinjuck Dam** is a concrete gravity dam located in a narrow gorge downstream of Canberra. The dam was constructed between 1907 and 1928 to store water for irrigation in the Murrumbidgee Irrigation Areas and for hydro-electric power generation. The Dam's catchment is 13,000 square kilometres and a submerged storage area, at full supply level of 5500 ha. The maximum height of the dam wall is 93m above the lowest point of the foundation. The spillways are located on either side of the main wall and consist of side channel spillways at the left and right abutments and three spillway chutes controlled by sector gates. Since upgrade works in 1994 the dam is no longer considered to be deficient and is now capable of safely passing the PMF.

Flood History

23. Since European Settlement in the area in the 1840's, Hay has experienced flooding on a number of occasions. Since 1952 there have been 20 floods greater than 8.0 metres (major flood classification).
24. In recent times the four largest floods to be recorded on the Hay town gauge have occurred in 1956 (8.99m), 1974 (9.02m), 2010 (8.48m) and 2012 (8.99m).
25. Prior to these events large floods have been recorded in 1870, 1922, 1925, 1931 and 1934.

Levee Systems

26. Levees are flood mitigation structures which aim to reduce flood damages by reducing the frequency of flooding. They do so by creating a barrier between floodwaters and the area at risk.
27. All levees, unless designed for the biggest flood possible in a given area (the Probable Maximum Flood or PMF), will ultimately be over-topped by events larger than their Design Height. A levee can also fail, without overtopping, through lack of maintenance, inadequate construction or unforeseen structural circumstances.
28. Serious flooding can occur behind a levee even when floodwater from the river has not entered the area. This is caused when local stormwater or creek flooding cannot drain through the levee to the river. This type of flood can often occur while the river is in flood on the outside of the levee.
29. Levees are intended to protect property and are not fundamentally designed to protect the lives of people. In some special circumstances, supported by a thorough risk assessment, it may be warranted to allow people to shelter behind a levee during a flood. In general however, leaving people behind a levee during a flood it is not good public safety practice. This means that for all communities protected by levees emergency plans must be maintained detailing evacuation arrangements to be undertaken when floodwaters threaten to exceed the Design Height or otherwise result in levee failure.
30. Since the continuing performance of a levee cannot be assured for any flood that exceeds its Design Height, the Design Height specification is used as the default trigger for consideration of evacuation.
31. The location of Hay and South Hay on the floodplain of the Murrumbidgee River has resulted in the construction of an earth levee system that runs along both the northern and southern banks. These levees provide significant, but not certain protection from flooding. The current alignment of the levees is shown in Map 6.
32. The **Hay Town Levee** extends for a total length of about 5.7 kilometres and is formed by a combination of elevated roadways, earth embankments and naturally elevated ground. The levee forms a 'horseshoe-like' shape around the developed sections of the town, effectively linking points of relatively higher ground at the northern limits of development. The levee was originally constructed prior to the 1956 flood, with some additional work to raise the crest carried out before the arrival of the '56 peak, thereby preventing inundation of the town. Emergency works subsequently carried out to repair and raise sections of the levee in the face of the 1974, 2010 and 2012 floods also succeeded in preventing inundation of the town.
33. The **South Hay Levee** system was constructed in 1974 to protect a narrow strip of post-1956 development located between the Sturt Highway and the southern banks of the river. The levee effectively forms a closed "loop" around South Hay, protecting an area bounded by Lang St. in the north, Miller St. in the east,

the Sturt Highway to the south, and Archer Street in the west. (The section of the Sturt Highway between Archer and Miller Streets is understood to be about 500 mm above the peak level of the 1956 flood.) The levee is generally located east of the Lachlan Street Bridge and is effectively formed by the low level embankment created to construct the Lang Street roadway. It extends from the relatively high ground near Palmer Street (on the downstream side of the Lachlan Street Bridge abutment) eastwards to those properties between Roset and Miller Streets which are located on the northern side of Lang Street. A privately owned levee at the rear of these properties links to sections of the public levee near Roset Street in the west and Shiel Street in the east. This section of privately owned levee was surveyed as an extension to the publicly owned levee system, and for all intents and purposes has been incorporated into the South Hay levee system. Emergency works to repair and raise sections of the levee in the face of the 2010 and 2012 flood succeeded in preventing inundation of South Hay.

34. A 540 metre long section of privately owned levee has been constructed near the western limit of the developed area of Hay, between the northern bank of the river and houses that front Clay Street. This section of levee is an earth embankment that extends downstream along the river bank from Moppett Street to the southern extension of the Hursley Street road reserve. The private levee effectively provides a degree of flood protection to properties south of Clay Street. However, the extent of this protection is unclear because the crest elevation has not been surveyed and the materials and construction methods employed to build the levee are not documented.
35. Surveys by registered surveyors in 2010/2011 revealed that the lowest points in the Hay (North) levee were over a length of about 50m behind private residences in Hatty Street (90.4m AHD=8.93m on the town gauge), and in the South Hay levee over a length of about 30m at Halse Park in Lang Street (90.4m AHD=8.93m on the town gauge).
36. During the March 2012 flood, emergency works carried out by Council to increase the crests of the public levees successfully protected properties in Hay and South Hay from a flood which peaked at 8.99m.

Levee Overtopping

37. Although temporary augmentation works carried out by Council prior to arrival of flood peaks have to date successfully prevented overtopping, the towns levees cannot be relied on to provide absolute protection from floods and they will almost certainly be overtopped at some time in the future by an extreme flood. Once the levees are overtopped, then depending upon the floods eventual magnitude all properties within Hay and South Hay are at-risk from flooding.

Extreme Flooding

38. While flooding worse than that of 1956, 1974 and 2012 is anticipated to be rare, it must be expected that more severe events than any previously experienced will occur. Extreme floods could reach considerably greater heights than have so far been recorded, and would inundate larger areas for longer periods than in

the past. Although it is probable that such floods would occur with less warning time than usual, it is expected that several days warning would still be available.

39. Although the prospect is considered to be extraordinarily unlikely, it is nevertheless feasible that extreme flooding within the Hay Shire could result as a consequence of a Probable Maximum Flood, and/or the failure of a major dam(s) located upstream of Gundagai on the Murrumbidgee and Tumut Rivers.

ANNEX B - EFFECTS OF FLOODING ON THE COMMUNITY

AREAS AT RISK

1. The Hay Shire Council area has a long history of flooding and locations within it including Hay, Booligal, Maude and surrounding rural properties are considered flood liable. Some major roads within the council area are also prone to flooding, resulting in their closure to traffic. Communities within the Shire can be affected by inundation, isolation and indirect effects through loss of key infrastructure.

Hay

2. The town of Hay (pop. 2445) is situated in south western NSW about 730 kilometres from Sydney on the banks of the Murrumbidgee River. Hay is divided into two precincts, Hay and South Hay. Hay is located on the northern bank of the Murrumbidgee whilst South Hay is on the southern bank.
3. Hay is the larger precinct containing the commercial centre and the majority of residential developments. Major community facilities such as Council and various emergency service organisations headquarters, schools and the Hospital are also located in this section of town.
4. South Hay comprises a narrow strip of development between the Murrumbidgee River and the Sturt Highway. This development comprises a mix of residential and commercial uses, and includes the towns two Caravan Parks.
5. Both Hay and South Hay are protected by a series of levee banks, their locations being shown in Map 6. The main town levee was constructed prior to the 1956 flood peak arriving, and successfully protected the main part of town from flooding. The levee protecting South Hay was constructed prior to arrival of the 1974 peak. In the face of subsequent floods in 2010 and 2012, emergency works carried out by Council to raise the height of low points in the levees have succeeded in preventing floodwaters from entering Hay or South Hay.
6. In the event of over-topping or a catastrophic breach of the levees, developed properties behind them would be flooded. It has been estimated that should this occur as a result of a flood similar in magnitude to that of 1956, approximately 370 properties in Hay and 104 properties in South Hay would experience over-floor flooding. This amounts to 33% of the properties in Hay and 85% of the properties in South Hay. The average depths of over-floor flooding would average 0.2 metres in Hay and 0.4 metres in South Hay. Many other properties would experience flooding of their yards. An estimate of the area likely to be inundated as a result of such an occurrence is shown by Map 5. In the likelihood of such an event occurring, evacuations from Hay and South Hay would be necessary.

7. Specific vulnerable properties at risk from isolation, inundation, and/or loss of essential services as a result of levee over-topping events include the following:
 - a. Hay Caravan Park, Moama St, Hay (80 sites in total, 10 permanent vans)
 - b. Hay Plains Holiday Park, Nailor St (40 sites in total, 14 permanent vans)
 - c. Hay Airport, South Hay (isolated)
 - d. Fire Station, Macauley St
 - e. St Marys School, Moppett St
 - f. War Memorial High School, Morgan St
 - g. Police Station, Moppett St
 - h. Hay Pre-School Kindergarten Inc and Hay Plains Day Care
 - i. Hay Primary School, Lachlan St
 - j. Retirement Village, Murray St
 - k. Hay Hospital, Murray St
 - l. Ambulance Station, Murray St
 - m. Hay SES Local Headquarters, Dunera Way
8. Marginally higher ground is located in the northern section of Hay around the Hospital and former railway station offering opportunities for temporary assembly.
9. Dwellings are located outside the levees with frontages on the river between Leonard St and the Lions Park, between Orson St. and Moppett St., and between Lindsay St. and Harrison St. These areas are fairly high, but still flood liable.
10. Flooding of the Lachlan Street bridge approaches outside of the levees may result in the isolation of South Hay from Hay.
11. Although the flood of 2012 did not result in complete isolation of the town, this could potentially occur in a larger flood event with isolation lasting many days and requiring extensive resupply operations to be conducted.
12. About 50 properties located along the Murrumbidgee River in either direction from Hay are outside the levee and are prone to flooding at different heights. Isolation is also a consideration with some of these dwellings.

Booligal

13. Fifteen houses, a shop and a hotel are located close to the Lachlan River and could be flooded by an extreme flood. As a result of such an event Booligal is likely to become isolated, possibly for weeks, requiring resupply.

Maude

14. Maude, containing approximately 15 homes and a caravan park has a minor levee on its southern side along the right bank of the Murrumbidgee River. The village was not inundated during the 2012 event, but it is not expected that this levee could hold out an extreme flood and over-topping would affect all properties. Maude would likely become isolated, requiring resupply.

Rural Areas

15. Very large tracts of grazing land can be inundated by flooding from the Lachlan and Murrumbidgee rivers, and by the Mirrool Creek. Stock must be removed, and property owners must prepare for isolation. In the winter of 1990, some properties were isolated for a period of months as a result of repeated flooding on the Lachlan River. Most individual farm dwellings are on high ground or have levee protection, however, evacuations may still be necessary in large floods.

Road Closures

16. Roads known to be susceptible to flooding include:
 - a. Sturt Hwy: at the Gum Creek crossing 25 kilometres east of Hay, and at the Bungah Creek crossing 8 kilometres east of Hay.
 - b. Mid Western Highway: 4 kilometres east of Hay in a severe Murrumbidgee River flood of the magnitude of the 1956 event, and further to the north-east in the Carrathool Council area by flooding of Mirrool Creek.
 - c. Cobb Hwy: 10 kilometres north of Hay at a causeway, 10 kilometres south of Booligal by the Mirrool Ck, 1 kilometre north of Booligal by Cabbage Garden Creek, and further north by the Merrowie and Merrimajeel Creeks. Access from Booligal to Hay and Griffith could be cut.
 - d. Hay-Maude Rd: 20 kilometres west of Hay by the Murrumbidgee River.
 - e. Maude-Moulamein Rd: south of Maude by Fiddlers Creek.
 - f. Booligal-Hillston Rd: 15 kilometres north/east of Booligal by the Lachlan River.

SES RESPONSE ARRANGEMENTS FOR HAY SHIRE

Volume 3 of the Hay Shire Local Flood Plan

Last Update: June 2007 (amended October 2012)

ANNEX C - GAUGES MONITORED BY THE HAY SES LOCAL HEADQUARTERS

Gauge Name	Type	AWRC No	Stream	Flood Classification		
				Min	Mod	Maj
Narrandera*‡	Auto	410034	Murrumbidgee	6.7	7.3	8.2
Darlington Point*‡	Auto	410021	Murrumbidgee	5.5	7.0	7.3
Carrathool*‡	Auto	410078	Murrumbidgee	7.0	7.5	8.5
Hay*‡	Manual	410002	Murrumbidgee	6.5	7.5	8.0
Hay (Weir)	Auto	410136	Murrumbidgee			
Maude (Weir)	Auto	410040	Murrumbidgee			
Hillston (Weir) *	Auto	412039	Lachlan	2.4	2.8	3.0
Booligal (Weir)	Auto	412005	Lachlan	2.4		
Corrong	Auto	412045	Lachlan			

Notes:

1. The Bureau of Meteorology provides flood warnings for the gauges marked with an asterisk (*).
2. SES Local Flood Advices are provided for the gauges marked with a single cross (†).
3. The SES holds a Flood Intelligence Card for the gauges marked with a double cross (‡).

ANNEX D - DISSEMINATION OF SES FLOOD BULLETINS

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

Television Stations:

Station	Location
WIN Television	Griffith/Wagga Wagga
Prime Television	Wagga Wagga
Southern Cross Television	Canberra
SBS Television	Melbourne
ABC Television	Melbourne

Radio Stations:

Station	Location	Frequency	Modulation
2RG	Griffith	963	AM
ABC Riverina	Wagga Wagga	675	AM
ABC Riverina	Wagga Wagga	88.1	FM
2WG	Wagga Wagga	1152	AM
Star FM	Griffith	99.7	FM
2QN	Deniliquin	1521	AM
2 Hay FM	Hay	92.1	FM

Newspapers:

Name	Location
The Riverine Grazier	Hay

Other Agencies:

All agencies listed under this Plan and the Hay Local Displan are to receive copies of SES Flood Bulletins, as appropriate.

ANNEX E - TEMPLATE EVACUATION WARNING MESSAGE FOR [ENTER NAME OF AREA]

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 special transport will 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.

ANNEX F - EVACUATION ARRANGEMENTS FOR THE HAY SHIRE COUNCIL AREA

Background

1. The NSW SES, as per the provisions of the NSW Disaster Plan, is the designated Combat Agency responsible for controlling floods and coordinating the rescue, evacuation and welfare of affected communities.
2. During large floods evacuations may be required from the townships of Hay, Booligal and Maude, and/or from rural areas within the Shire.
3. In instances where floods are not considered likely to threaten the Hay levees, arrangements would be made for persons needing to evacuate from villages and rural areas to be moved to Hay to be sheltered.
4. Whilst many residences on the flood plain have floor levels likely to remain above all but the most extreme floods, these buildings cannot always be considered safe refuges because of likely water supply, sewerage and telephone system failure. Residents of these building may therefore need to evacuate when severe floods are predicted so as to avoid the necessity for later operations to rescue them.
5. In their Hay Levee Rehabilitation Project (2005) report, consulting firm Patterson Britton & Partners forecast that if the levee systems protecting Hay were to fail during a 1956 type flood, that 299 residential properties and 51 commercial properties in the town and 98 residential properties and 6 commercial properties in South Hay would be flooded above floor level. Subsequent modelling carried out by wmaWater as part of the Hay Town Levees–Hydraulic Assessment provided updated data, including a Peak Flood Velocity Map which provided a graphical assessment of the likely extent of inundation should this scenario occur. A copy is reproduced in this Plan as Map 5.
6. For floods which are anticipated to overtop or breach the Hay and South Hay levees it may be necessary to evacuate the entire community of about 2445 residents. Where this is necessary, and subject to the prevailing flood situation elsewhere within the region, the town’s population would likely be evacuated to Griffith. Should this be unsuitable, alternate location(s) would be determined. It is likely that several days warning time would be available to organise and conduct an evacuation of Hay.
7. In preparation for the March 2012 flood, temporary works were carried out by the Hay Shire Council to raise both the Hay and the South Hay levee’s to a level which it felt would hold out a predicted flood peak of 9.0 metres. In the absence of documented engineering advice certifying that the levees could be relied upon to hold out a flood of this height the SES, as a precaution to protect life and property, issued an Evacuation Order for areas of the town expected to be

inundated in the event of a levee breach. The levee held, successfully prevented the eventual flood peak of 8.99m from damaging property protected behind it.

8. Additional flood inundation forecast mapping has been commissioned following the 2012 event which will assist with decisions to determine the extent and need for future evacuations.

Arrangements

9. **Control.** During floods, evacuations will be controlled by the NSW SES. Small-scale evacuations will be controlled by the Hay SES Incident Controller. Should the evacuation operation escalate beyond the capabilities of local resources, control may be handed over to the Murrumbidgee SES Incident Controller. In the case of a large scale evacuation of Hay the evacuation operation will be controlled by the Murrumbidgee SES Incident Controller.
10. **Conduct.** Evacuations will be controlled by the SES Incident Controller and conducted in five phases:
 - a. Phase 1 - Decision
 - b. Phase 2 - Warning
 - c. Phase 3 – Withdrawal
 - d. Phase 4 – Shelter
 - e. Phase 5 – Return
11. **Supporting agencies** with responsibilities to assist with evacuation tasks are outlined in Part 1 of this Plan
12. **Hay Hospital** is located north of Murray Street upon higher ground and would likely only experience over floor inundation in a very extreme event. However should the main levee fail during a flood equivalent to that of 1956, the hospital may be affected by loss of some essential services. Loss of essential services that could result in evacuation of the Hospital include loss of sewerage, telecommunications, and water (for over 24 hours). The Hospital has an emergency generator that would need additional fuel supply after 24 hours.

If evacuation of the hospital is deemed necessary it will be coordinated by NSW Health. NSW Health will utilise MLHD Patient Transport Vehicles wherever possible to relocate the Hay Hospital infirm, engaging ASNSW only when clinically indicated treatment is required en-route.

Emergency Department Services would be maintained while the community or emergency services remained in the town, unless over floor flooding of the Hospital occurred.

Decision

13. **The decision to evacuate.** The responsibility for issuing any general evacuation order during flooding rests with the SES's Incident Controller who exercises his/her authority in accordance with Section 22(1) of the State Emergency Service Act 1989. However, the decision to evacuate will normally only be made after consultation with the Local Emergency Operations Controller, the Local Emergency Management Committee, the Shire Council and the Murrumbidgee SES Region Controller.
14. **When evacuation should occur.** As far as possible, evacuation will be carried out before inundation occurs.
15. **Self-motivated evacuation.** Some people will make their own decision to evacuate earlier and move to alternative accommodation using their own transport. These evacuees will be advised, via the media, to inform the Police or SES of their evacuation and their temporary address.
16. **Evacuation triggers.** The following conditions are triggers for evacuation.
 - a. **Failure of Essential Services.** The failure of public utilities such as sewerage, power, telephones and water pose a significant health risk to residents on the floodplain or in flood affected areas. In the event of any or all of these systems failing or potentially failing, the need for evacuations will be discussed with the members of the LEMC.
 - b. **Flooding affecting properties.** Evacuations are to occur if it is considered likely that properties will be flooded above floor level.
 - c. **Prolonged Isolation.** When prolonged isolation is expected persons who are unsuited for living in isolated areas will be encouraged to evacuate.
 - d. **Potential Levee Failure/Overtopping.** The levees protecting Hay and South Hay were initially constructed by Council as a result of the flood threats in 1956 and 1974, and have subsequently had temporary work carried out to raise them in the face of the 2010 and 2012 floods. This work successfully protected the town against both events. Detailed surveys conducted by registered surveyors in 2010/2011 (prior to the temporary work to raise the crest in 2012) revealed the lowest points of both the Hay and South Hay levees to be 90.4m AHD, equivalent to a reading of 8.93m on the town gauge. Allowing 0.5m freeboard from the crest, as recommended by the PWD in their Audit of the Hay Levees (1991), a prediction by the Bureau of Meteorology for a flood peak at or above a height of 8.43m at Hay is agreed to be the appropriate trigger point for consideration to be given to a full or partial evacuation of Hay.

Phase 2 – Warning

17. As soon as possible after the decision to evacuate is made, the Hay SES Incident Controller will issue evacuation warnings/orders to the ‘at risk’ residents advising them what to do before and during evacuations.
18. **Content of Evacuation Warnings.** A template guide to the content of evacuation warning messages is at Annex E. These may be disseminated, as appropriate, by one or more of the following means:
 - a. Radio, Television and Newspaper outlets (listed in Annex D).
 - b. Door-knocks by emergency service personnel.
 - c. Public address systems from emergency service vehicles.
 - d. Telephone.
 - e. Two-way radio.
 - f. Inclusion in SES Flood Bulletins.
19. **Doorknocking.** Field teams conducting doorknocks will record and report the following information back to the Operations Centre:
 - a. Addresses and locations of houses doorknocked and/or evacuated.
 - b. The number of occupants.
 - c. Details of support required (such as transport, medical evacuation, assistance to secure house and/or property and raise or move belongings).
 - d. Details of residents who refuse to comply with the evacuation order.
20. **Refusal to evacuate.** Field teams should not waste time dealing with people who are reluctant or refuse to comply with any evacuation order. These cases should be referred to the Local Emergency Operations Controller who will arrange for Police to ensure their evacuation when so required.

Phase 3 – Withdrawal

21. **Introduction.** Withdrawal involves the actual removal of the community/individuals from dangerous or potentially dangerous areas to safer areas.
22. It may be necessary for the entire population of Hay to be evacuated to Griffith. The residents of Maude and Booligal may need to be evacuated to Hay. If Hay is likely to be flooded, Maude and Booligal residents are to be evacuated to Griffith.

23. **Movement.** Evacuees are to be encouraged to move using their own transport where possible. The Hay SES Incident Controller will arrange transport for people without their own vehicles. Where evacuations routes have been flooded, it may be necessary to transport evacuees by flood rescue boat, aircraft and/or high clearance vehicle.
24. **Phasing.** The most vulnerable evacuees are to be given priority in their movement to shelter.
25. **Evacuation of Hay.** Evacuations from Hay to Griffith are to occur along the Mid-Western Highway and Kidman Way. This route may become affected by riverine flooding or localised flooding. Other routes do exist, however, their flood liability is uncertain. Before any evacuation takes place the status of the possible routes should be assessed.
26. Where evacuation routes have been flooded it may be necessary to ferry evacuees across flooded sections using flood rescue boats, aircraft and/or high clearance vehicle. Public transport such as buses would be required to support operations by providing the movement of evacuees over non-flooded road sections. In this scenario an assembly point will be nominated for evacuees to assemble to be transported by alternative means. If alternative transport is to be used from Hay the Hay Showgrounds could be used as the assembly point. Helicopters can land at this location.
27. **Evacuation of Maude.** Evacuees are to assemble at the Maude Hotel, from where they will be transported to Hay, Griffith or an alternate suitable location.
28. **Evacuation of Booligal.** Evacuees are to assemble at the Booligal Hotel, from where they will be transported to Hay, Griffith or an alternate suitable location.
29. **Animals.** Assistance animals (guide dogs, hearing assistance animals, etc) will remain in the care of their owners throughout the evacuation. This includes transport and access into evacuation centres etc. Due to safety restrictions, it may not be possible to allow companion animals to accompany their owners when being transported via aircraft or flood rescue boats. The Department of Primary Industries will make separate arrangements for the evacuation and care of companion animals.
30. **Transport and storage.** Transport and storage of furniture from flood threatened properties will be arranged if time and resources permit.
31. **Security.** The NSW Police will provide security for evacuated areas.
32. **Aircraft Management.** Arrangements for the management of aircraft are detailed in Section 3.16 of this Plan.

Phase 4 – Shelter

33. **Evacuation centres.** The purpose of an evacuation centre is to meet the immediate needs of victims. Evacuees will be advised which Evacuation Centre they should attend. If the scenario involves levee overtopping and the need for

evacuation is to Griffith, then evacuation centres are identified in the Griffith Local Displan.

34. The Griffith SES Local Controller will coordinate the reception of evacuees from Hay if evacuation from Hay to Griffith needs to occur.
35. If an evacuation centre needs be established in Hay for residents (including those from the communities of Maude and Booligal) living outside of the levees, then an evacuation centre can be established at the Hay War Memorial Hall in Lachlan Street. An alternate evacuation centre location is the Hay War Memorial High School in Pine Street. (Note: Both of these are within WMA's flood footprint, though floor levels are expected to be above inundation.)
36. **Action on arrival.** On arrival at evacuation centres, evacuees will be:
 - a. registered;
 - b. medically checked, if necessary; and
 - c. provided with their immediate welfare needs.
37. **Registration.** The NSW Police will ensure that all evacuees are registered on arrival at the designated evacuation centres.
38. **Animal shelter compounds.** Animal shelter compounds will be set up for the domestic pets and companion animals of evacuees. These facilities will be coordinated by the Department of Primary Industries.

Phase 5 – Return

39. Once it is considered safe to do so, the Hay SES Incident Controller will authorise the return of evacuees to their normal or alternative place of residence. This decision will be made in consultation with appropriate officers in regard to matters such as the electrical safety of buildings.
40. The return will be controlled by the Hay SES Incident Controller and may be conducted, at his/her request, by the Recovery Coordinating Committee.

ANNEX G - RESUPPLY REQUIREMENTS AND OPERATIONS FOR THE HAY SHIRE COUNCIL AREA

BACKGROUND

1. During periods of flooding many rural properties and the communities of Hay, Maude and Booligal can become isolated requiring resupply. The duration of isolation can last between several days to several weeks depending upon the severity of flooding and its location.

ARRANGEMENTS

Control

2. During floods, resupply of isolated communities and properties will be controlled by the NSW State Emergency Service (SES). Small-scale resupply operations will be controlled by the Hay SES Incident Controller. Should resupply operations escalate beyond the capabilities of local resources control may be handed over to the Murrumbidgee SES Incident Controller.

Conduct

3. The SES will conduct resupply operations with assistance from the Rural Fire Service and the Department of Family & Community Services.

Tasks

4. Hay SES Incident Controller
Coordinate the resupply of isolated communities and properties.
5. Department of Family & Community Services
Provide welfare services for flood affected people.
6. NSW Rural Fire Service
Assist the SES with resupply operations.

Concept of Operations

7. The normal mode of resupply will be maintained for as long as practicable. The main supply routes will be kept open to essential and emergency vehicles for as long as it is safe to do so. Once these routes are closed (either by the road owner, the Police or the SES) then the delivery of essential foodstuffs, fuel, urgent medical supplies and stores to the Council area will be coordinated by

the Murrumbidgee SES Region Headquarters using aircraft coordinated from Wagga Wagga.

Normal Supply Arrangements

8. Hay businesses typically obtain their supplies from Griffith, Melbourne, Canberra or Sydney.

Resupply Procedures

9. **Pre-Warning of Isolation.** When flood predictions indicate that areas are likely to become isolated, the Hay SES Incident Controller will advise businesses and rural residents that they should stock up. Rural residents need to ensure they have an adequate supply of high usage non-perishable items, pet food, fuel, water and essential medications. Rural residents can be advised by telephone, doorknock or radio.
10. **Resupply of Isolated Towns and Villages.** When isolation occurs, storekeepers will be expected to place orders on suppliers where they have a line of credit and to instruct those suppliers to package their goods and deliver them to loading points designated by the SES. Similarly, essential services will make arrangements to acquire their resupply needs from normal sources and have the supplies delivered to designated loading points.
11. The SES may establish a vetting committee to ensure that only essential goods are ordered. The committee may consist of representatives from the SES, Hay Shire Council, Police, F&CS and the Chamber of Commerce. The committee will ensure that businesses requesting supplies are not using the flood as a means of restocking free of charge and also that load space in resupply vehicles and aircraft is optimally used.
12. Where supplies are not available within the council area, the Hay SES Incident Controller may request them through the Murrumbidgee SES Region Headquarters.
13. The SES is prepared to deliver mail to isolated communities but may not be able to do so according to Australia Post timetables.
14. **Resupply of Isolated Properties** is a common requirement during floods. Property owners may call their suppliers direct or place their orders with the Hay SES, through F&CS, or through their friends. The principles to be applied when planning for the resupply of isolated properties are:
 - a. The SES will coordinate resupply and establish a schedule.
 - b. F&CS will liaise with the SES concerning property holders who place orders with them. They will include people in dire circumstances who receive resupply at no cost. F&CS has a well developed system for this situation, including a standard list of approved resupply items.

- c. If a property holder seeks resupply from the SES and claims to be, or is considered to be, in dire circumstances, he/she is to be referred to F&CS.
 - d. Local suppliers will liaise with the SES regarding delivery of resupply items to the designated loading point.
 - e. Local suppliers are responsible for packaging resupply items for delivery.
15. The outline of the resupply system for isolated properties is represented in Figure 1.

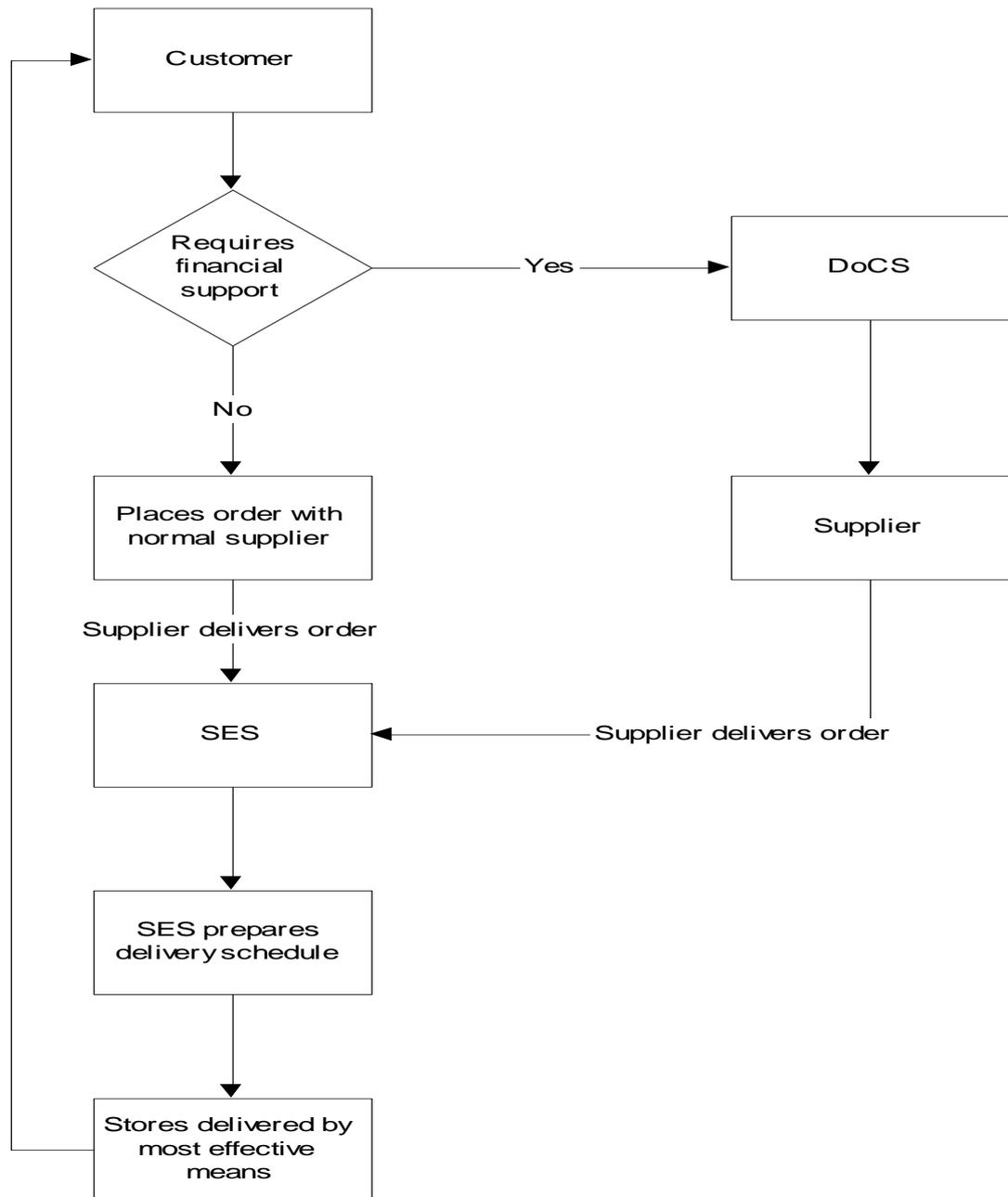


Figure 1 Outline of resupply system for isolated properties.

16. **Personnel Movement.** Where possible, the SES will assist isolated communities and properties with the movement of people to and from isolated areas.
17. **Method of Resupply.** Depending upon the extent of flooding and its impact on the road system, resupply will be conducted using high clearance vehicle, SES flood rescue boat, fixed wing or rotary wing aircraft.
18. **Air Resupply.** If air resupply is necessary the Hay SES Incident Controller will liaise with the Murrumbidgee SES Incident Controller who will make arrangements with the SES State Headquarters for air resupply. A loading point for air resupply can be established at Griffith airport.
19. **Refrigeration** for perishable goods can be provided by refrigerated trailers.
20. **Distribution Points:**
 - a. Hay – Hay Showgrounds
 - b. South Hay – Hay Airport
 - c. Maude – Maude Hotel
 - d. Booligal – Booligal Hotel

ANNEX H - ARRANGEMENTS FOR THE EVACUATION OF CARAVAN PARKS AND THE RELOCATION OF CARAVANS

Background

1. There are two Caravan Parks located at Hay. The Hay Caravan Park is outside of the levee and is located north of the Sturt Highway between Miller and Boon Streets. The Hay Plains Holiday Park is inside the South Hay levee, located at 4 Nailor Street.
2. There is one small Caravan Park located at Maude. It is on high ground on the north side of the Post Office Hotel in Yang Yang Street, and is not flood liable for other than a very extreme flood.

Evacuation of Occupants and Relocation of Vans

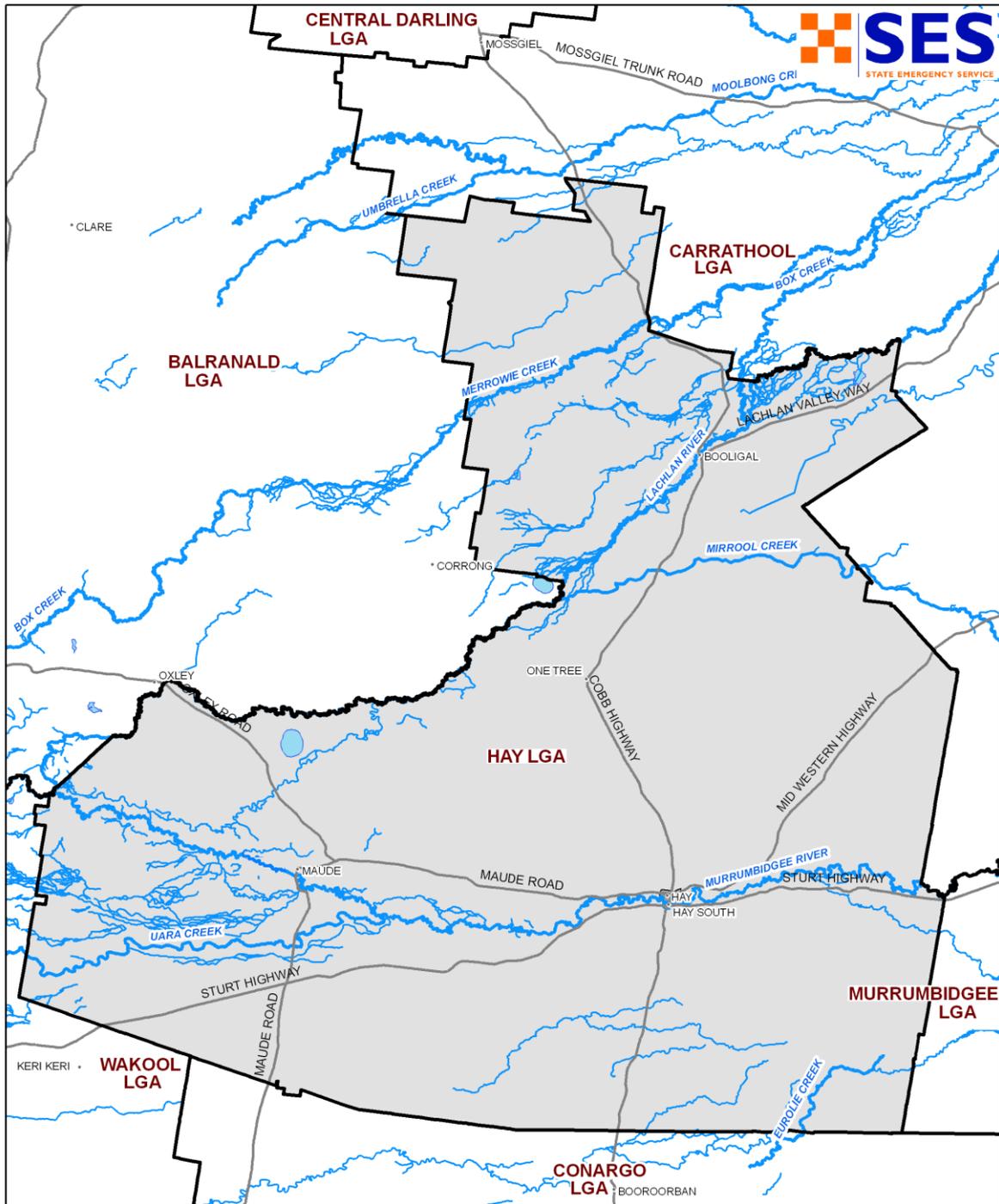
3. When an evacuation order is given for a Caravan Park the following guidelines apply:
 - a. Occupiers of any non-movable vans should:
 - Secure their vans by tying them down to prevent flotation.
 - Isolate power to their vans.
 - Collect personal papers, medicines, a change of clothing, toiletries and bedclothes.
 - Lift the other contents of their vans as high as possible within the van.
 - Move to a designated evacuation centre
 - b. Where possible, vans that can be moved will be relocated by their owners. Park managers will arrange for the relocation of mobile vans whose owners do not have a vehicle. Council and SES personnel will assist if required and resources permit. Vans are to be moved to the Hay Showground, or to an alternative site if so designated.
4. Occupants of vans that are being relocated should go to a designated evacuation centre if they have their own transport. Those without their own transport are to report to the caravan park office.
5. Caravan park managers will:
 - a. Ensure that their caravan park is capable of being evacuated
 - b. Advise the Hay SES Incident Controller of:

- The number of people requiring transport.
 - Details of any medical evacuations required.
 - Whether additional assistance is required to effect the evacuation.
- c. Check that no people remain in non-removable vans that are likely to be inundated.
- d. Inform the Hay SES Incident Controller when the evacuation of the caravan park has been completed.
- e. Provide the Hay SES Incident Controller with a register of people that have been evacuated.

Return of Occupants and Vans

6. The Hay SES Incident Controller will advise when it is safe for the caravan parks to be re-occupied.
7. Vans will be towed back to the caravan parks by van owners or by vehicles and drivers arranged by the park managers. SES personnel will coordinate assistance if required and available.

MAP 1 – HAY LOCAL GOVERNMENT AREA



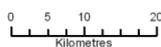
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 SES State Headquarters.

Hay Shire Council LGA



Print Date: 31 October 2007



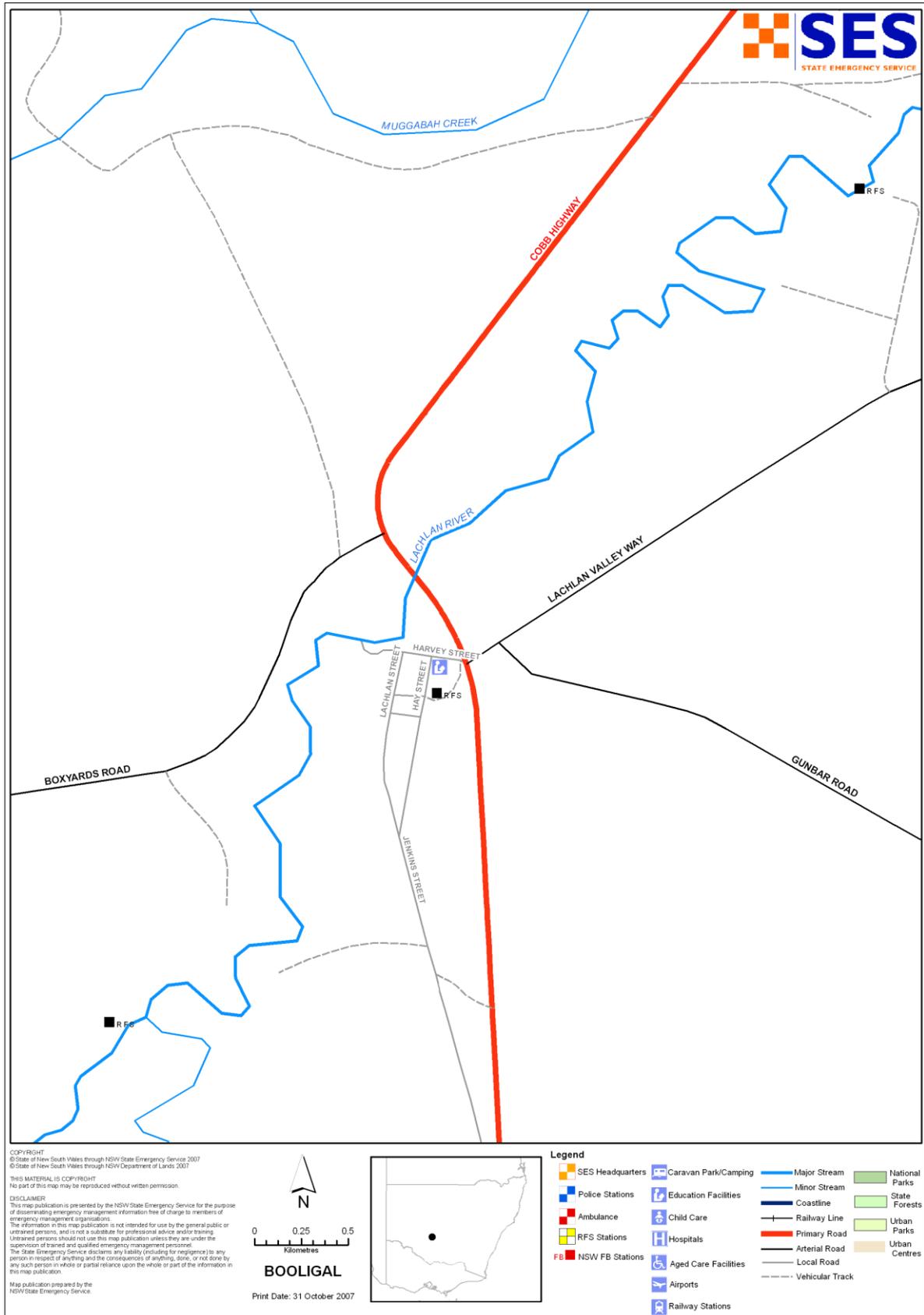
Legend

-  LGA Boundary
-  Major River
-  Minor River
-  Major Roads

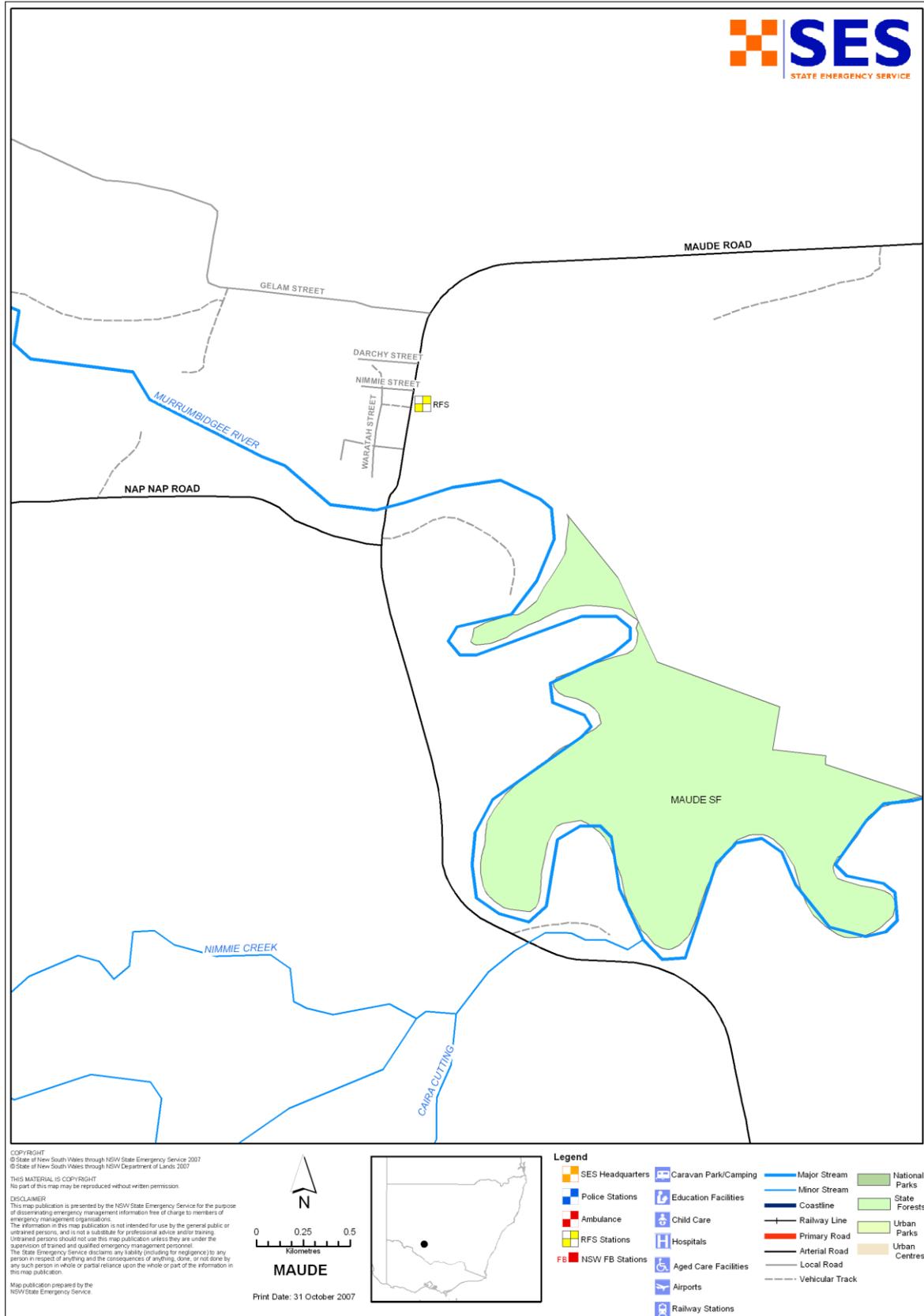
MAP 2 – HAY TOWN AREA



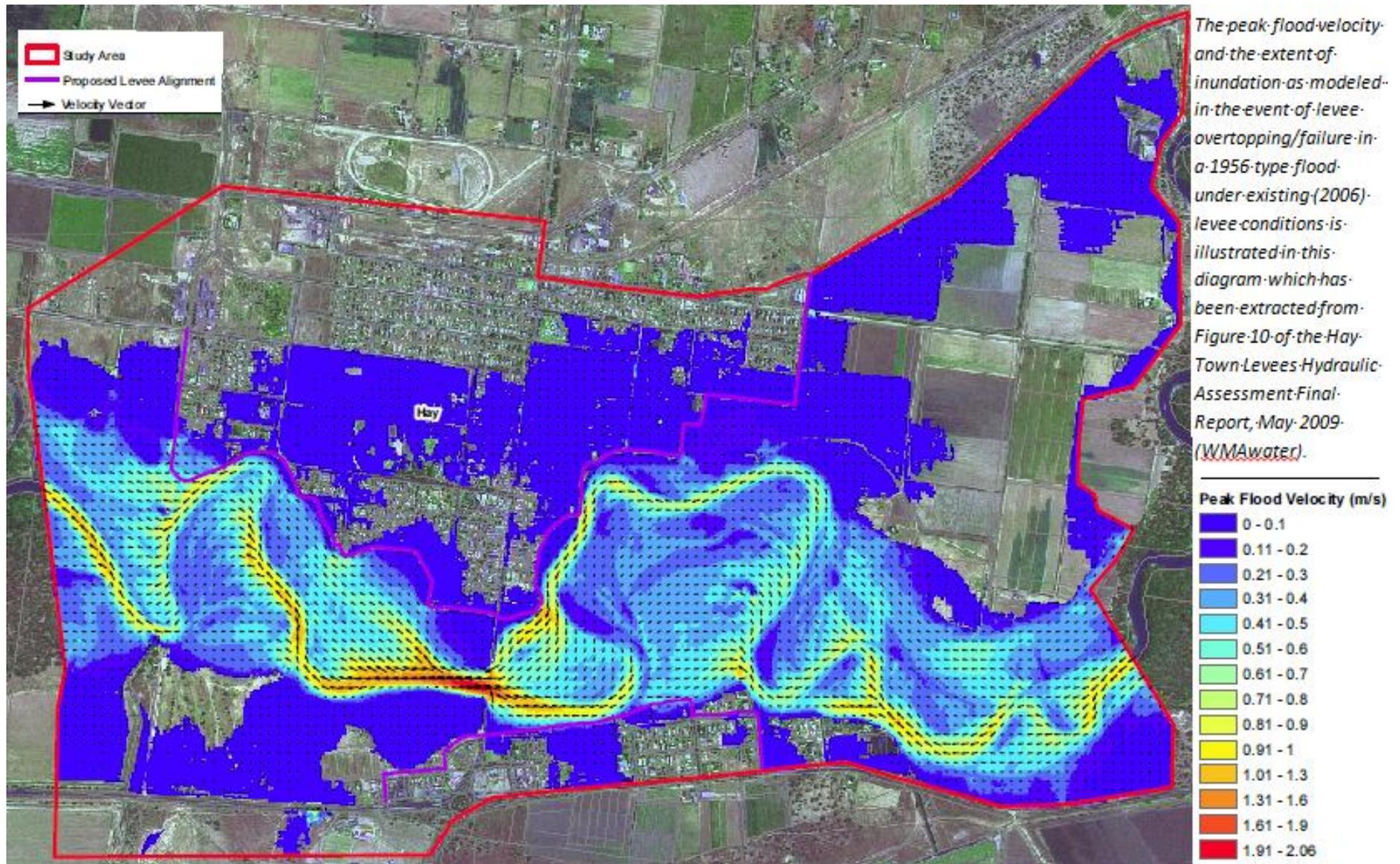
MAP 3 – BOOLIGAL VILLAGE AREA



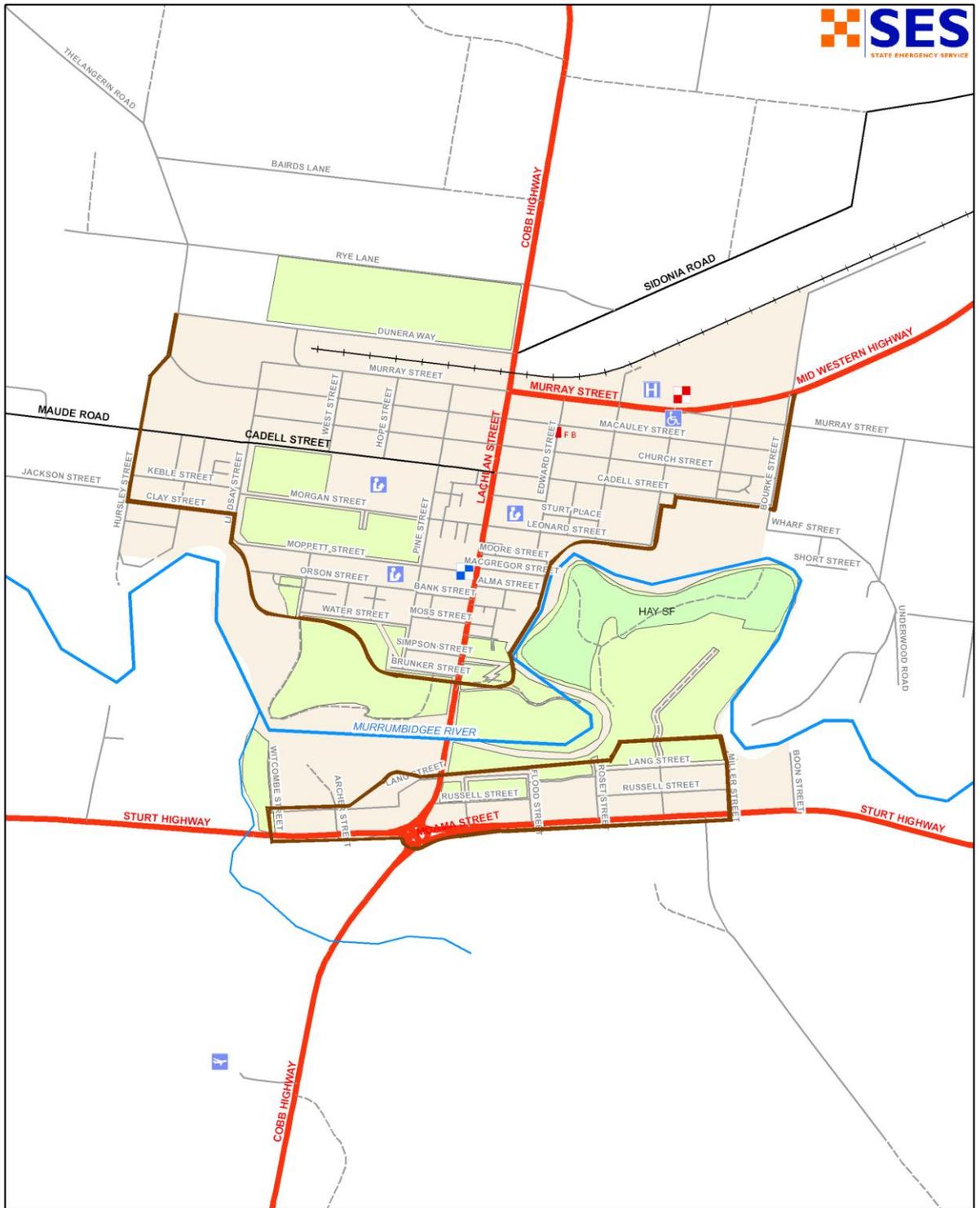
MAP 4 – MAUDE VILLAGE AREA



MAP 5 – PREDICTED INUNDATION OF HAY IN EVENT OF LEVEE FAILURE



MAP 6 – LEVEES AT HAY AND SOUTH HAY



HAY LEVEES
 Shown as ———
 Note: Approximate only

MAP 7 – FLOOD BEHAVIOUR AT HAY

