Rural City of Wangaratta Flood Emergency Plan

A Sub-Plan of the Municipal Emergency Management Plan

For Rural City of Wangaratta Council
And
Victoria State Emergency Service
North East Region and the
Wangaratta SES Unit

FloodSafe

RURAL CITY OF WANGARATTA

State Government Victoria

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Original	Committee Executive Officer	Rural City of Wangaratta MEMP		
1	Council Office Copy	Rural City of Wangaratta		
2	Committee Chairman	Rural City of Wangaratta MEMP		
3	MERO	Rural City of Wangaratta		
4	Deputy MERO	Rural City of Wangaratta		
5	MRM	Rural City of Wangaratta		
6	MERC	Wangaratta Police Station		
7	REMI	Victoria Police		
8	Station Commander	Moyhu Police Station (OIC)		
9	Station Commander	Wangaratta Police Station (OIC)		
10	Station Commander	Whitfield Police Station (OIC)		
11	Regional Manager	VICSES North East (Hume) Region		
12	Unit Controller	VICSES (Myrtleford unit)		
13	Unit Controller	VICSES (Wangaratta unit)		
14	Manager, Statutory Planning	North East Catchment Management Authority		
15		Bureau of Meteorology (Flood Warning)		
16	Fire & Land District Manager	DEPI - Ovens		
17		Ambulance Victoria (Wangaratta branch)		
18		CFA District 23 Headquarters		
19		VicRoads [Enter Details]		
20		Department of Human Services [Wangaratta]		
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Document Transmittal Form / Amendment Certificate

This Municipal Flood Emergency Plan (MFEP) will be amended, maintained and distributed as required by VICSES in consultation with the **Municipal Emergency Manager** or **Municipal Emergency Resource Officer** of the Rural City of Wangaratta

Suggestions for amendments to this Plan should be forwarded to:

Regional Manager
North East Region
Victoria State Emergency Service
64 Sydney Road, Benalla,
Victoria 3672

Phone: (03) 9256 9650
Fax: (03) 9256 9671
Email: northeast@ses.vic.gov.au

Amendments listed below have been included in this Plan and promulgated to all registered copyholders.

Amendment Number	Date of Amendment	Amendment Entered By	Summary of Amendment

This Plan will be maintained on the VICSES website

http://www.ses.vic.gov.au/prepare/your-local-flood-information/wangaratta-rural-city-council

List of Abbreviations & Acronyms

AEP	Annual Exceedance Probability
AHD	Australian Height Datum (the height of a location above mean sea level in metres)
AIIMS	Australasian Inter-service Incident Management System
AoCC	Area of Operations Control Centre / Command Centre
ARI	Average Recurrence Interval
AV	Ambulance Victoria
BoM	Bureau of Meteorology
CEO	Chief Executive Officer
CERA	Community Emergency Risk Assessment
CERM	Community Emergency Risk Management
CFA	Country Fire Authority
CMA	Catchment Management Authority
RERC	Regional Emergency Response Coordinator
RERCC	Regional Emergency Response Coordination Centre
DHS	Department of Human Services
DH	Department of Health
DoI	Department of Infrastructure
DEPI	Department of Environment & Primary Industries (previously DPI & DSE)
EMLO	Emergency Management Liaison Officer
EMMV	Emergency Management Manual Victoria
EMT	Emergency Management Team
EO	Executive Officer
FO	Floodway Overlay
FWS	Flood Warning System
FZ	Floodway Zone
IC	Incident Controller
ICC	Incident Control Centre
IMT	Incident Management Team
IMS	Incident Management System
LSIO	Land Subject to Inundation Overlay
MECC	Municipal Emergency Coordination Centre
MEMP	Municipal Emergency Management Plan
MEMPC	Municipal Emergency Management Planning Committee
MERC	Municipal Emergency Response Coordinator
MERO	Municipal Emergency Resource Officer
MFB	Metropolitan Fire Brigade
MRM	Municipal Recovery Manager
PMF	Probable Maximum Flood
RCC	Regional Control Centre
RCoW	Rural City of Wangaratta
RDO	Regional Duty Officer
SBO	Special Building Overlay
SCC	State Control Centre
SEWS	Standard Emergency Warning System
SHERP	State Health Emergency Response Plan
SOP	Standard Operating Procedure
VicPol	Victoria Police
VICSES	Victoria State Emergency Service

Part 1. INTRODUCTION

1.1 Municipal Endorsement

This Municipal Flood Emergency Plan (MFEP) has been prepared by the Municipal Flood Planning Committee (MFPC) with the authority of the Rural City of Wangaratta Municipal Emergency Management Committee (MEMPC), pursuant to Section 20 of the Emergency Management Act 1986 (as amended).

The MFEP, as a sub plan of the Rural City of Wangaratta Municipal Emergency Management Plan (MEMP), is consistent with the guidance contained in the Emergency Management Manual Victoria (EMMV) and the Victoria Flood Management Strategy (DNRE, 1998a). It takes into account the outcomes of the Community Emergency Risk Management (CERM) process undertaken by the Rural City of Wangaratta MEMPC.

This MFEP is consistent with the Regional Flood Emergency Plan and the State Flood Emergency Plan.

This MFEP is a result of the cooperative efforts of the Rural City of Wangaratta Flood Planning Committee (MFPC) and its member agencies.

This Plan is endorsed by the Rural City of Wangaratta MEMPC as a sub-plan to the MEMP.

Endorsement

Signatures held in VICSES TRIM file CD/14/65227	24/9/14
……..	……..
Chair of Administrators/Administrator	Date
	27/6/14
……..	……..
Regional Manager	Date
VICSES North East – Benalla Office	

1.2 The Municipality

An outline of Rural City of Wangaratta in terms of its location, demography and other general matters is provided in the MEMP. An outline of the flood threat is provided in Appendix A of this Plan.

1.3 Purpose and Scope of this Flood Emergency Management Plan

The purpose of this MFEP is to document agreed planning, preparedness/prevention, response and recovery arrangements for flood events within the Rural City of Wangaratta.

The scope of the Plan is to:

- Identify the Flood Risk to Rural City of Wangaratta;
- Support the implementation of measures to minimise the causes and impacts of flood incidents within the Rural City of Wangaratta;
- Document Preparedness, Prevention, Response and Recovery arrangements; including Incident Management and Command & Control.
- Identify linkages with Local, Regional and State emergency planning arrangements with specific emphasis on those relevant to flood.

1.4 Municipal Flood Planning Committee (MFPC)

Membership of the Rural City of Wangaratta Flood Planning Committee (MFPC) will comprise of the following representatives from the following agencies and organisations:

- VICSES (Regional Officer – Emergency Management) (Chair)
- Rural City of Wangaratta,
- VICSES Wangaratta Unit
- Victoria Police (MERC)
- Department of Human Services
- CFA (District 23)
- North East Catchment Management Authority,

1.5 Responsibility for Planning, Review & Maintenance of this Plan

This Municipal Flood Emergency Plan must be maintained in order to remain effective.

VICSES, through the Flood Planning Committee, has responsibility for preparing, reviewing, maintaining and distributing this plan. The MFPC will meet at least once per year. The plan should also be reviewed and, where necessary, amended as a result of:

- any new flood study in the Municipal area;
- changes in flood mitigation measures (structural or non-structural);
- a significant flood event in the Municipality

1.6 Endorsement of the Plan

The draft MFEP will be circulated to MFPC for review, amendment and acceptance.

The MFPC will present an accepted plan to the VICSES Hume Regional Manager for review, comment and acceptance. Once accepted by the VICSES Regional Manager, the plan is submitted to the MEMPC for endorsement with the recommendation to include the MFEP as a sub-plan of the MEMPlan.

Part 2. PREVENTION / PREPAREDNESS ARRANGEMENTS

2.1 Community Awareness for all Types of Flooding

Upon formal adoption by Rural City of Wangaratta the MFEP, minus contact details will be released to the community through local media; VICSES and Municipal websites and referenced during future FloodSafe and/or FloodSmart programs.

VICSES, with the support of Rural City of Wangaratta and NECMA, will continue to coordinate community education programs for flooding within the council area.

A FloodSmart Community Education/Communication Plan has been developed. This is available on the RCoW website.

http://www.wangaratta.vic.gov.au/living/emergency/floods/images/Flood-Action-Guide-010910.pdf

2.2 Structural Flood Mitigation Measures

The following summary of structural flood mitigation measures exist within the Council area:

It should be noted that additional discussion and consensus is required between RCoW and DEPI on the ownership and maintenance responsibilities for structures listed in the above table under "Public Levees"

*Owner is correct as at date of publication (May 2014) and may need verification with Council records.

Flood Mitigation Type	Description	Owner*	Maintenance Responsibility	Protection Level
PUBLIC LEVEES				
Wilson Road Levee	2.17km Earth Levee		RCoW	
Parfitt Road Levee	3.46km Combination of Earthen, Road and Concrete Wall		RCoW	
Sunset Drive Levee	Combined Earthen and Concrete Wall		RCoW	
Merriwa Park Levee	Earth Levee		RCoW	
Diversion Channel	Diversion Channel 2.8km from the One Mile Creek to the Ovens Rivers alongside the south-eastern side of the Hume Freeway		RCoW	
Markwood Levee	Older earthen levee over various sections along Ovens River from Henley Ridge to Pioneer Bridge. Tea Garden Creek off take in here somewhere.		Query - NECMA	**Concern about impact of diverting river flow near Pioneer Bridge**.
Fishers Levee	Old unmaintained levee on Ovens River at end of Fisher Lane, East Wangaratta.			

Flood Mitigation Type	Description	Owner*	Maintenance Responsibility	Protection Level
PRIVATE LEVEES FOR PROPERTY PROTECTION				
95 Wilson Road, Wangaratta	Earthen Levee built under Flood Mitigation Scheme. Drop in boards for gate.	Property owner	Property	Query 1:100 plus freeboard
"Glenloth" – Oxley Flats Road	Check Council files	Property owner	Property owner	
170 Wilson Road, Wangaratta	Portable inflatable levee provided by Flood mitigation scheme. Levee stored at property in trailer	Property owner	Property owner	
Taylors Lane	Check Council files. Drop in boards at edge of house. Done under Flood Mitigation Scheme. Believe flagged in local SES flood SOP.	Property owner	Property owner	
132 Stamps Lane	Concrete block wall. Drop in gates. Done under Flood Mitigation scheme. See earlier Council file	Property owner	Property owner	
Ambrosio? house – Burrows Street, Wangaratta	Query earthen wall and drop in gates. Done under Flood Mitigation Scheme. See Council files	Property Owner	Property Owner	
Former Wellington house corner Burrows St and Wangaratta Main Road.	Earthen wall, access over wall. Done under Flood Mitigation Scheme. See Council files.	Property Owner	Property Owner	
Alan Gibb House – 1100 Carboor Everton Road, Bobinawarrah.	Privately constructed earthen levee to protect house which was inundated in 1993 from Hurdle Creek.	Property Owner	Property Owner	
Private levees for grazing protection				
Frank Griffiths – Griffiths Lane, Laceby	Privately constructed earthen levee in excess of 20 years old. Diverts 15 Mile Creek water. May affect adjoining property	Property Owner	Property Owner	
Geoff Cheshire – O'Keefe Road, Boorhaman	Privately constructed earthen levee on Ovens River.	Property Owner	Property Owner	

Refer to Appendix C for detailed information of structural flood mitigation measures.

2.3 Non-structural Flood Mitigation Measures

2.3.1 Exercising the Plan

Arrangements for exercising this Plan will be at the discretion of the MEMPC. This Plan should be regularly exercised, preferably on an annual basis. Refer to section 4.7 of the EMMV for guidance.

2.3.2 Flood Warning

Arrangements for flood warning are contained within the State Flood Emergency Plan and the EMMV (Part 3.7) and on the BoM website.

Specific details of local flood warning system arrangements are provided in Appendix E.

2.3.3 Flood Observers

The VICSES Local Knowledge Policy outlines the strategies and principles for ensuring the incorporation of local knowledge in decision making before, during and after incidents.

Specific details of arrangements to capture local knowledge are provided in Appendix G. At the time of publication (May 2014) formal local knowledge arrangements are not yet in place with individual SES Units.

http://www.ses.vic.gov.au/prepare/em-planning/local-knowledge

Part 3. RESPONSE ARRANGEMENTS

3.1 Introduction

3.1.1 Activation of Response

Flood response arrangements may be activated by the VICSES Hume Regional Duty Officer (RDO) or Incident Controller.

The Incident Controller/RDO will activate agencies as required and documented in the State Flood Emergency Management Plan.

3.1.2 Responsibilities

There are a number of agencies with specific roles that will act in support of VICSES and the community in the event of a serious flood within the Rural City of Wangaratta. These agencies will be engaged through the EMT.

The general roles and responsibilities of supporting agencies are as agreed within the Rural City of Wangaratta MEMP, EMMV (Part 7 'Emergency Management Agency Roles'), State Flood Emergency Plan and Regional Flood Emergency Plan.

3.1.3 Municipal Emergency Coordination Centre (MECC)

Liaison with the MECC will be through the established Division/Sector Command and through Municipal involvement in the Incident EMT, in particular the Municipal Emergency Response Coordinator (MERC). The VICSES RDO / ICC will liaise with the MECC directly if no Division/Sector Command is established.

The function, location, establishment and operation of the MECC will be as per the Rural City of Wangaratta MEMP.

3.1.4 Escalation

Most flood incidents are of local concern and an appropriate response can usually be coordinated using local resources. However, when these resources are exhausted, the State's arrangements

provide for further resources to be made available, firstly from neighbouring Municipalities (on a regional basis) and then on a State-wide basis.

Resourcing and event escalation arrangements are described in the EMMV ('State Emergency Response Plan' – section 3.5).

3.2 Strategic Control Priorities

To provide guidance to the Incident Management Team (IMT), the following strategic control priorities shall form the basis of incident action planning processes:

1. Protection and preservation of life is paramount - this includes:

   a. Safety of emergency services personnel, and;

   b. Safety of community members including vulnerable community members and visitors/tourist located within the incident area.

2. Issuing of community information and community warnings detailing incident information that is timely, relevant and tailored to assist community members make informed decisions about their safety.;

3. Protection of critical infrastructure and community assets that supports community resilience;

4. Protection of residential property as a place of primary residence;

5. Protection of assets supporting individual livelihoods and economic production that supports individual and community financial sustainability

6. Protection of environmental and conservation values that considers the cultural, biodiversity, and social values of the environment;

Circumstances may arise where the Incident Controller is required to vary these priorities, with the exception being that the protection of life should remain the highest. This shall be done in consultation with the State Controller and relevant stakeholders based on sound incident predictions and risk assessments.

3.3 Command, Control & Coordination

The Command, Control and Coordination arrangements in this Municipal Flood Emergency Plan must be consistent with those detailed in State and Regional Flood Emergency Plans. For further information, refer to sections 3.4, 3.5 & 3.6 of the EMMV.

The specific details of the Command, Control and Coordination arrangements for this plan are to be provided in Appendix C.

3.3.1 Control

Functions 5(a) and 5(c) at Part 2 of *the Victoria State Emergency Service Act 1986 (as amended)* detail the authority for VICSES to plan for and respond to flood.

Part 7.1 of the EMMV prepared under the *Emergency Management Act 1986 (as amended)*, identifies VICSES as the Control Agency for flood. It identifies DSE (now DEPI) as the Control Agency responsible for "*dam safety, water and sewerage asset related incidents*" and other emergencies

All flood response activities within the Rural City of Wangaratta including those arising from a dam failure or retarding basin / levee bank failure incident will therefore be under the control of the appointed Incident Controller, or his / her delegated representative.

3.3.2 Incident Controller (IC)

An Incident Controller (IC) will be appointed by VICSES to establish command and control of resources in response to a flood event on the advice of the Bureau of Meteorology (or other reliable source) that a flood event will occur or is occurring. The Incident Controller's responsibilities are defined in Part 3.5 of the EMMV

3.3.3 Incident Control Centre (ICC)

As required, the Incident Controller will establish an Incident Control Centre (ICC) from which to initiate incident response command and control functions. The decision to activate the ICC rests with the Control Agency (i.e. VICSES).

Incident Control Centre locations are:

- CFA District 23 Headquarters 1 Ely Street, Wangaratta
- VICSES Hume Regional Office 64 Sydney Road, Benalla

3.3.4 Divisions and Sectors

To ensure that effective Command and Control is in place, the Incident Controller may establish Divisions and Sectors to facilitate operational response within the Municipality. VICSES Hume Region Flood Response Plan provides a list of designated DCPs and SCPs.

VICSES Field Operations Vehicles (FOVs) are also available for deployment where appropriate.

3.3.5 Incident Management Team (IMT)

The Incident Controller will form an Incident Management Team in accordance with Agency Command & Control arrangements.

.Emergency Management Team (EMT)

The Incident Controller will establish a multi-agency Emergency Management Team to assist the flood response. The EMT will consist of key personnel (with appropriate authority) from stakeholder agencies and relevant organisations who need to be informed of strategic issues related to incident control. They will provide high level strategic guidance and policy advice to the Incident Controller for consideration in developing incident management strategies.

Organisations, including Rural City of Wangaratta, required within the EMT will provide an Emergency Management Liaison Officer (EMLO) to the ICC when required as well as other staff and / or resources identified as being necessary, within the capacity of the organisation.

Refer to 3.5 of the EMMV for guidance on EMTs.

3.3.6 On Receipt of a Flood Watch / Severe Weather Warning

Incident Controller or VICSES RDO (until an incident controller is appointed) will undertake actions as defined within the flood intelligence cards (Appendix C). General considerations by the Incident Controller/VICSES RDO will be as follows:

- Review flood intelligence to assess likely flood consequences

- Monitor weather and flood information – www.bom.gov.au
- Assess Command and Control requirements.
- Review local resources and consider needs for further resources regarding personnel, property protection, flood rescue and air support
- Notify and brief appropriate officers. This includes Regional Control Centre (RCC) (if established), State Control Centre (SCC) (if established), Council, other emergency services through the EMT.
- Assess ICC readiness (including staffing of IMT and EMT) and open if required
- Ensure flood bulletins and community information are prepared and issued to the community
- Monitor watercourses and undertake reconnaissance of low-lying areas
- Develop media and community information management strategy
- Ensure flood mitigation works are being checked by owners
- Develop and issue incident action plan, if required
- Develop and issue situation report, if required

3.3.7 On Receipt of the First and Subsequent Flood Warnings

Incident Controller/VICSES RDO (until an incident controller is appointed) will undertake actions as defined within the flood intelligence cards (Appendix C). General considerations by the Incident Controller/VICSES RDO will be as follows:

- Develop an appreciation of current flood levels and predicted levels. Are floodwaters, rising, peaking or falling?
- Review flood intelligence to assess likely flood consequences. Consider:
    - What areas may be at risk of inundation
    - What areas may be at risk of isolation
    - What areas may be at risk of indirect affects as a consequence of power, gas, water, telephone, sewerage, health, transport or emergency service infrastructure interruption
    - The characteristics of the populations at risk
- Determine what the at-risk community need to know and do as the flood develops.
- Warn the at-risk community including ensuring that an appropriate warning and community information strategy is implemented including details of:
    - The current flood situation
    - Flood predictions
    - What the consequences of predicted levels may be
    - Public safety advice
    - Who to contact for further information
    - Who to contact for emergency assistance
- Liaise with relevant asset owners as appropriate (i.e. water and power utilities)
- Implement response strategies as required based upon flood consequence assessment.
- Continue to monitor the flood situation – www.bom.gov.au/vic/flood/

- Continue to conduct reconnaissance of low-lying areas

3.4 Community Information and Warnings

Guidelines for the distribution of community information and warnings are contained in the State Flood Emergency Plan.

Community information and warnings communication methods available include:

- Emergency Alert;
- Phone messages (including SMS);
- Radio and Television;
- Two-way radio;
- Mobile and fixed public address systems;
- Sirens;
- Verbal Messages (i.e. Doorknocking);
- Agency Websites;
- VICSES Flood Storm Information Line;
- Variable Message Signs (i.e. road signs);
- Community meetings;
- Newspapers;
- Email;
- Telephone trees;
- Community Flood Wardens;
- Fax Stream;
- Newsletters;
- Letter drops;
- Social media and/or social networking sites (i.e. Twitter and/or Facebook).

Refer to Appendices C and E for the specific details of how community information and warnings are to be provided.

The release of flood bulletins and information with regard to response activities at the time of a flood event is the responsibility of VICSES.

Council has the responsibility to assist VICSES to warn individuals within the community including activation of flood warning systems, where they exist. Responsibility for public information, including media briefings, rests with VICSES.

Other agencies such as CFA, DEPI and VICPOL may be requested to assist VICSES with the communication of community flood warnings.

In cases where severe flash flooding is predicted, dam failure is likely or flooding necessitating evacuation of communities is predicted, the Incident Controller may consider the use of the Emergency Alert System and Standard Emergency Warning System (SEWS).

Department of Health will coordinate information regarding public health and safety precautions.

3.5 Media Communication

The Incident Controller, through the Information Unit established at the ICC, will manage media communication. If the ICC is not established the VICSES RDO will manage media communication.

3.6 (Initial) Rapid impact assessment

An (initial) rapid impact assessment can be conducted in accordance with part 3 of the EMMV to assess and record the extent and nature of damage caused by flooding. This information may then be used to provide the basis for further needs assessment and recovery planning by DHS and recovery agencies.

3.7 Preliminary Deployments

When flooding is expected to be severe enough to cut access to towns, suburbs and/or communities the Incident Controller will consult with relevant agencies to ensure that resources are in place if required to provide emergency response. These resources might include emergency service personnel, food items and non-food items such as medical supplies, shelter, assembly areas, relief centres etc.

3.8 Response to Flash Flooding

Emergency management response to flash flooding should be consistent with the guideline for the emergency management of flash flooding contained within the State Flood Emergency Plan.

When conducting pre-event planning for flash floods the following steps should be followed, and in the order as given:

1. Determine if there are barriers to evacuation by considering warning time, safe routes, resources available and etc;

2. If evacuation is possible, then evacuation should be the adopted strategy and it must be supported by a public information capability and a rescue contingency plan;

3. Where it is likely people will become trapped by floodwaters due to limited evacuation options safety advice needs to be provided to people at risk advising them not to attempt to flee by entering floodwater if they become trapped, and that it may be safer to seek the highest point within the building and to telephone 000 if they require rescue. This advice needs to be provided even when evacuation may be possible, due the likelihood that not all community members will evacuate.

4. For buildings known to be structurally un-suitable an earlier evacuation trigger will need to be established (return to step 1 of this cycle).

5. If an earlier evacuation is not possible then specific preparations must be made to rescue occupants trapped in structurally unsuitable buildings either pre-emptively or as those people call for help.

During a flash flood it will often be difficult, due the rapid development of flooding, to establish evacuation (relief) centres ahead of actually triggering the evacuation as is normal practice but this is insufficient justification for not adopting evacuation.

Refer to Appendix C for response arrangements for flash flood events.

3.9 Evacuation

The decision to recommend or warn people to prepare for evacuation, or to evacuate immediately, rests with the Incident Controller.

Once the decision is made VicPol are responsible for the management of the evacuation process. VICSES and other agencies will assist where practical. VICSES is responsible for the development and communication of evacuation warnings.

VicPol and/or Australian Red Cross may take on the responsibility of registering people affected by a flood emergency including those who have been evacuated.

Refer to section 3.8 of the EMMV and the Evacuation Guidelines for guidance of evacuations for flood emergencies.

Refer to Appendix C of this Plan for detailed evacuation arrangements for Rural City of Wangaratta.

3.10 Flood Rescue

Appropriately trained and equipped VICSES/VicPol units or other agencies that have appropriate training, equipment and support may carry out rescues.

Rescue operations may be undertaken where voluntary evacuation is not possible, has failed or is considered too dangerous for an at-risk person or community. An assessment of available flood rescue resources (if not already done prior to the event) should be undertaken prior to the commencement of rescue operations.

Rescue is considered a high-risk strategy to both rescuers and persons requiring rescue and should not be regarded as a preferred emergency management strategy. Rescuers should always undertake a dynamic risk assessment before attempting to undertake a flood rescue.

Resources available for use for rescues to be carried out within Rural City of Wangaratta are detailed in Appendix C.

3.11 Aircraft Management

Aircraft can be used for a variety of purposes during flood operations including evacuation, resupply, reconnaissance, intelligence gathering and emergency travel.

Air support operations will be conducted under the control of the Incident Controller.

The Incident Controller may request aircraft support through the State Air Desk located at the State Control Centre will establish priorities.

- The Wangaratta Aerodrome has sealed and grass runways. Runway 18/36 is a 1.64km long sealed runway with pilot activated lights for night landing and non-directional beacon facilities. Runway 09/27 is a 530 metre grass runway which may be closed due to wet conditions.

3.12 Resupply

Communities, neighbourhoods or households can become isolated during floods as a consequence of road closures or damage to roads, bridges and causeways. Under such circumstances, the need may arise to resupply isolated communities/properties with essential items.

When predictions/intelligence indicates that communities, neighbourhoods and/or households may become isolated, VICSES will advise businesses and/or households that they should stock up on essential items.

After the impact, VICSES can support isolated communities through assisting with the transport of essential items to isolated communities and assisting with logistics functions.

Resupply operations are to be included as part of the emergency relief arrangements with VICSES working with the relief agencies to service communities that are isolated.

3.13 Essential Community Infrastructure and Property Protection

Essential Community Infrastructure and Property (e.g. residences, businesses, roads, power supply etc.) may be affected in the event of a flood.

The Rural City of Wangaratta maintains a minimum stock of 3,000 sandbags, and back-up supplies are available through the VICSES Regional Headquarters. The Incident Controller will determine the priorities related the use of sandbags, which will be consistent with the strategic priorities.

If VICSES sandbags are becoming limited in supply, then priority will be given to protection of essential community infrastructure. Other high priorities may include for example the protection of historical buildings.

Property may be protected by:

- Sandbagging to minimise entry of water into buildings
- Encouraging businesses and households to lift or move contents
- Construction of temporary levees in consultation with the CMA, LGA and VICPOL and within appropriate approval frameworks.

The Incident Controller will ensure that owners of Essential Community Infrastructure are kept advised of the flood situation. Essential Community Infrastructure providers must keep the Incident Controller informed of their status and ongoing ability to provide services.

Refer to Appendix C for further specific details of essential infrastructure requiring protection and location of sandbag collection point(s).

3.14 Disruption to Services

Disruption to services other than essential community infrastructure and property can occur in flood events. Refer to Appendix C for specific details of likely disruption to services and proposed arrangements to respond to service disruptions in Rural City of Wangaratta.

3.15 Road Closures

Rural City of Wangaratta and VicRoads will carry out their formal functions of road closures including observation and placement of warning signs, road blocks etc. to designated local and regional roads, bridges, walking and bike trails. Rural City of Wangaratta staff may also liaise with and advise VicRoads as to the need or advisability of erecting warning signs and / or of closing roads and bridges under its jurisdiction. VicRoads are responsible for designated main roads and highways and Councils are responsible for the designated local and regional road network.

VICROADS and Rural City of Wangaratta will communicate community information regarding road closures.

3.16 Dam Failure

DEPI is the Control Agency for dam safety incidents (e.g. breach, failure or potential breach / failure of a dam), however VICSES is the Control Agency for any flooding that may result.

Major dams with potential to cause structural and community damage within the Municipality are contained in Appendix A.

3.17 Waste Water related Public Health Issues and Critical Sewerage Assets

Inundation of critical sewerage assets including septic tanks and sewerage pump stations may result in water quality problems within the Municipality. Where this is likely to occur or has occurred the responsible agency for the critical sewerage asset should undertake the following:

- Advise VICSES of the security of critical sewerage assets to assist preparedness and response activities in the event of flood;
- Maintain or improve the security of critical sewerage assets;
- Check and correct where possible the operation of critical sewerage assets in times of flood;
- Advise the ICC in the event of inundation of critical sewerage assets.

It is the responsibility of the Rural City of Wangaratta Environmental Health Officer to inspect and report to the MERO and the ICC on any water quality issues relating to flooding.

3.18 After Action Review

VICSES will coordinate the after action review arrangements of flood operations as soon as practical following an event.

All agencies involved in the flood incident should be represented at the after action review.

Part 4. EMERGENCY RELIEF AND RECOVERY ARRANGEMENTS

4.1 General

Arrangements for recovery from a flood incident within the Rural City of Wangaratta are detailed in the Rural City of Wangaratta MEMP and the Rural City of Wangaratta Recovery Sub-plan.

4.2 Emergency Relief

The decision to recommend the opening of an emergency relief centre rests with the Incident Controller. Incident Controllers are responsible for ensuring that relief arrangements have been considered and implemented where required under the State Emergency Relief and Recovery Plan (Part 4 of the EMMV).

The range and type of emergency relief services to be provided in response to a flood event will be dependent upon the size, impact, and scale of the flood. Refer to 4.4 of the EMMV for details of the range of emergency relief services that may be provided.

Suitable relief facilities identified for use during floods are detailed in Appendix C and/or the MEMP.

Details of the relief arrangements are available in the MEMPlan.

4.3 Animal Welfare

Matters relating to the welfare of livestock, companion animals and wildlife (including feeding and rescue) are to be referred to DEPI.

Requests for emergency supply and/or delivery of fodder to stranded livestock or for livestock rescue are passed to DEPI.

Matters relating to the welfare of wildlife are to be referred to DEPI.

Refer to Appendix C for animal shelter compound locations.

4.4 Transition from Response to Recovery

VICSES, as the Control Agency, is responsible for ensuring effective transition from response to recovery. This transition will be conducted in accordance with existing arrangements as detailed in Part 3 Section 3.10 of the EMMV.

APPENDIX A

FLOOD THREATS FOR RURAL CITY of WANGARATTA

This Appendix provides a broad overview of flood risk within the Municipality. Detailed flood risk information for individual communities is provided in Appendix C for:

- C1 – River systems overview
- C2 – Ovens River at Whorouly
- C3 – King River from Moyhu to Cheshunt
- C4 – Ovens & King Rivers – One Mile & Three Mile Creeks, Wangaratta Urban area

General

The Wangaratta rural environs is a complex flood plain with the Ovens, King and 15 Mile Creek systems flowing through the Municipality joining in the Wangaratta urban area and continuing on as the Ovens River to join the Murray River at Bundalong. The upper catchment of the King River and 15 Mile Creek is prone to flash flooding events with rapid stream rises closing roads and isolating communities.

OVENS RIVER, KING RIVER & FIFTEEN MILE CREEK

The Ovens River Basin covers an area of 7,985 km^2 (Source. G-MW). The area extends from the Murray River in the north, to the Great Dividing Range in the south and is bordered by the Broken River Basin in the west and the Kiewa River Basin in the east. The topography of the Basin is diverse ranging from riverine plains near the Murray River and broad alluvial valleys around Myrtleford, to rugged alpine peaks and plateaux around the Great Dividing Range.

The Ovens River flows in a north-westerly direction from the high country near Mt Feathertop and Mt Hotham. The Ovens River and its upstream tributaries - the Buckland, Catherine, Dandongadale, Buffalo and Rose rivers - have their headwaters in the Great Dividing Range, in the section extending between Mt Cobbler and Mt Hotham. . In the south-west corner of the Basin, the Ovens River passes through the townships of Harrietville, Bright, Porepunkah and Myrtleford to Wangaratta, then north-west to the Murray River.

The largest tributary, the King River, is situated south-west of the Ovens River and has its headwaters on the Great Divide near Mt Howitt. The Ovens and the King Rivers meet on the riverine plain at Wangaratta. The main storages in the basin are Lake Buffalo on the Buffalo River and Lake William Hovell on the King River.

In the central portion of the Basin, wide valleys have developed along the Ovens and King Rivers, below Wangaratta. The Ovens River takes in the water of Reedy and Fifteen Mile Creeks and meanders northward across the riverine flood plain to flow into Lake Mulwala on the Murray River

FLOOD HISTORY

Description of Major Waterways and Drains

OVENS RIVER

The Ovens River catchment is steep topography down to Rocky Point at Whorouly East. The two main tributaries are the Buckland River and the Buffalo River. Both tributaries have steep topography to their confluence with the Ovens. This all occurs in the Alpine Shire and explains the often rapid and severe flooding that occurs in that municipality in a major event, compared to the slower but more widespread flooding that affects the gradually flatter and wider floodplain between Rocky Point and Wangaratta. The steep topography in the Alpine Shire causes a rapid stream flow that minimises the ability to provide early flood warnings for that municipality based on stream flows.

From Rocky Point to Wangaratta the Ovens floodplain follows a historically defined course several kilometres wide taking in the Whorouly, Markwood, Tarrawingee and Oxley Flats areas. This is contained initially within high country at Henley Ridge and the Everton/Murmungee divide and further west between high ground around Milawa and high ground north of the Great Alpine Road. The Tea Garden Creek defines the southern boundary of much of this flood plain from Everton to Oxley Flats and smaller catchments such as Horseshoe Creek cut through the high ground south and west of Milawa. Hodgsons Creek rises in the gold country south west of Beechworth and runs westerly through Black Springs and Everton Upper to Tarrawingee where it joins the Ovens River. Reedy Creek rises in the high country around Woorragee and runs westerly through Woolshed and Eldorado and crosses the Hume Freeway north of Wangaratta from where it defines the northern edge of the Ovens River floodplain down to Boorhaman.

The combination of King River and Ovens River waters during flood times has a profound effect on properties east and north of Wangaratta on the floodplain near the confluence of the two rivers. This resulted in the construction of two major flood levees, the Parfitt Road Levee and the Wilson Road Levee in the early 1980's as part of the Wangaratta Flood Mitigation Scheme. The Wilson Road Levee was overtopped during the record October 1993 flood and has since been raised to provide increased protection for the properties within. The Parfitt Road Levee also received substantial modification along the concrete wall section behind the Wangaratta Caravan and Tourist Park, along with raising protection for several isolated dwellings outside the two levees.

KING RIVER

The King River rises near Mt Howitt on the Great Divide and flows north through Lake William Hovell and the townships of Cheshunt, Whitfield, Moyhu and Oxley to form a confluence with the Ovens River at Wangaratta. The upper King River catchment is steep topography down to Moyhu and has a very rapid stream flow that minimises the ability to provide an early flood warning for that area based on stream flows.

Historically, severe flooding has occurred in 1851, 1870, 1917, 1974, 1981, 1993, 1998 and 2010. The 1917 event became a tragedy when six people lost their lives on 8th June after a dray overturned near the junction with the Ovens River in Wangaratta. The October 1993 flood caused record flows and severe damage along the mid and lower catchments of the King River and its main tributaries including the Black Range Creek, Hurdle Creek and Boggy Creek.

In September 1998, intense rainfall was experienced in the upper catchments of the Ovens, King and Kiewa Rivers. The King River catchment responded with record flows being measured in the upper catchment. In Cheshunt, flood levels were 300 mm above the October 1993 levels, however north of Docker Road flood levels for this event were below the levels experienced in October 1993. It is believed the relatively dry catchment prior to the 1998 event contributed to this anomaly. Around Cheshunt, Whitfield and Moyhu extensive rural inundation and damage occurred. Residents of the Gentle Annie Caravan Park near Whitfield were relocated. Severe damage occurred through gravel deposits on adjoining floodplains, particularly in the upper reaches, that required removal to ensure minimal damage to the farm land abutting the river network. Major breakaways in the river channel required emergency works at several locations and where necessary, bridge repair works and road reinstatement works were undertaken to ensure the road network continued to function.

The 1998 flood event has been recognised as having an equivalent average return interval (ARI) of approximately 35 years while the 1993 and 1974 events were equivalent to an ARI of 120 years and ARI of 70 years respectively (Source: NECMA). Since then floods have occurred in September and December of 2010 and as recently as March 2012. The major flood of early September 2010 again caused considerable rural damage with severe bank erosion and the need to undertake costly modifications to the approach abutments at the Gentle Annie bridge near Whitfield. A comprehensive flood mapping study of the King River tributaries was undertaken by the North East Catchment Management Authority and Rural City of Wangaratta with the final report released in December 2004 - (Reference: 25.7 King River Tributaries Flood Mapping Study.pdf)

FIFTEEN MILE CREEK (ONE MILE CREEK AND THREE MILE CREEK)

The Fifteen Mile Creek rises near Wattle Range Road a few kilometers east of Tolmie and flows north through Greta South to Wangaratta. The upper Fifteen Mile Creek catchment is steep topography down to Greta South and has a very rapid stream flow that once again minimises the ability to provide early flood warning based on stream flows in this area. Near Greta West the Fifteen Mile Creek divides into the One Mile Creek system and the Three Mile Creek system.

The One Mile Creek is further divided into two components, the main one being a theoretically throttled flow into the Wangaratta urban area with excess being conveyed by the diversion channel beside the Hume Freeway and into the King River. The Three Mile Creek is an uncontrolled stream that skirts the west side of Wangaratta where it rejoins with One Mile Creek near Yarrawonga Road, and then flows into the Ovens River several kilometers downstream of the city. Most of the urban area flooding that occurs in Wangaratta is along these two streams.

The May 1974 flood caused above floor flooding of houses along the One Mile Creek between Cribbes Road and Yarrawonga Road, and houses were flooded along Three Mile Creek. It should be noted that flooding of this magnitude is unlikely in the future due to structural mitigation works undertaken since this event. In the period between then and the October 1993 flood, substantial residential development had occurred along the Three Mile Creek and this, combined with completed construction of the Freeway Diversion Channel just prior to the 1993 event, resulted in a reduction of houses flooded along the One Mile Creek compared to the Three Mile Creek. The Diversion Channel was estimated to have diverted some 60% of the water that would normally have flowed down the One Mile Creek, into the King River. This resulted in lower levels in the One Mile Creek down to about Rowan Street where the backup effect of water in the Three Mile Creek started to increase flood levels. In 1993 houses were flooded above floor level on the One Mile Creek and houses similarly affected on the Three Mile Creek. Lowering of the sill into the Diversion channel has been undertaken

to allow floodwater to divert much earlier in an event and now provides further protection for residential properties along the One Mile Creek. A comprehensive study of flooding in the Fifteen Mile Creek catchment was undertaken by the North East Catchment Management Authority with the final report released in July 2006 - (Reference: 14.51 Fifteen Mile Creek Floodplain Management Plan.pdf)

NON RIVERINE FLOODING

Localised flooding does occur on a frequent basis, and appears to be an increasing phenomenon, such as experienced in the 2010 flood event, north of Wangaratta in an area roughly bounded by Boralma, Bowser and Boorhaman. The catchment for this area is in the Springhurst hills east of the Hume Freeway and whilst there is no major stream in the area the innumerable smaller valleys and relatively cleared country generate considerable runoff. Once west of the Melbourne - Sydney Railway the extremely flat riverine plains slow the progression of runoff causing a number of small drains and depressions to rapidly fill causing overland floodwater to encroach onto properties and houses that very rarely see flooding. The 2010 and 2012 events saw similar localised flooding from the eastern flank of the Warby Ranges, which impacted on the rapidly developing semi-rural properties as far south as Hamilton Park near Glenrowan, to the more intensely developed areas near Waldara. It is only since this development has occurred and storm-water runoff has been concentrated into defined drainage systems that the potential for flooding of adjacent properties has become apparent.

Although Flood Mitigation schemes have been developed, it is acknowledged works in place prior to 1993 were not entirely adequate. Further measures have been taken but cannot be assumed to be a complete answer.

Dam Failure

Flooding resulting from failure of the following dams is likely to cause significant structural and community damage within the Rural City of Wangaratta.

The following supporting documentation is available through Goulburn Murray Water Dam Safety Manager :

- Lake Buffalo Dam Safety Emergency Plan Document DM3374318 – April 2012*
- Lake William Hovell Dam Safety Emergency Plan Document DM3304269 – May 2012*

Emergency contact details are available in the RCoW MEMP.

*these documents are only released by Goulburn Murray Water in hard copy and are tightly controlled. A hard copy of each plan is available at the VICSES Hume Regional Office in Benalla

Location	Owner	Dam Height	Dam Capacity	Comments
Lake Buffalo	Goulburn-Murray Water	33 metres (Embankment)	24,000Ml	
Lake William Hovell	Goulburn-Murray Water	35 metres (Embankment)	13,720Ml	

APPENDIX B - TYPICAL FLOOD PEAK TRAVEL TIMES

Ovens River Catchment

Location From	Location To	Distance	Typical Travel Time	Comments
Alpine Shire Council				
Bright	Myrtleford	31km	Around 8:15 hours	Major flooding (Ovens River Catchment Floods October 1993 vol 3)
Harris Lane	Myrtleford	29km	Around 8:15 hours	Major flooding (Ovens River Catchment Floods October 1993 vol 3)
Myrtleford	Rocky Point	6km	Around 1:13 hours	Major flooding (Ovens River Catchment Floods October 1993 vol 3)
Lake Buffalo	Rocky Point	25km	Around 6:30 hours	Major flooding (Ovens River Catchment Floods October 1993 vol 3)
Rural City of Wangaratta				
Rocky Point	Wangaratta	42km	Around 12:45 hours	Major flooding (Ovens River Catchment Floods October 1993 vol 3)
Wangaratta	Peechelba E	33km	Around 12:30 hours	Major flooding (Ovens River Catchment Floods October 1993 vol 3)
Moira Shire Council				
Peechelba E	Yarrawonga	42km	Around 15:00 hours	Major flooding (Ovens River Catchment Floods October 1993 vol 3)
Wangaratta	Yarrawonga	75km	Around 27:30 hours	Major flooding (Ovens River Catchment Floods October 1993 vol 3)
Bright	Yarrawonga	155km	Around 50:00 hours	Major flooding (Ovens River Catchment Floods October 1993 vol 3)

King River Catchment

Location From	Location To	Distance	Typical Travel Time	Comments
Lake William Hovell	Cheshunt		Around2-3 hours	Major flooding
Cheshunt	Edi		Around 1-2 hours	Major flooding
Edi	Docker Rd Bridge	17km	Around 4 hours	Major flooding (Ovens River Catchment Floods October 1993 vol 3)
Docker Rd Bridge	Wangaratta	22km	Around 9 hours	Major flooding (Ovens River Catchment Floods October 1993 vol 3)

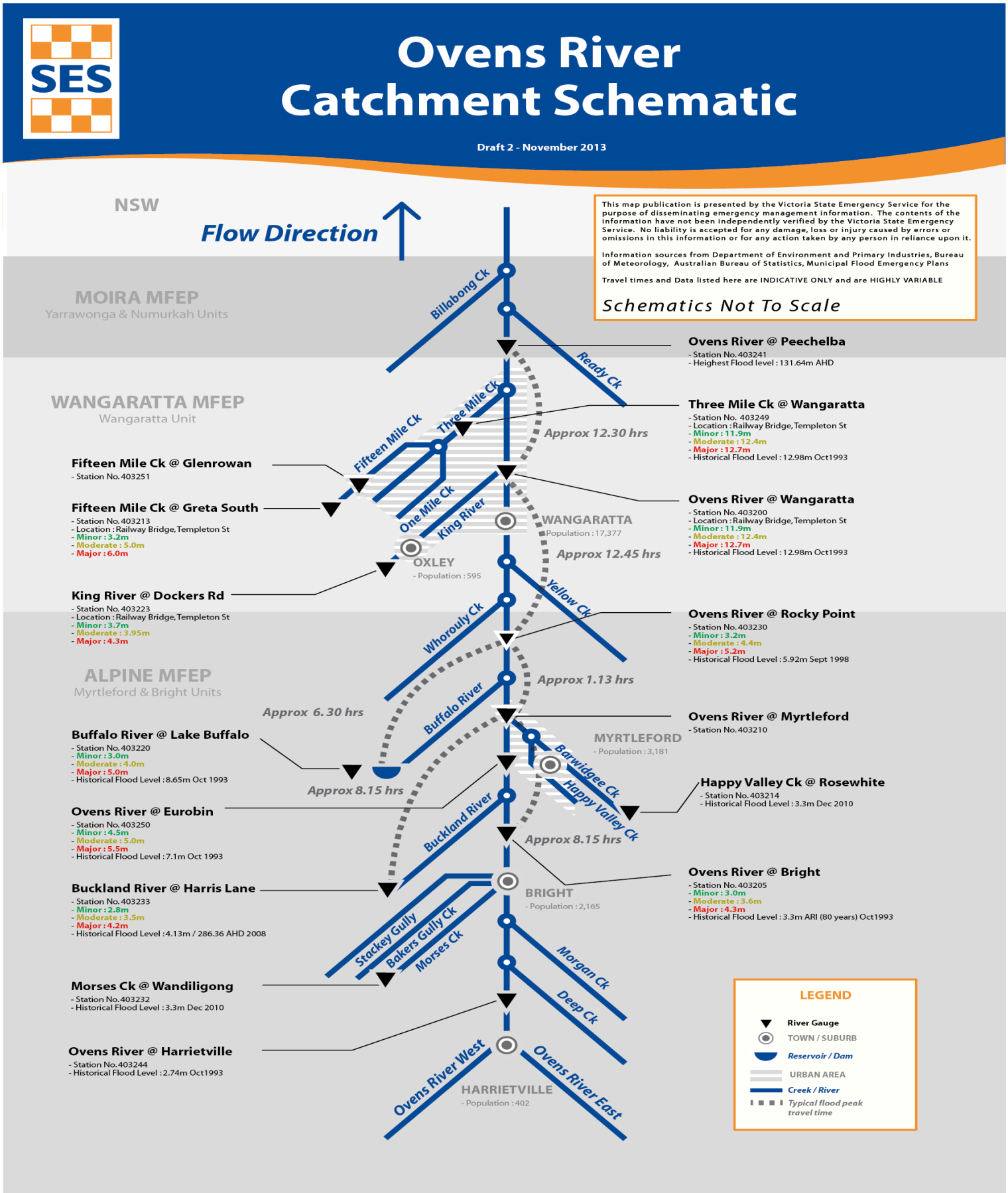
15 Mile Creek Catchment (One and Three Mile Creeks at Wangaratta)

Location From	Location To	Distance	Typical Travel Time	Comments
Greta South	Cribbes Rd	30km	Around 20:15 hours	Major flooding (Ovens River Catchment Floods October 1993 vol 3) Note: the speed calculated for the 15 Mile Creek between Greta South and Cribbes Road is inconsistent with other speed in the catchment, and if correct would imply a very substantial storage effect in the flood plain downstream of Greta South

APPENDIX C1 – River Systems overview

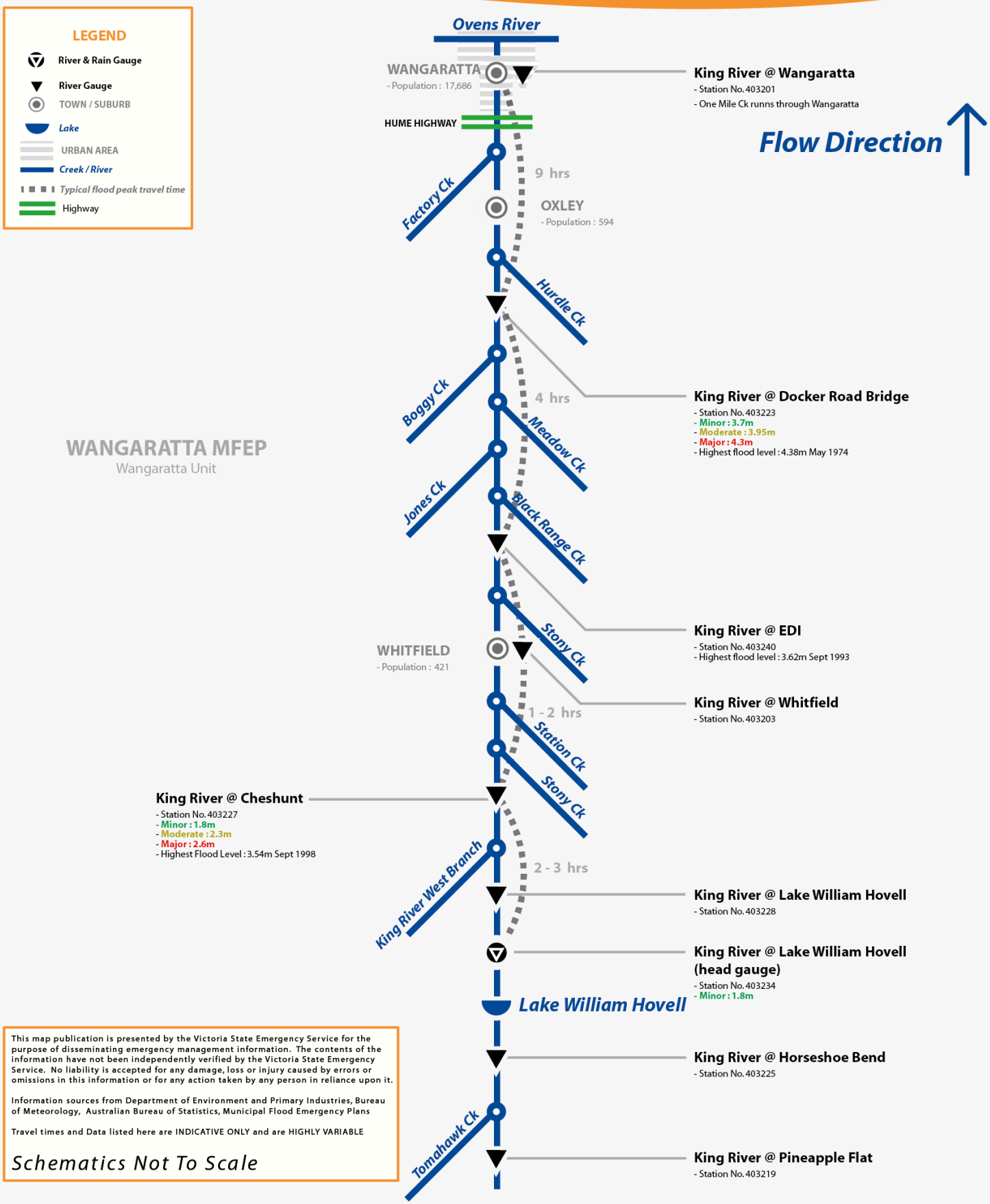
The following river systems schematics are available in A4 & A3 sizes on the State Control Centre R Drive.

R:\50-SCC\18-Flood-Analysts\Reference\Flood Mapping\Catchment\MFEP - Catchment Schematics



King River Schematic

Draft 1 - January 2014



Information sources from Department of Environment and Primary Industries, Bureau of Meteorology, Australian Bureau of Statistics, Municipal Flood Emergency Plans

Travel times and Data listed here are INDICATIVE ONLY and are HIGHLY VARIABLE

Schematics Not To Scale

Overview of Flooding Consequences

Table showing towns and localities that will experience property isolation & inundation

Ovens River	**Towns / Localities**	**Properties Isolated**	**Properties Inundated**	**Farmland / Roads Inundated**
	Whorouly East	Yes	?	Yes
	Whorouly	Yes	Yes	Yes
	Markwood / Henley Ridge	Yes	No	Yes
	Milawa	Yes	No	Yes
	Killawara	Yes	No	Yes
	Peechelba	Yes	No	Yes
King River	**Towns / Localities**	**Properties Isolated**	**Properties Inundated**	**Farmland / Roads Inundated**
	Cheshunt	Yes	Yes	Yes
	Whitfield	Yes	No	Yes
	Edi/Edi Upper	Yes	Yes	Yes
	Moyhu	Yes	No	Yes
	Docker	Yes	No	Yes
	Carboor / Bobinawarrah (Hurdle Creek)	Yes	No	Yes
	Oxley	Yes	No	Yes
15 Mile Creek	**Towns / Localities**	**Properties Isolated**	**Properties Inundated**	**Farmland / Roads Inundated**
	Myhree	Yes	No	Yes
	Greta South	Yes	No	Yes
	Greta	Yes	No	Yes
	Greta West	Yes	Yes	Yes
*** Overland Flooding from Springhurst Hills**	**Towns / Localities**	**Properties Isolated**	**Properties Inundated**	**Farmland / Roads Inundated**
	Boorhaman	Yes	Yes	Yes
	Bowser	Yes	Yes	Yes
	Peechelba East	Yes	Yes	Yes

Table showing caravan parks

Name	Location	Residential	Recreational	Seasonal
Painters' Island	Pinkerton Crescent, Wangaratta	Yes	Yes	No
Gentle Annie	98 Gentle Annie Lane, Whitfield	No	Yes	No
Edi Cutting	Edi Reserve, Edi	No	Yes	No
Moyhu	14 Bryne St, Moyhu	No	Yes	No
Everton	2121 Great Alpine Rd, Everton	No	Yes	No

APPENDIX C2 – Ovens River, Whorouly

Gauge Location: Ovens River at Rocky Point

Note – In Flash Flood areas without gauges, it will only be possible to provide a general description of likely flood impacts.

Gauge	River Height current (m)	River height at historic	Flow ML/D	Flow (m3/s)	AHD	ARI	Consequence / Impacts		Reference
Ovens. R at Rocky Point (use for Whorouly area) NOTE: no info on Whorouly Creek	3.2						**MINOR FLOOD LEVEL** **1981 Flooding through depression. All houses above floor level**		FIC Ovens catchment / BOM Dec 2012
	4.4						**MODERATE FLOOD LEVEL**		FIC Ovens catchment / BOM Dec 2012
	4.77						2010 Dec flood peak		
	5.2						**MAJOR FLOOD LEVEL**		FIC Ovens catchment / BOM Dec 2012
	5.72						Sept 2010 Myrtleford OK but isolated. No above floor flooding. WOR at sewerage treatment plant but road remains open. (Sewerage farm is NOT affected by even extreme flood levels, rail trail acts as support levee unless Lake Buffalo breeches)		
	5.92						1998 Sept flood peak GAR at sewerage farm will be blocked. Alternative access via the Rail Trail for emergency Service vehicles only. Affects of the Ovens and Buffalo River can impact this area		
	6.18								NECMA Limited mapping Whorouly to Wang Flood Study 2003

APPENDIX C3 – King River, Cheshunt to Moyhu

Gauge Location: King River – various gauges

Gauge	River Height current (m)	River height at historic	Flow ML/D	Flow (m3/s)	AHD	ARI	Consequence / Impacts	Reference
King River at Lake William Hovell (downstream)							**MINOR FLOOD LEVEL**	Refer Lake William Hovell Dam safety Plan. Ungated spillway.
	1.8		4000	46				
	2.42		12300	142		5		
	2.48		15000	174			Oct 1993 flood level	
	2.69		18900	219		10		
	2.91		25900	300			May 1974 flood level	
	3.04		30400	352		25		
	3.32		41900	485		50		
	3.38		46000	532			Sept 1998 flood level	
	3.65		56300	652		100		
Hurdle Creek at Bobinawarrah	3.44		11800	137		60	May 1974 Flood Level	
	3.54		12800	148		100	Oct 1993 Flood Level 6 properties flooded above floor level Carboor-Everton Rd Hurdle Creek, Black Range Creek area resident names were : (Jennings, Ludeman, Mitchell, Hedderman) between Mahers Lane and Murphys Lane. 2 properties on Carboor-Everton Rd most vulnerable: Gibb (at Bridge and Box)	**Whorouly-Wangaratta Flood Study 2003**

Gauge	River Height current (m)	River height at historic	Flow ML/D	Flow (m3/s)	AHD	ARI	Consequence / Impacts	Reference
King R. at Cheshunt	1.8						Dry Creek commences to flow over farmland from Queens Creek to King River. At Gentle Annie Caravan Park, King river approaching top of bank (Caravan Park on alert).	FIC King Catchment
	1.8						**MINOR FLOOD LEVEL**	BOM Dec 2012
	1.8						Whitfield-Wangaratta Rd. at Edi commences flooding	FIC King Catchment
	2						At Cheshunt, King River at top of bank. King Valley roadside flooding commences at Cheshunt. Low lying farmland (Cheshunt-Edi) commences flooding. Local roadside flooding along King Valley Rd.	FIC King Catchment
	2.3						Johnsons Bridge on Lake Buffalo-Whitfield Road (Black Range Creek) close to inundation. Land inundated at confluence of Black Range Creek & King River	FIC King Catchment
	2.3						**MODERATE FLOOD LEVEL**	BOM Dec 2012
	2.6						Large areas of farmland flooding along the King River. King River causeway at Cheshunt commences flooding. Edi Cutting camping ground inundated. Edi-Cheshunt Road inundated. Fosangs Lane residential land flooding. King Valley Road closed between Whitfield and Cheshunt. King River over bank at Gentle Annie Caravan Park (commence evacuation). Upper King River Road between Cheshunt & Lake William Hovell inundated (south of Hamiltons Bridge). At Cheshunt Causeway, abutting farm land commences flooding either side	King Rural Floodplain Study

Gauge	River Height current (m)	River height at historic	Flow ML/D	Flow (m3/s)	AHD	ARI	Consequence / Impacts	Reference
King R. at Cheshunt (cont)	2.6						**MAJOR FLOOD LEVEL**	BOM Dec 2012
	2.7						2 Properties at 430 King Valley Rd in Cheshunt commence flooding. Residential properties in Cheshunt Township evacuated. Wangaratta-Whitfield Road closed at several locations eg. at Edi Cutting.	King Rural Floodplain Study
	2.9						Upper King Road closed between Lake William Hovell and Cheshunt (South of Hamiltons bridge) Jessies Creek commences flooding near Mountain Hotel, Whitfield. Gentle Annie Caravan Park evacuation. Gentle Annie Lane inundated and closed. Satori road closed. King Valley Road closed at Cheshunt Causeway between Whitfield and Cheshunt. Edi-Cheshunt Road closed	King Rural Floodplain Study
	3.54					83	1998 Flood Peak (Sept) Large areas of farm land along King River flooded	King Rural Floodplain Study
						7	1993 flood level	
						100	in a 1% flood Upper Ovens Study indicates 50 + properties affected by flooding in King Valley	King Rural Floodplain Study

APPENDIX C4 – Ovens & King Rivers, One & Three Mile Creeks – Wangaratta Urban Area

Overview of Flooding Consequences

Provide a general overview of flooding consequence.

- The urban area of Wangaratta lies at the confluence of the Ovens and King River and the 15 Mile Creek Catchments (One and Three Mile Creeks). Wangaratta's predominant flood risk comes from the One and Three Mile creek systems. Protection measures on this system are a levee at Sunset Drive. Many of the properties in the Ovens and King Floodway are encircled by two levee systems being the Parfitt and Wilson Rd Levees. Some properties to the east of the Wilson Rd Levee along the Oxley Flats Road are protected by private levees. Properties to north of Wangaratta in the Stamps Lane and Burrows Lane area are also protected by private levees.
- Painters Island Caravan Park is impacted from the Ovens River System at 12.15m and is situated between the Ovens River and the Parfitt Rd Levee System.
- Wangaratta Caravan and Tourist Park is protected by the Parfitt Rd Levee System.
- 200 properties at risk predominately on the One and Three Mile Creek systems

North Wangaratta – 21 Properties (Moderate to Major)	
Stamps Lane	8 Properties
Burrows Street	3 Properties
Dale Street	1 Property
Willis Street	1 Property
Pinkerton Crescent	6 Properties
Nicholls Street	1 Property
Hoban Street	1 Property
East Wangaratta – 16 Properties (Moderate to Major)	
Great Alpine Road	4 Properties
Oxley Flats Road (To Hume Freeway)	4 Properties
Thomas Street	1 Property
Weir Street	1 Property
Taylors Lane	5 Properties
Vernon Rd	1 Property

During major flooding the urban area of Wangaratta may become isolated.

- Road Closures:

  Great Alpine Rd (moderate), Old Hume Hwy (Bowser Rd) Nth Wangaratta, Old Hume Hwy (Glenrowan Rd) South Wangaratta, Oxley Flats Rd, Yarrawonga Rd Shanley St and Williams Rd. Greta Rd had water across it in 1993 but still allowed access to the Hume Freeway.

Flood Mitigation

The Rural City of Wangaratta Flood Mitigation scheme comprises of the following;

Mitigation	Description	Protection	Comments
Wilson Road Levee System	2.17km Earth Levee	42 Residential Properties	
Parfitt Road Levee System	3.46km Combination of Earthen, Road and Concrete Wall	77 Residential Properties 28 Commercial Properties 1 Church 2 Hotel 1 Caravan Park	
Sunset Drive Levee	Combined Earthen and Concrete Wall	8 Residential Properties (Sunset Dr, Walter St & Hilandra Ave)	
Merriwa Park Levee	Earth Levee	Christopher Robin Kindergarten Tennis Club	NOT engineered to 1:100. Provides partial protection only.
Diversion Channel	Diversion Channel 2.8km from the One Mile Creek to the Ovens Rivers alongside the south-eastern side of the Hume Freeway	Properties along the One Mile Creek System	

There are a number of rural properties to the north and east of Wangaratta with levee systems or raised floor levels provided as a part of the Wangaratta Flood Mitigation scheme and maintained by the individual land owners.

Flood Impacts and Required Actions

Note – In Flash Flood areas without gauges it will only be possible to provide a general description of likely flood impacts.

Command, Control and Coordination

The Command, Control and Coordination arrangements in this MFEP will be as detailed in the EMMV.

All flood response activities within Rural City of Wangaratta will be under the Control of the VICSES Regional Duty Officer / Incident Controller.

An EMT may be established by the Incident Controller in accordance with the EMMV.

An ICC may be established by VICSES for the command and control functions in response to a significant flood event within the Municipality. It will be operated in accordance with VICSES arrangements.

Gauge Location: Ovens River at Ovens River Rail Bridge

NOTE: Wangaratta Ovens River Flood Gauge 0 = 130.426 AHD

Gauge	River Height current (m)	River height at historic	Flow ML/D	Flow (m3/s)	AHD	ARI	Consequence / Impacts		Reference
Ovens R. at Wangaratta Railway Bridge (Templeton St)	11.9						Advise Painters Island Caravan Park of flood risks/potential and considers evacuation		FIC Ovens catchment
	11.9						**TO BE CONFIRMED** Advise rural residential properties downstream of Wangaratta		FIC Ovens catchment
	11.9						**MINOR FLOOD LEVEL**		BOM Dec 2012
	11.9						Ovens River commences flooding over bank at Apex Park and Painters Island Caravan Park. Advise council to close PARKING AREA in the depression.		FIC Ovens catchment
	12						Consider Fishers Levee (1917 levee along Yellow Creek) likely to overtop East Wangaratta GAR closed / traffic detours via Detour Rd area)		Validated July 2013 event.
	12.1						**CHECK could occur at lower level TL.** Water flows across Apex Park and enters lagoon behind Painters Island Caravan Park. Painters Island Caravan Park commences evacuation.		
	12.1						**Pinkerton Cres**		FIC Ovens catchment
	12.4						Need to determine if this gauge level is the time to alert Parfitt Rd. Levee and Wilson Rd. Levee residential properties., farmers, Wang. Rural residential.		FIC Ovens catchment
	12.4						**MODERATE FLOOD LEVEL**		BOM Dec 2012
	12.7						**MAJOR FLOOD LEVEL**		BOM Dec 2012
	12.759						Dec 2010 flood peak		
	12.772						1998		
	12.804						Sept 2010 flood peak		

	River Height current (m)	River height at historic	Flow ML/D	Flow (m3/s)	AHD	ARI	Consequence / Impacts		Reference
Ovens R. at Wangaratta Railway Bridge (Templeton St) (cont.)	12.974				143.4	100	1%I (AHD RL 143.4)		Declaration maps
	12.98						Oct. 1993 flood peak, complete breakout through Whorouly and along Lower River Rd. Whorouly township: Above floor flooding to houses in Church St and 1 house in Lane beside Pub. Lower River Rd: Several Houses adjacent to Snow Rd (ex Glenrowan to Myrtleford Rd) above floor flooding. Relatively calm flows around town but High velocity flows near Newth's Bridge, above floor flooding likely in this local area. GAR at sewerage farm will be flooded. Alternative access via the Rail Trail for emergency Service vehicles only. Effects of the Ovens and Buffalo River can impact this area. Sonnemans, approx 25 propreties above floor level. SEE ALSO impacts on Hurdle Creek in King Catchment.		FIC Ovens catchment
	13.6 est						Local Knowledge Raised cabins at Painters Island inundate.		FIC Ovens catchment
							Parfitt Rd levee design height. 600 mm above 1%		
							3 Mile Creek Sunset Drive levee design height		
							Wilson Rd levee design height. 600 mm above 1% Oxley Flats Road refer July 2013 event photos		
							Reidy Creek floodplain. Stamps Lane overtopping at Reidy Creek Gauge 4.25 m		
							Ovens River commences flooding over bank at Apex Park and Painters Island Caravan Park. Advise council to close PARKING AREA in the depression.		FIC Ovens catchment

Note: flood intelligence records are approximations. This is because no two floods at a location, even if they peak at the same height, will have identical impacts. Flood intelligence cards detail the relationship between flood magnitude and flood consequences. More details about flood intelligence and its use can be found in the Australian Emergency Management Manuals flood series.

Gauge Location: One Mile Creek at Vincent Road Bridge (staff gauge)

River Height (m) And or River Flow (ML/d)	AHD	Annual Exceedance Probability	Consequence / Impact	Planning Consideration Actions may include (but not limited to) Evacuation, closure of road, sandbagging, issue warning and who is responsible
x.xxm		Minor Flood Level x% AEP (xx year ARI)		
x.xxm		Moderate Flood Level x% AEP (xx year ARI)	• Diversion channel in action • Vincent road at One Mile Ck bridge closure • 14 Graham St area commences flooding	
x.xxm		5% AEP (20 year ARI)		
x.xxm		Major Flood Level x% AEP (xx year ARI)	• Some properties in Graham Street flooded • Properties in Phillipson, Swan and Rowan St area commence flooding One Mile Ck	
x.xxm		2% AEP (50 year ARI)		
x.xxm	146.4m	1% AEP (100 year ARI)		
x.xxm		Probable Maximum Flood (PMF)		

NOTE: One Mile Creek Flood Gauge 0 = x.xxm AHD

Minor, Moderate and Major are referenced from the Greta West Gauge Flood Gauge

Note: flood intelligence records are approximations. This is because no two floods at a location, even if they peak at the same height, will have identical impacts. Flood intelligence cards detail the relationship between flood magnitude and flood consequences. More details about flood intelligence and its use can be found in the Australian Emergency Management Manuals flood series.

Gauge Location: Three Mile Creek at Sunset Drive Foot Bridge (staff gauge)

River Height (m) And or River Flow (ML/d)	AHD	Annual Exceedance Probability	Consequence / Impact	Planning Consideration Actions may include (but not limited to) Evacuation, closure of road, sandbagging, issue warning and who is responsible
x.xxm		Minor Flood Level x% AEP (xx year ARI)	• Go TAFE Equestrian Centre area paddocks flooded and rural property near freeway flooding • Rattray pedestrian bridge closed • Sunset Drive & Walter street corner flooded	
x.xxm		Moderate Flood Level x% AEP (xx year ARI)	• Shanley St closed	
x.xxm		5% AEP (20 year ARI)		
x.xxm		Major Flood Level x% AEP (xx year ARI)	• Properties in Sunset Drive, Walter St and Franklin St area commence flooding Three Mile Ck • Flooding in rural area between One Mile and Fifteen Mile Creeks to Wangaratta	
x.xxm		2% AEP (50 year ARI)		
x.xxm	145.0m	1% AEP (100 year ARI)		
x.xxm		Probable Maximum Flood (PMF)		

NOTE: Three Mile Creek Gauge 0 = x.xxm AHD

Minor, Moderate and Major are referenced from the Greta West Flood Gauge

Note: flood intelligence records are approximations. This is because no two floods at a location, even if they peak at the same height, will have identical impacts. Flood intelligence cards detail the relationship between flood magnitude and flood consequences. More details about flood intelligence and its use can be found in the Australian Emergency Management Manuals flood series.

APPENDIX D - FLOOD EVACUATION ARRANGEMENTS

There are five stages in the evacuation process: decision, warning, withdrawal, shelter and return.

Phase 1 - Decision to Evacuate

The Incident Controller may make the decision to evacuate an at-risk community under the following circumstances:

- Properties are likely to become inundated;
- Properties are likely to become isolated and occupants are not suitable for isolated conditions;
- Public health is at threat as a consequence of flooding and evacuation is considered the most effective risk treatment. This is the role of the Health Commander of the incident to assess and manage. Refer to the State Health Emergency Response Plan (SHERP) for details);
- Essential services have been damaged and are not available to a community and evacuation is considered the most effective risk treatment.

The following should be considered when planning for evacuation:

- Anticipated flood consequences and their timing and reliability of predictions;
- Size and location of the community to be evacuated;
- Likely duration of evacuation;
- Forecast weather;
- Flood Models;
- Predicted timing of flood consequences;
- Time required to conduct the evacuation;
- Time available to conduct the evacuation;
- Evacuation priorities and evacuation planning arrangements;
- Access and egress routes available and their potential flood liability;
- Current and likely future status of essential infrastructure;
- Resources required to conduct the evacuation;
- Resources available to conduct the evacuation;
- Shelter including Emergency Relief Centres, Assembly Areas etc.;
- Vulnerable people and facilities;
- Transportation;
- Registration
- People of CALD background and transient populations;
- Safety of emergency service personnel;
- Different stages of an evacuation process.

The decision to evacuate is to be made in consultation with the MERO, MERC, DHS, Health Commander and other key agencies and expert advice (CMA's and Flood Intelligence specialists).

The table below details triggers for evacuation, if these heights are predicted or are likely to occur evacuation should be considered.

* Detail for these tables will be added once flood evacuation plans are developed for this MFEP coverage area

Sector*	Gauge	Trigger

The table below details time required to evacuate established areas.

Sector*	Likely time required for evacuation (including resource assumptions)

Phase 2 – Warning

Warnings may include a warning to prepare to evacuate and a warning to evacuate immediately. Once the decision to evacuate has been made, the at-risk community will be warned to evacuate. Evacuation warnings can be disseminated via methods listed in part 3 of this plan.

Evacuation warning messages will be developed and issued by VICSES in consultation with the MERO, MERC, DHS and other key agencies and expert advice (CMA's and Flood Intelligence specialists).

Phase 3 – Withdrawal

Withdrawal will be controlled by VICPOL. VICSES will provide advice regarding most appropriate evacuation routes and locations for at-risk communities to evacuate to, etc.

VICSES, CFA, AV and Local Government will provide resources where available to support VICPOL/VICROADS with route control and may assist VICPOL in arranging evacuation transportation.

VICPOL will control security of evacuated areas.

Evacuees will be encouraged to move using their own transport where possible. Transport for those without vehicles or other means will be arranged.

Possible Evacuation Routes to be used:

Sector*	Evacuation Route	Evacuation route closure point and gauge height of closure

Landing zones for helicopters are located at:

-

Special needs groups will be/are identified in Council's 'residents at risk' register. This can be done through community network organisations. Further information on Council's 'residents at risk' register can be obtained from VicPol and MECC Central/Crisisworks

Phase 4 – Shelter

Relief Centres and/or assembly areas which cater for people's basic needs for floods may be established to meet the immediate needs of people affected by flooding. Relief centres are listed in Appendix E of the Rural City of Wangaratta MEMPlan.

Sector	**Relief Centre/Assembly Area** (include address)	**Comments**
	Refer to Appendix E of RCoW MEMP	

VICPOL in consultation with VICSES will liaise with Local Government and DHS (where regional coordination is required) via the relevant control centre to plan for the opening and operation of relief centres. This can best be achieved through the Emergency Management Team (EMT).

Animal Shelter

Animal shelter compounds will be established for domestic pets and companion animals of evacuees. These facilities will be documented in the RCoW Municipal Emergency Management Welfare Plan, a sub-plan of the MEMP.

Sector*	**Animal Shelter (include address)**	**Comments**

Caravans

Caravans maybe evacuated to the following locations:

Sector*	**Caravan evacuation location (include address)**	**Comments**

Phase 5 – Return

Return will be consistent with the Strategic Plan for the Return of Community

The Incident Controller in consultation with VICPOL will determine when it is safe for evacuees to return to their properties and will arrange for the notification of the community.

VicPol will manage the return of evacuated people with the assistance of other agencies as required.

Considerations for deciding whether to evacuate include:

- Current flood situation;
- Status of flood mitigation systems;
- Size and location of the community;
- Access and egress routes available and their status;
- Resources required to coordinate the return;
- Special needs groups;
- Forecast weather;
- Transportation particularly for people without access to transport

Rural City of Wangaratta will establish a sandbag collection point at

- Bachelors Green

Rescue

The following resources are available within Rural City of Wangaratta to assist with rescue operations:

SES Units

VicPol

CFA Brigades

Known high-risk areas/communities (i.e. low-lying islands) where rescues might be required include:

Painter Island Caravan Park	
North of Wangaratta – 21 Properties (Moderate to Major)	
Stamps Lane	8 Properties
Burrows Street	3 Properties
Dale Street	1 Property
Willis Street	1 Property
Pinkerton Crescent	6 Properties
Nicholls Street	1 Property
Hoban Street	1 Property

East of Wangaratta – 16 Properties (Moderate to Major)	
Great Alpine Road	4 Properties
Oxley Flats Road (To Hume Freeway)	4 Properties
Thomas Street	1 Property
Weir Street	1 Property
Taylors Lane	5 Properties
Vernon Rd	1 Property

APPENDIX E - FLOOD WARNING SYSTEMS

Flood Warning

Flood Warning products and Flood Class Levels can be found on the BoM website. Flood Warning Products include Severe Thunderstorm Warnings, Severe Weather Warnings, Flood Watches and Flood Warnings.

Flood Bulletins

VICSES distributes flood emergency information to the media through “Flood Bulletins”. Flood Bulletins provide BoM Flood Warning information as well as information regarding possible flood consequences and safety advice, not contained in BoM Flood Warning products. VICSES uses the title Flood bulletin to ensure emphasis is placed upon BoM Flood Warning product titles.

The relevant VICSES Region Headquarters or the established ICC will normally be responsible for drafting, authorizing and issuing Flood Bulletins, using the One Source, One Message system.

Flood Bulletins should refer to the warning title within the Bulletin header, for example Flood Bulletin for Major Flood Warning on Yarra River.

Flood Bulletins should follow the following structure

- What is the current flood situation;
- What is the predicted flood situation;
- What are the likely flood consequences;
- What should the community do in response to flood warnings;
- Where to seek further information;
- Who to call if emergency assistance is required.

It is important that the description of the predicted flood situation is consistent with and reflects the relevant BoM Flood Warning.

Flood Bulletins should be focused on specific gauge (or in the absence of gauges, catchment) reference areas, that is the area in which flood consequences specifically relate to the relevant flood gauge.

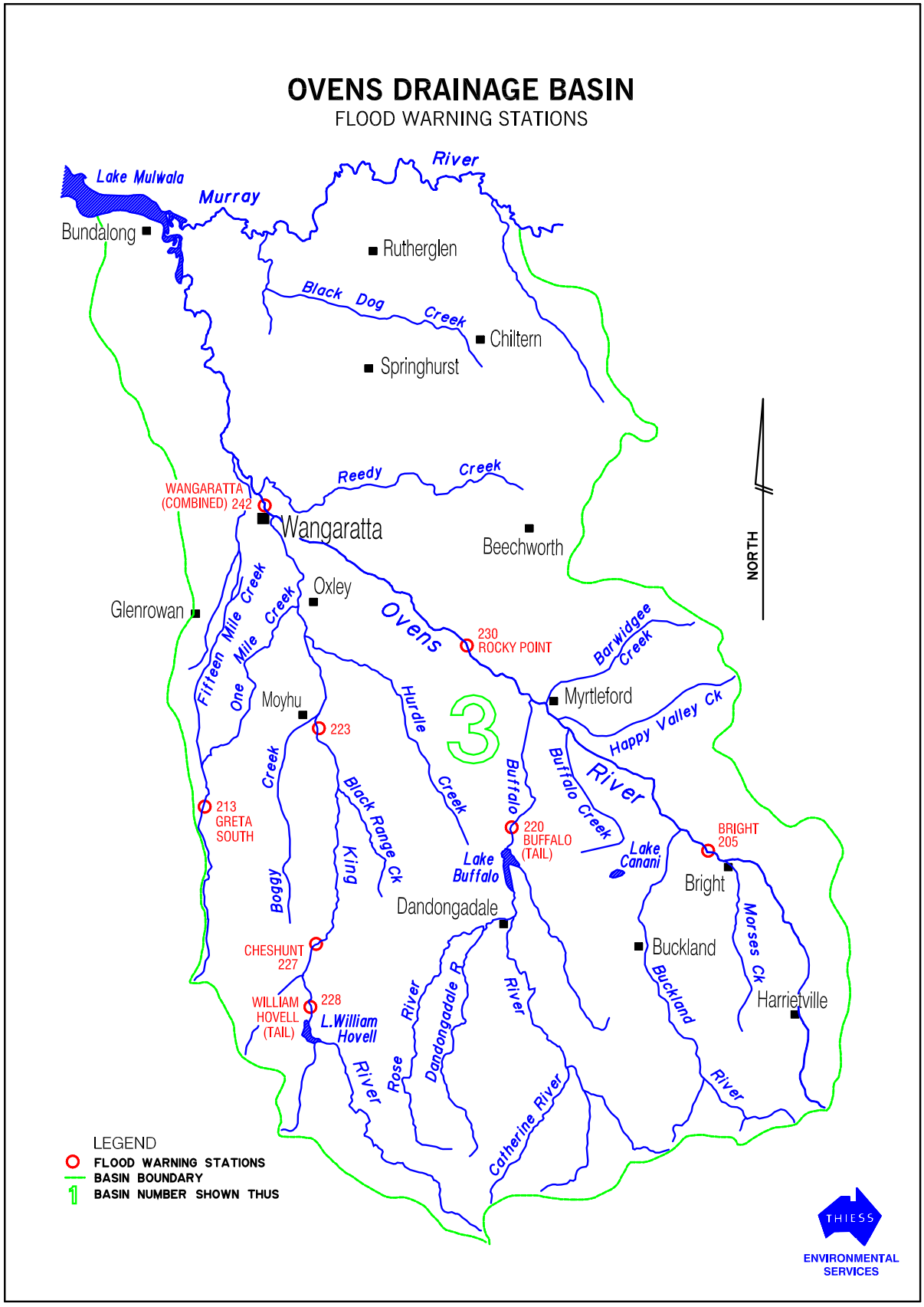
Flood Bulletins should be prepared and issued after receipt of each Flood Watch and Flood Warning from the BoM, or after Severe Weather or Thunderstorm Warnings indicating potential for severe flash flooding.

To ensure flood bulletins are released in a timely manner, standardised flood bulletins may be drafted based on different scenarios, prior to events occurring. The standardised flood bulletins can then be adapted to the specifics of the event occurring or predicted to occur.

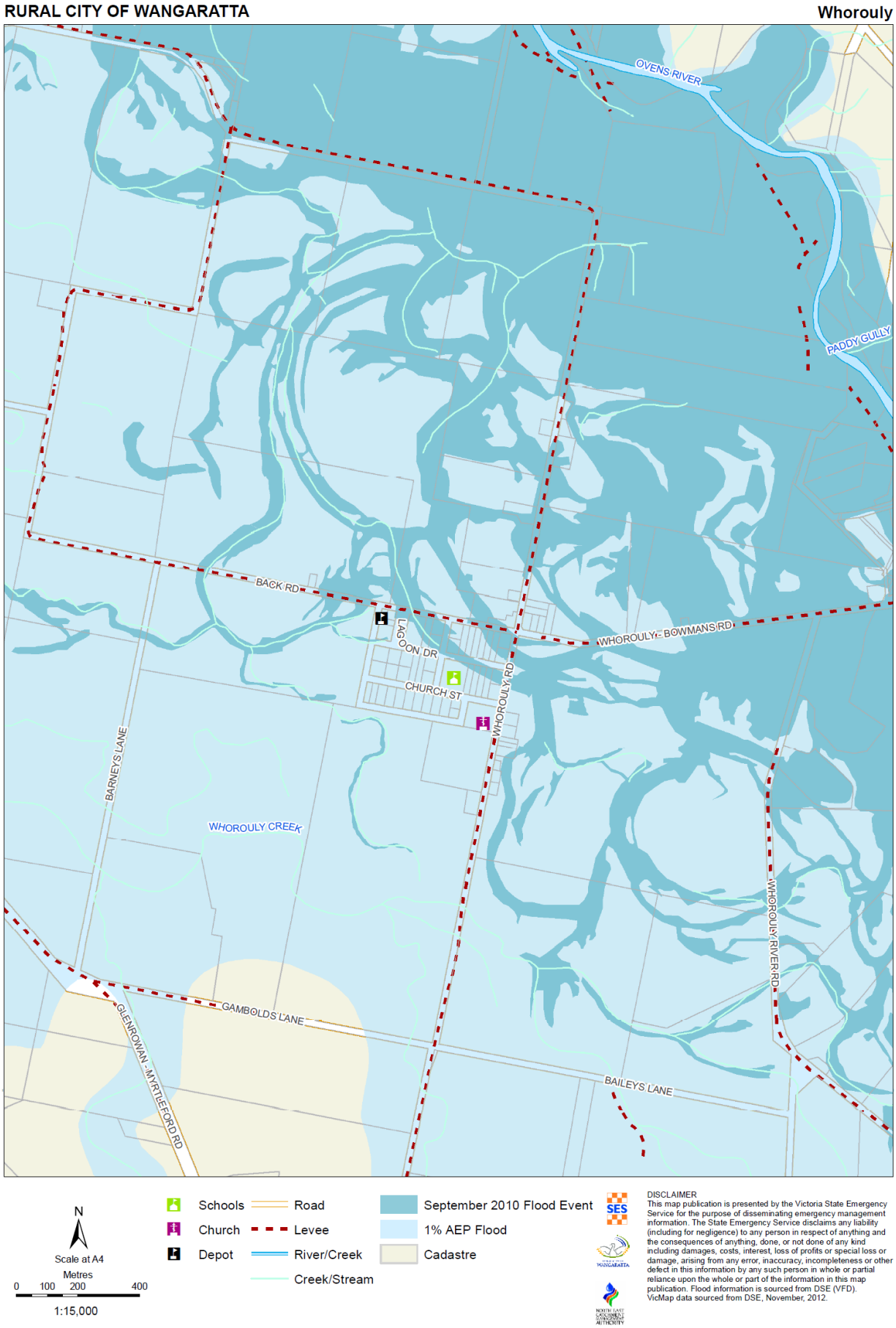
APPENDIX F – MAPS

The following maps are organised to complement the associated Appendix C's. Refer to the end of this appendix for a list of mapping available on the State Control Centre R drive.

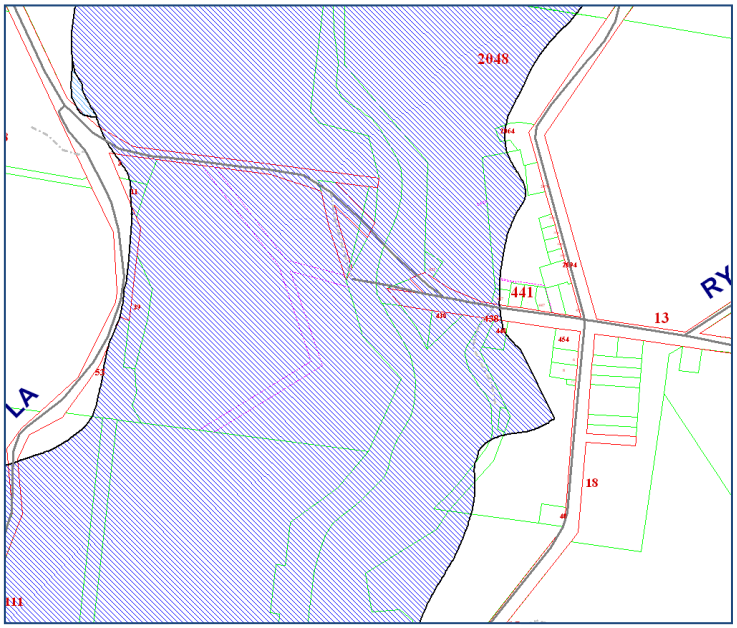
Appendix F1 River Systems Overview



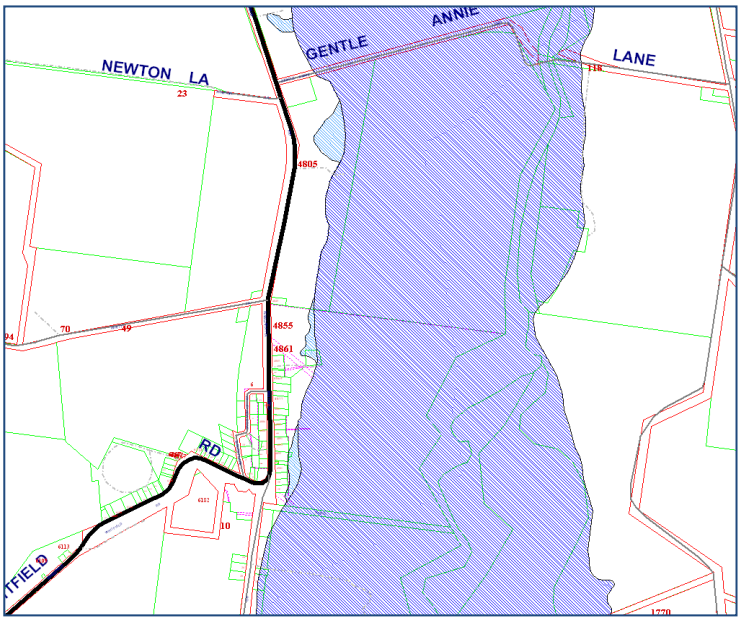
Appendix F2 Ovens River, Whorouly



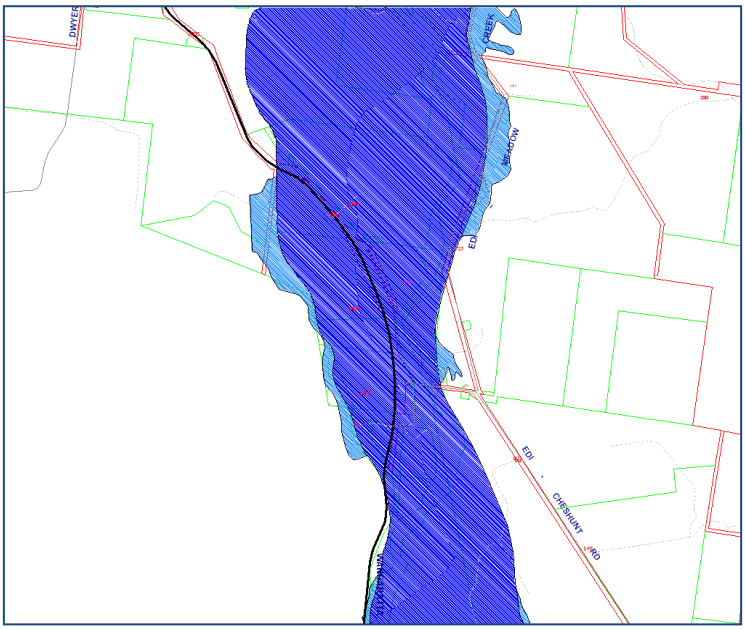
Appendix F3 King River, Cheshunt to Moyhu

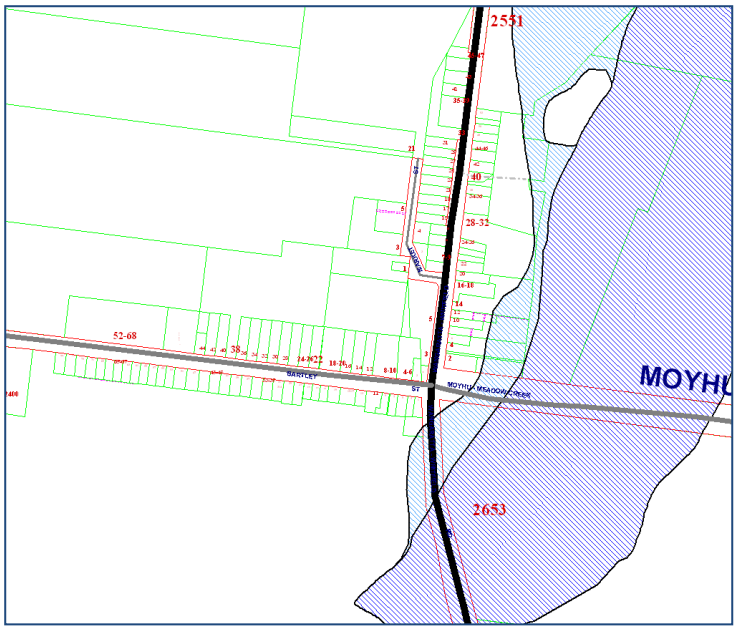


Cheshunt Township

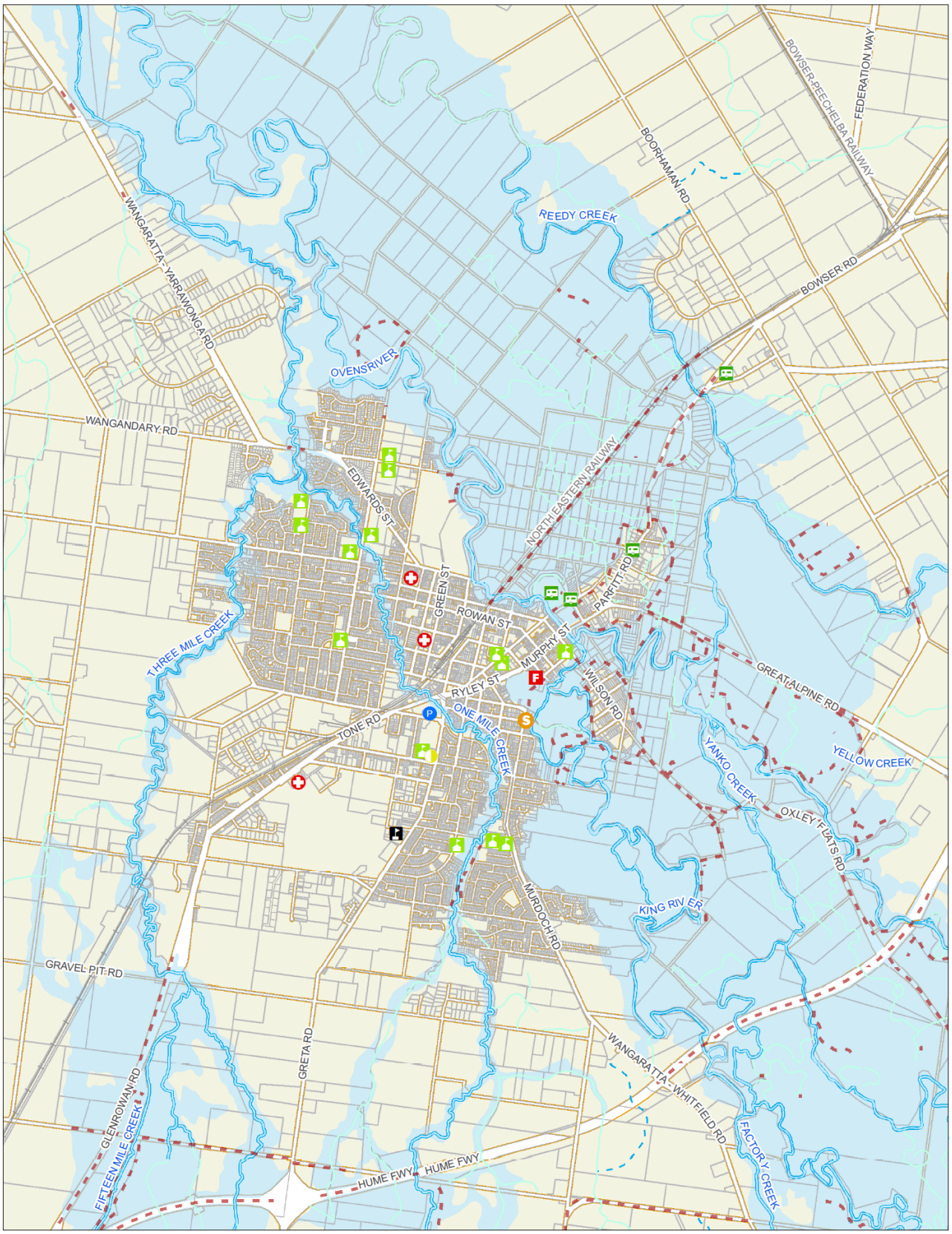


Whitfield Township





Appendix F4 Ovens & King Rivers, One & Three Mile Creeks Wangaratta Urban area

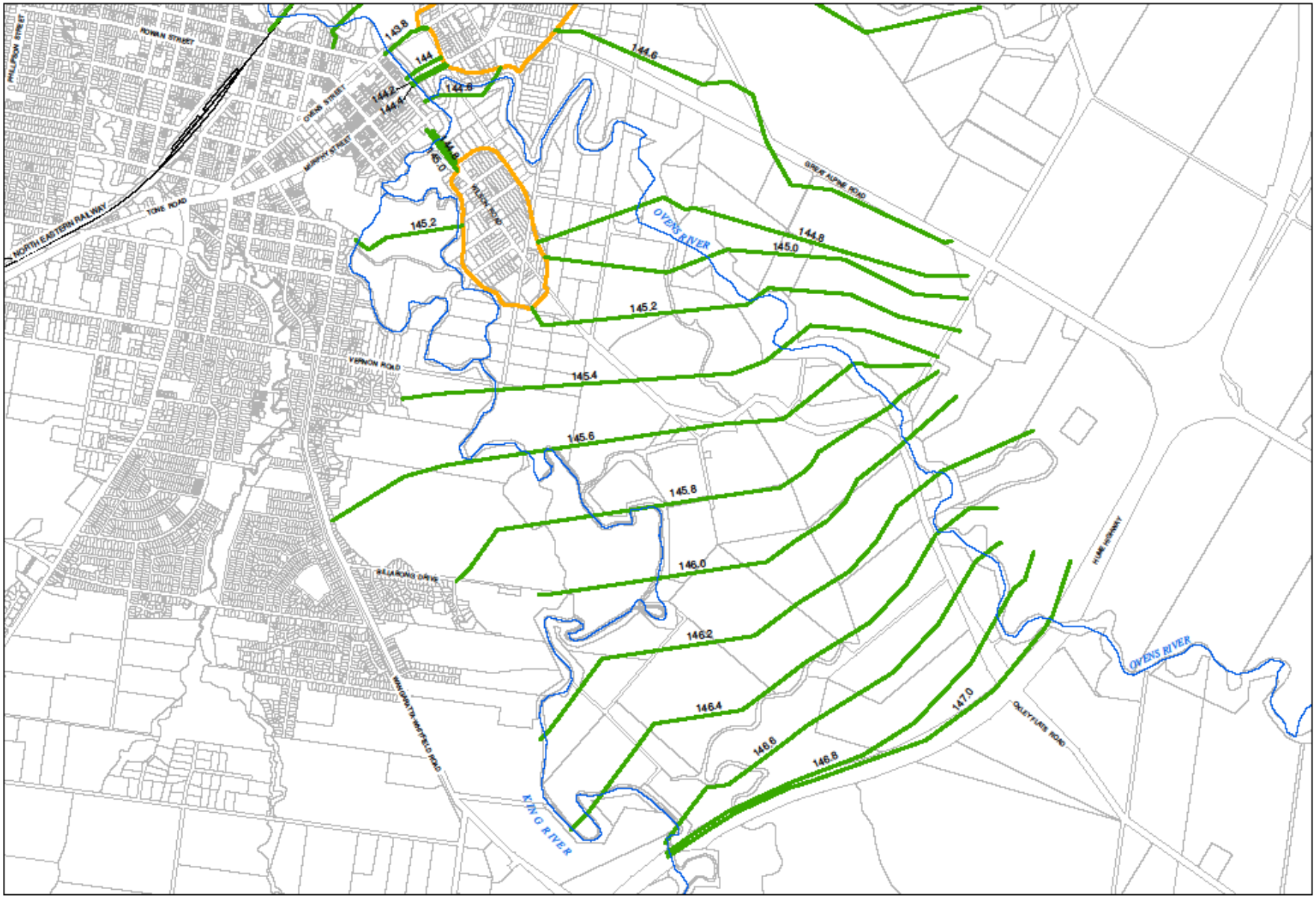


WANGARATTA SHIRE COUNCIL
Riverine Flooding
Wangaratta Township

Scale at A4
Metres
0 200 400 800
1:48,948

- Fire Station
- Hospital
- Police Station
- SES Unit
- Schools
- Depot
- Power Sub-Station
- Camp Grounds
- Rail Line
- Road
- Levee
- River/Creek
- Creek/Stream
- Channel/Drain
- Cadastre
- 1% AEP Flood

DISCLAIMER
This map publication is presented by the Victoria State Emergency Service for the purpose of disseminating emergency management information. The State Emergency Service disclaims any liability (including for negligence) to any person in respect of anything and the consequences of anything, done, or not done of any kind including damages, costs, interest, loss of profits or special loss or damage, arising from any error, inaccuracy, incompleteness or other defect in this information. by any such person in whole or partial reliance upon the whole or part of the information in this map publication. Flood information is provided by DSE, May 2012. VicMap Data is sourced from DSE, April 2012.



Notes

1. The flood levels shown on this plan define the surface level of the 1% probability flood. This is the flood prescribed by Sec. 204 of the Water Act – 1989, for floodplain management purposes and has a 1 in 100 chance of being equalled or exceeded in any given year.

2. The derivation of these 1% flood level lines has been based on available historical flood level and flow information, hydrologic and hydraulic modelling.

3. For the purpose of determining flood levels for locations between flood level lines, it can be assumed that the flood surface levels change at a uniform rate between the flood level lines.

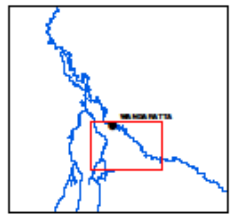
4. The flood level lines shown on this plan can be used to assist in the determination of flood levels in accordance with Clause 6.2 of the Building Regulations – 1994.

5. It should not be assumed that floor levels of any individual building is below flood level. Buildings should be surveyed to determine whether their floors are above the 1% flood level.

6. The flood levels were declared by the North East Catchment Management Authority on the _____under the provisions of the Water Act 1989.

Legend

- Watercourse
- 1% Flood Height Contour & Level Value (m AHD)
- Levees
- Railway
- Cadastre



0.5 0.25 0 0.5
Kilometres

1:20,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 55

Wangaratta - Ovens River and King River

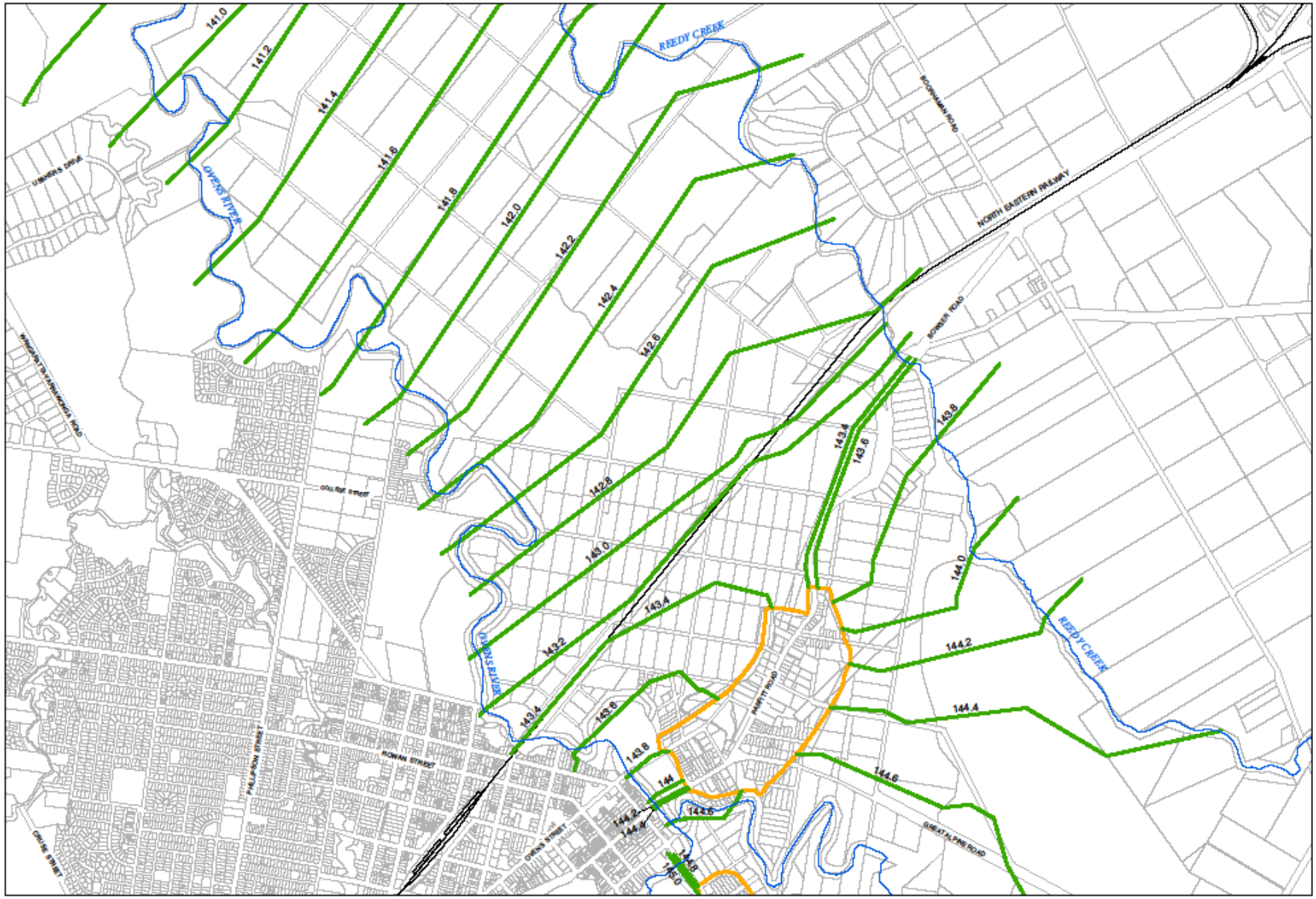
Declaration of Flood Levels

Job Number	31-23639
Revision	A
Date	Nov 2008

Map Sheet 1 of 3

Plan No. 570070-1

Suite 5, 105 Hume Street Wodonga Victoria 3690 Australia 61 2 6043 8700 61 2 6043 8711 abxmail@ghd.com.au www.ghd.com.au



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Legend

- Watercourse
- 1% Flood Height Contour & Level Value (m AHD)
- Levees
- Railway
- Cadastre

0.5 0.25 0 0.5
Kilometres

1:20,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 55

N

Wangaratta - Ovens River and King River

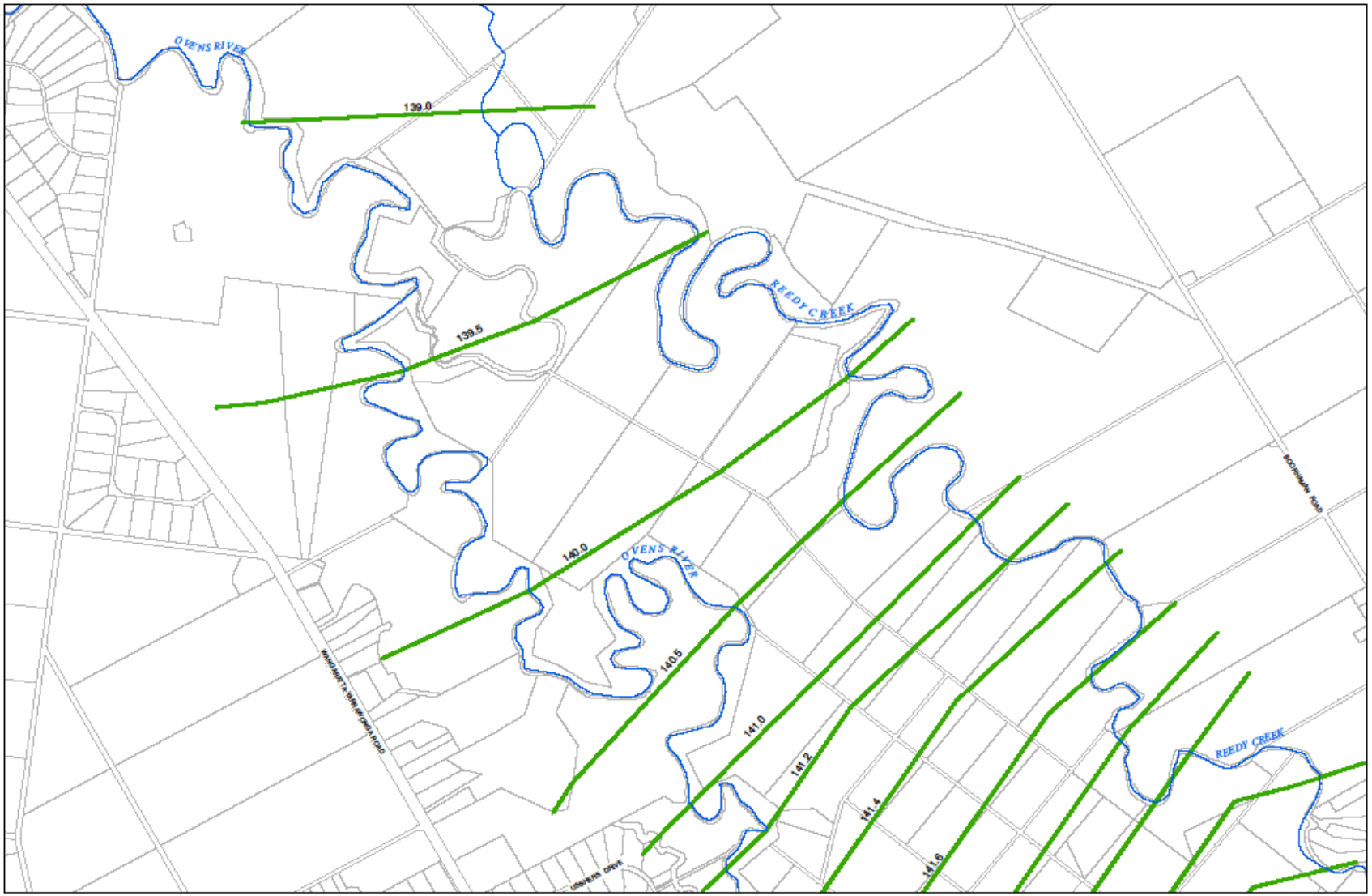
Declaration of Flood Levels

Job Number	31-23639
Revision	A
Date	Nov 2008

Map Sheet 2 of 3

Plan No. 570070-2

Suite 5, 105 Hume Street Wodonga Victoria 3690 Australia 61 2 6043 8700 61 2 6043 8711 abxmail@ghd.com.au www.ghd.com.au



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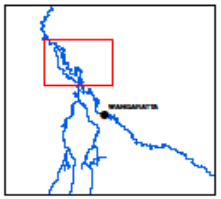
Legend

- Watercourse
- 1% Flood Height Contour & Level Value (m AHD)
- Levees
- Railway
- Cadastre



0.5 0.25 0 0.5 Kilometres

1:20,000 (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 55

N

GHD

NORTH EAST CATCHMENT MANAGEMENT AUTHORITY

RURAL CITY OF Wangaratta

Wangaratta - Ovens River and King River

Declaration of Flood Levels

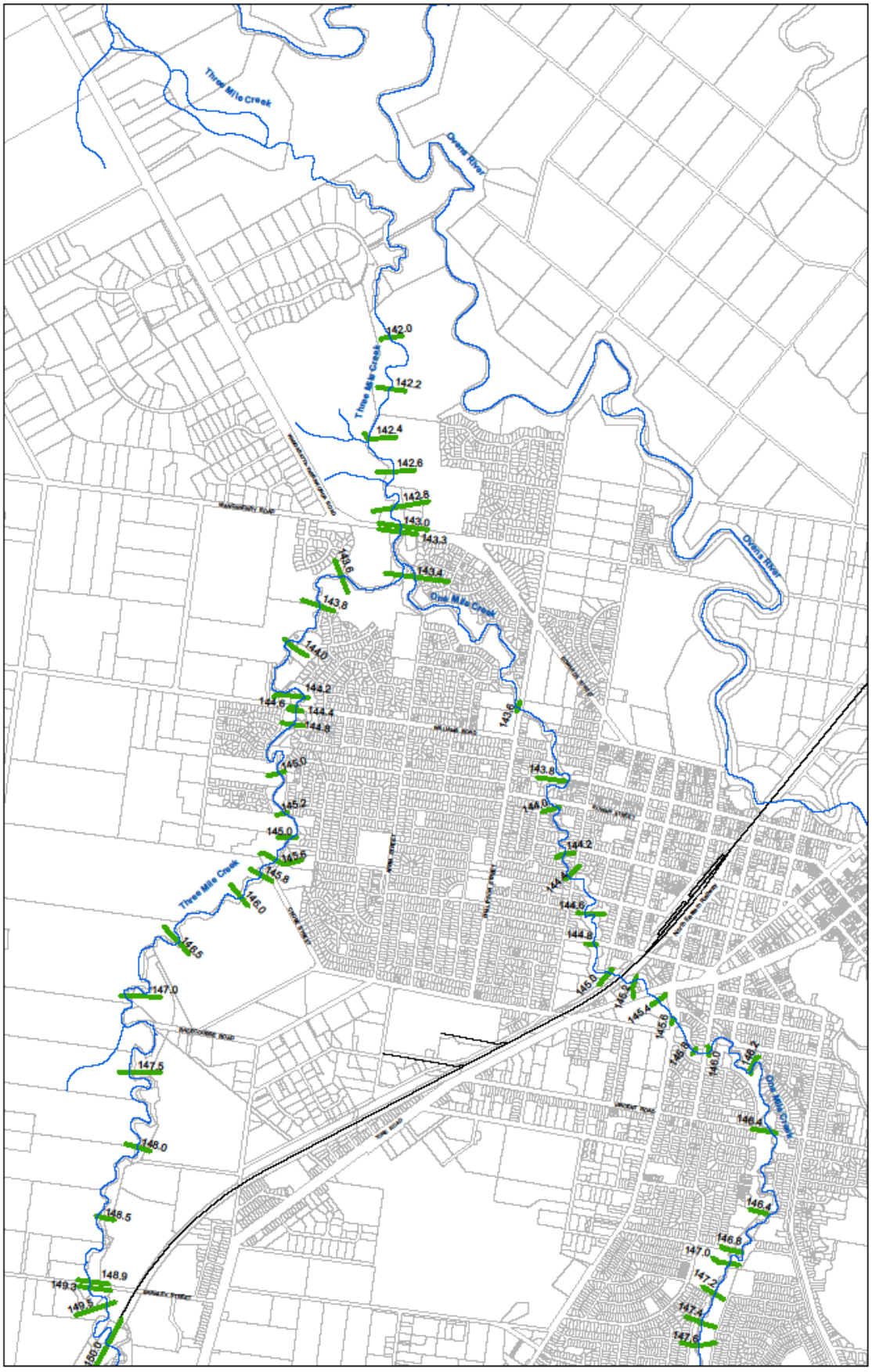
Job Number	31-23639
Revision	A
Date	Nov 2008

Map Sheet 3 of 3

Plan No. 570070-3

Suite 5, 105 Hume Street Wodonga Victoria 3690 Australia 61 2 6043 8700 61 2 6043 8711 abxmail@ghd.com.au www.ghd.com.au

Data source: NE CMA & DSE (Hans Vanrietpt), Data Title: Flood Data Transfer Project Database Created by: Clare Mason



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6. The flood levels were declared by the North East Catchment Management Authority on the _____under the provisions of the Water Act 1989.

Legend

- 1% Flood Height Contour & Level Value (mAHD)
- Watercourse
- Cadastre

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 55

Wangaratta - One Mile Creek and Three Mile Creek
Declaration of Flood Levels

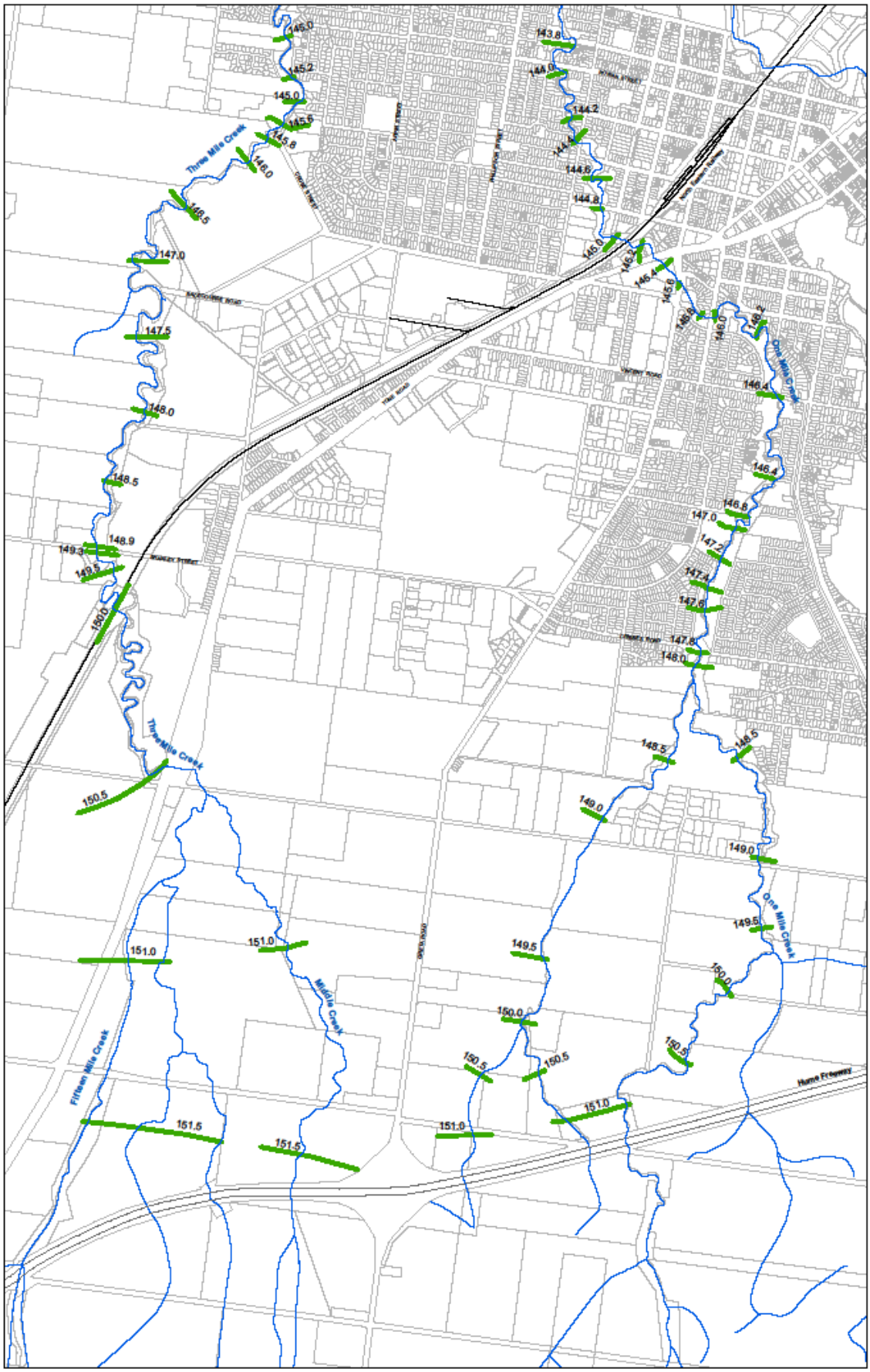
Job Number	31-23197
Revision	A
Date	September 2008

Map Sheet 1 of 2
Plan Number: 570069-1

G:\31\23197\CAD\GIS\Projects\Designation of Flood Levels

Suite 5, 105 Hume Street Wodonga Victoria 3690 Australia T 61 2 6043 8700 F 61 2 6043 8711 E abamail@ghd.com.au W www.ghd.com.au

Data source: NE CMA & DSE (Hans Vanelslop), Data Title: Flood Data Transfer Project Database Created by: Clare Mason



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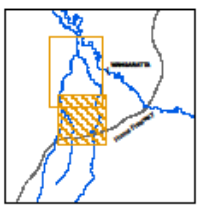
6. The flood levels were declared by the North East Catchment Management Authority on the _____ under the provisions of the Water Act 1989.

Legend

- 1% Flood Height Contour & Level Value (mAHD)
- Watercourse
- Cadastre



Kilometres (at A3)

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 55

Wangaratta - One Mile Creek and Three Mile Creek
Declaration of Flood Levels

Job Number 31-23197
Revision A
Date September 2008

Map Sheet 2 of 2
Plan Number: 570069-2

G:\31\23197\CAD\GIS\Projects\Designation of Flood Levels

Suite 5, 105 Hume Street Wodonga Victoria 3690 Australia T 61 2 6043 8700 F 61 2 6043 8711 E abrmail@ghd.com.au W www.ghd.com.au

Data source: NE CMA & DSE (Hans Vanelmpt), Data Title: Flood Data Transfer Project Database Created by: Clare Mason

APPENDIX F – Maps (cont.)

Extensive flood mapping is available to Incident Management Teams via the State Control Centre R drive:

General flood mapping:
R:\50-SCC\18-Flood-Analysts\Reference\Flood Mapping

Catchment maps:
R:\50-SCC\18-Flood-Analysts\Reference\Flood Mapping\Catchment\Catchment Maps – BoM

Detailed Catchment maps:
R:\50-SCC\18-Flood-Analysts\Reference\Flood Mapping\Catchment\Detailed Catchment Maps

High resolution versions of maps used in this MFEP:

Catchment:
R:\50-SCC\18-Flood-Analysts\Reference\Flood Mapping\Catchment\MFEP - Catchment\REGION_ NORTH EAST

Township:
R:\50-SCC\18-Flood-Analysts\Reference\Flood Mapping\Township\MFEP - Township\Rural City of Wangaratta

APPENDIX G – LOCAL KNOWLEDGE ARRANGEMENTS

As control agency for flood in Victoria, VICSES is committed to ensuring the incorporation of local knowledge in decision making before, during and after incidents.

Information from community sources including, but not limited to; observations, historical information and information about current and possible consequences of an incident; may be utilised to help inform the process of incorporating local knowledge into decision making during an incident. Community observers, Local Information Officers (LIOs) and other agency networks identified in this plan will help support this process.

LIOs provide a key communication interface to community observers and other sources of local knowledge.

The process to identify community observers for the Rural City of Wangaratta will populate the following tables at a later date:

Community Observer Name	Community Observer contact details	LIO Contact	Key Areas of local knowledge expertise

For the VICSES Wangaratta Unit the Local Information Officer identified is:

LIO Name	LIO contact details	Community Observer contacts

Important Notes:

These arrangements do not delegate any responsibility for operational decisions to community observers and/or existing agency networks. They do not authorise or endorse community observers and existing agency networks to direct operational activity, including the management of flood levees.

Information provided from sources of local knowledge must be processed and validated before it can become intelligence to inform decision making.