

# Knox Municipal

## Storm and Flood Emergency Plan

### A Sub-Plan of the Knox Municipal Emergency Management Plan

For Knox Municipality  
And  
VICSES Knox Unit

Version 5.0  
Reviewed March 2022



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# Table of Contents

<b>TABLE OF CONTENTS</b> .....	<b>III</b>
<b>DISTRIBUTION LIST</b> .....	<b>VIII</b>
<b>DOCUMENT TRANSMITTAL FORM / AMENDMENT CERTIFICATE</b> .....	<b>IX</b>
<b>LIST OF ABBREVIATIONS &amp; ACRONYMS</b> .....	<b>X</b>
<b>GLOSSARY</b> .....	<b>XI</b>
<b>PART 1. INTRODUCTION</b> .....	<b>1</b>
1.1 APPROVAL AND ENDORSEMENT .....	1
1.2 PURPOSE AND SCOPE OF THIS STORM AND FLOOD EMERGENCY PLAN .....	2
1.3 MUNICIPAL STORM AND FLOOD PLANNING COMMITTEE.....	2
1.4 RESPONSIBILITY FOR PLANNING, REVIEW AND MAINTENANCE OF THIS PLAN .....	2
<b>PART 2. BEFORE: PREVENTION/PREPAREDNESS ARRANGEMENTS</b> .....	<b>3</b>
2.1 COMMUNITY AWARENESS FOR ALL TYPES OF STORMS AND FLOODING .....	3
2.2 STRUCTURAL FLOOD MITIGATION MEASURES .....	3
2.3 NON-STRUCTURAL FLOOD MITIGATION MEASURES .....	3
2.3.1 <i>Exercising the Plan</i> .....	3
2.3.2 <i>Storm and flood warning</i> .....	3
2.3.3 <i>Local Knowledge</i> .....	3
<b>PART 3. DURING: RESPONSE ARRANGEMENTS</b> .....	<b>4</b>
3.1 INTRODUCTION.....	4
3.1.1 <i>Activation of response</i> .....	4
3.1.2 <i>Responsibilities</i> .....	4
3.1.3 <i>Municipal Emergency Coordination Centre (MECC)</i> .....	4
3.1.4 <i>Escalation</i> .....	4
3.2 STATE EMERGENCY MANAGEMENT PRIORITIES .....	5
3.3 THE SIX C'S .....	5
3.3.1 <i>Control</i> .....	6
3.3.2 <i>Incident Controller (IC)</i> .....	6
3.3.3 <i>Incident Control Centre (ICC)</i> .....	6
3.3.4 <i>Divisions and Sectors</i> .....	6

3.3.5	<i>Incident Management Team (IMT)</i> .....	7
3.3.6	<i>Incident Emergency Management Team (IEMT)</i> .....	7
3.3.7	<i>On receipt of a Flood Watch/Severe Weather Warning</i> .....	7
3.3.8	<i>On receipt of the first and subsequent Storm and/or Flood Warnings</i> .....	8
3.4	COMMUNITY INFORMATION AND WARNINGS.....	8
3.5	MEDIA COMMUNICATION .....	9
3.6	IMPACT ASSESSMENT (IA) .....	9
3.7	PRELIMINARY DEPLOYMENTS .....	10
3.8	RESPONSE TO FLASH AND RIVERINE FLOODING.....	10
3.9	EVACUATION.....	11
3.10	FLOOD RESCUE .....	11
3.11	AIRCRAFT MANAGEMENT.....	11
3.12	RESUPPLY .....	12
3.13	ESSENTIAL INFRASTRUCTURE AND PROPERTY PROTECTION .....	12
3.14	DISRUPTION TO SERVICES .....	13
3.15	LEVEES.....	13
3.16	ROAD CLOSURES.....	13
3.17	DAM FAILURE AND LANDSLIDE.....	13
3.17.1	<i>Dam Failure</i> .....	13
3.17.2	<i>Landslide</i> .....	13
3.18	WASTE WATER RELATED PUBLIC HEALTH ISSUES AND CRITICAL SEWERAGE ASSETS .....	13
3.19	ACCESS TO TECHNICAL SPECIALISTS .....	14
3.20	AFTER ACTION REVIEW .....	14
<b>PART 4.</b>	<b>AFTER: EMERGENCY RELIEF AND RECOVERY ARRANGEMENTS.....</b>	<b>15</b>
4.1	GENERAL.....	15
4.2	EMERGENCY RELIEF .....	15
4.3	ANIMAL WELFARE .....	15
4.4	TRANSITION FROM RESPONSE TO RECOVERY.....	15
<b>APPENDIX A - FLOOD THREATS FOR KNOX MUNICIPALITY.....</b>		<b>16</b>
GENERAL.....		16
4.4.1	<i>Description of Major Waterways and Drains</i> .....	16
HISTORIC STORMS AND FLOODS.....		20
<i>Hailstorm – 6 March 2010</i> .....		20



<i>Rainfall Event – 4 February 2011</i> .....	20
<i>Storm/Flood – 9 October 2016</i> .....	20
<i>Storm/Extended Power Outage Event – 9 June 2021</i> .....	20
DAM FAILURE .....	23
<b>APPENDIX B - TYPICAL FLOOD PEAK TRAVEL TIMES</b> .....	<b>24</b>
TYPICAL TRAVEL TIMES .....	24
HISTORICAL TRAVEL TIMES .....	25
<b>APPENDIX C1 – DANDENONG FLOOD EMERGENCY PLAN</b> .....	<b>27</b>
OVERVIEW OF FLOODING CONSEQUENCES .....	27
GAUGES AND WARNINGS .....	30
AREA MAP OF FLOOD RISK ALONG DANDENONG CREEK AND SMALL STORMWATER TRIBUTARIES IN KNOX .....	31
PROPERTIES AT FLOOD RISK .....	32
ISOLATION.....	40
ESSENTIAL INFRASTRUCTURE .....	40
ROAD CLOSURES .....	41
FLOOD MITIGATION .....	42
<i>Retarding Basins</i> .....	42
<i>Pumping Stations</i> .....	42
SEWERAGE INFRASTRUCTURE .....	42
<i>Sewer Pumping Stations</i> .....	42
<i>Sewer Emergency Relief Points</i> .....	43
CONTROL, COMMAND AND COORDINATION.....	44
FLOOD IMPACTS AND OPERATIONAL CONSIDERATIONS (INTELLIGENCE CARDS).....	44
<b>APPENDIX C2 – BLIND CREEK FLOOD EMERGENCY PLAN</b> .....	<b>55</b>
OVERVIEW OF FLOODING CONSEQUENCES .....	55
GAUGES AND WARNINGS.....	56
AREA MAP OF FLOOD RISK WITHIN THE BLIND CREEK CATCHMENT .....	57
PROPERTIES AT FLOOD RISK .....	58
ISOLATION.....	61
ESSENTIAL INFRASTRUCTURE .....	61
ROAD CLOSURES .....	61
FLOOD MITIGATION .....	63

<i>Retarding Basins</i> .....	63
SEWERAGE INFRASTRUCTURE .....	63
CONTROL, COMMAND AND COORDINATION.....	63
FLOOD IMPACTS AND OPERATIONAL CONSIDERATIONS (FLOOD INTELLIGENCE CARDS) .....	63
<b>APPENDIX C3 – CORHANWARRABUL CREEK FLOOD EMERGENCY PLAN .....</b>	<b>74</b>
OVERVIEW OF FLOODING CONSEQUENCES .....	74
GAUGES AND WARNINGS.....	75
AREA MAP OF FLOOD RISK WITHIN THE CORHANWARRABUL CREEK CATCHMENT.....	76
PROPERTIES AT FLOOD RISK .....	77
ISOLATION.....	85
ESSENTIAL INFRASTRUCTURE .....	85
ROAD CLOSURE .....	86
FLOOD MITIGATION .....	87
<i>Retarding Basins</i> .....	87
<i>Pumping Stations</i> .....	87
<i>Levees</i> 88	
SEWERAGE INFRASTRUCTURE .....	88
<i>Sewer Pumping Stations</i> .....	88
CONTROL, COMMAND AND COORDINATION.....	88
<b>APPENDIX D - FLOOD EVACUATION ARRANGEMENTS.....</b>	<b>106</b>
PHASE 1 - DECISION TO EVACUATE.....	106
PHASE 2 – WARNING.....	107
PHASE 3 – WITHDRAWAL.....	107
<i>Vulnerable People in Emergencies</i> .....	108
PHASE 4 – SHELTER.....	108
<i>Animal Shelter</i> .....	108
<i>Caravan Parks</i> .....	108
PHASE 5 – RETURN.....	108
<i>Disruption to Services</i> .....	109
<i>Essential Infrastructure and Property Protection</i> .....	109
<i>Rescue</i> 109	
<b>APPENDIX E – STORM AND FLOOD WARNING SYSTEMS.....</b>	<b>110</b>

<b>APPENDIX F – MAPS AND SCHEMATICS.....</b>	<b>113</b>
OVERVIEW .....	113
KNOX MUNICIPAL MAPS (SOURCED MELBOURNE WATER GIS).....	114
CATCHMENT SCHEMATICS .....	129
<b>APPENDIX G – SEVERE WEATHER (STORM) EVENTS .....</b>	<b>130</b>
OVERVIEW .....	130
VICSES REQUESTS FOR ASSISTANCE .....	130
VICSES SEVERE WEATHER (STORM OR FLOOD) REQUESTS FOR ASSISTANCE MAPPING.....	134

## Distribution list

Copy No.	Issue To: Name	Organisation	Date
Original	Executive Officer, MEMPC	Knox City Council	
1	Knox Council Office Copy	Knox City Council	
2	Chair, MEMPC	Knox City Council	
3	Municipal Emergency Management Officer (MEMO)	Knox City Council	
4	Deputy MEMO	Knox City Council	
5	Municipal Recovery Manager	Knox City Council	
6	Municipal Emergency Response Coordinator (MERC)	Victoria Police (VicPol)	
7	Deputy MERC	VicPol	
8	Regional Emergency Recovery Coordinator	VicPol	
9	Regional Emergency Management Inspector	VicPol	
10	Regional Officer Emergency Management	VICSES (Central Region Headquarters)	
11	VICSES Controller	VICSES Knox unit	
12	Team Leader Hydrology & Flood Warnings	Melbourne Water	
13	Flood Warning Manager	Bureau of Meteorology (Flood Warning)	
14	Regional Emergency Management Officer	Department of Transport	
15	Emergency Management Unit	Ambulance Victoria	
16	Emergency Management Officer	Department of Education (DEECD)	
17	Emergency Management Coordinator	Department of Families, Fairness and Housing (East Region)	
18	Commander	Country Fire Authority (CFA)	
19	Commander	Fire Rescue Victoria (FRV)	
20	Incident Control Centre – Ferntree Gully	VICSES & CFA	
21	Incident Control Centre – Dandenong	VICSES & CFA	
22	Incident Control Centre – Sunshine	VICSES & CFA	
23	Divisional Command	Knox VICSES Unit	
24			
25			
26			
27			

## Document Transmittal Form / Amendment Certificate

This Municipal Storm and Flood Emergency Plan (MSFEP) will be amended, maintained and distributed as required by the Victoria State Emergency Service (VICSES) in consultation with the Knox Municipal Emergency Management Planning Committee (MEMPC).

Suggestions for amendments to this Plan should be forwarded to:

VICSES Central Office – Mulgrave  
Unit 6, 3-5 Gilda Court, Mulgrave VIC 3170  
Email: [central@ses.vic.gov.au](mailto:central@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
Version 1	10/02/2012	Diana Ferguson	Population of template
Version 2	01/06/2012	Diana Ferguson	Updated population of template
Version 3	21/11/2014	Ross Butler	Updated Appendix A, B, C, F and addition of Appendix G
Version 3	02/12/2014	Diana Ferguson & Subcommittee	Review and update template
Version 3.1	20/02/2015	John Salter	Review and update, eg.department changes, ie. DELWP
Version 3.2	06/03/2015	John Salter	Review and update template
Version 3.3	30/03/2015	Ross Butler	Addition of Appendix H – Severe Weather (Storm) Events
Version 4.0	01/06/2018	Ross Butler	Updated Appendices A, B, C, F & G
Version 4.1	31/08/2018	Diana Ferguson & Subcommittee	Review and update template
Version 5.0	04/10/2021	Ross Butler & Kristian Heteyey	Application of new template. Updated parts of the body as well as Appendices A, B, C, F & G. Changes and edits for standardisation and to accommodate the <i>Emergency Management Legislation Amendment Act 2018</i> (EMLA Act) that amended the <i>Emergency Management Act 2013</i> (EM Act 2013).
Version 5.0	22/03/2022	Kristian Heteyey & Subcommittee	MEMPC Endorsement/Assurance and Approval.

This Plan will be maintained on the VICSES website ([ses.vic.gov.au/plan-and-stay-safe/flood-guides/knox-city-council](https://ses.vic.gov.au/plan-and-stay-safe/flood-guides/knox-city-council)) and referenced on the Knox City Council website ([knox.vic.gov.au](https://knox.vic.gov.au)).

## List of abbreviations & acronyms

The following abbreviations and acronyms are used in the Plan			
AAR	After Action Review	IC	Incident Controller
AEP	Annual Exceedance Probability	ICC	Incident Control Centre
AHD	Australian Height Datum (the height of a location above mean sea level in metres)	IMT	Incident Management Team
AIDR	Australian Institute of Disaster Resilience	IEMT	Incident Emergency Management Team
AIIMS	Australasian Inter-service Incident Management System	IMS	Incident Management System
AoCC	Area of Operations Control Centre / Command Centre	LSIO	Land Subject to Inundation Overlay
ARI	Average Recurrence Interval	MECC	Municipal Emergency Coordination Centre
AV	Ambulance Victoria	MEMP	Municipal Emergency Management Plan
BoM	Bureau of Meteorology	MEMPC	Municipal Emergency Management Planning Committee
CEO	Chief Executive Officer	MERC	Municipal Emergency Response Coordinator
CERA	Community Emergency Risk Assessment	MEMO	Municipal Emergency Management Officer
CFA	Country Fire Authority	MRM	Municipal Recovery Manager
CMA	Catchment Management Authority	PMF	Probable Maximum Flood
DFFH	Department of Families, Fairness and Housing	RAC	Regional Agency Commander
DH	Department of Health	RCC	Regional Control Centre
DoI	Department of Infrastructure	RDO	Regional Duty Officer
DELWP	Department of Environment, Land, Water and Planning	RERC	Regional Emergency Response Coordinator
DJPR	Department of Jobs, Precincts and Regions	RERCC	Regional Emergency Response Coordination Centre
DoT	Department of Transport	SBO	Special Building Overlay
EMLO	Emergency Management Liaison Officer	SCC	State Control Centre
EMMV	Emergency Management Manual Victoria	SEMP	State Emergency Management Plan
EMT	Emergency Management Team	SERP	State Emergency Response Plan
EMV	Emergency Management Victoria	SEWS	Standard Emergency Warning Signal
EO	Executive Officer	SHERP	State Health Emergency Response Plan
FO	Floodway Overlay	SOP	Standard Operating Procedure
FRV	Fire Rescue Victoria	VicPol	Victoria Police
FWS	Flood Warning System	VICSES	Victoria State Emergency Service
FZ	Floodway Zone		
IA	Impact Assessment		

## Glossary

Below are terms defined for the purpose of this plan:

Term	Definition
<b>Annual Recurrence Interval (ARI)</b>	The average or expected value of the period between exceedances of a given rainfall or flow total, accumulated over a given duration.
<b>Annual Exceedance Probability (AEP)</b>	The probability that a given total rainfall or flow is accumulated over a given duration will be exceeded in any one year.
<b>Flash flooding</b>	Sudden unexpected flooding caused by local heavy rainfall or rainfall in another area. Often defined as flooding which occurs within six hours of the rain which causes flooding.
<b>Flood mapping</b>	The process where the extent of flooding is documented in mapping software based on flood studies and surface elevations.
<b>Floodplain</b>	Area of land adjacent to a creek, river, estuary, lake, dam or artificial channel, which is subject to inundation.
<b>Hot spot</b>	A known flood problem area which has a history of repeat flooding of a road, crossing or property, often highlighted through anecdotal information and customer complaints. It is a localised issue which will vary from council to council.
<b>Natural drainage system</b>	Flow paths which are largely undeveloped by human sources, these include rivers, streams, natural depressions and wetlands. All-natural systems greater than 60 ha are managed by Melbourne Water.
<b>Overland flooding</b>	Flooding by local runoff caused by heavier than usual rainfall. Overland flooding can be caused by local flow exceeding the capacity of an urban stormwater drainage system or by the backwater effects of mainstream flooding causing urban stormwater drainage system to overflow. For local government areas this is over the 5-year ARI in residential or over 10yr ARI in commercial/industrial. For Melbourne Water catchment areas this is for all other ARIs up to the 100yr ARI.
<b>Retarding Basin</b>	A Retarding Basin is a large, open, free draining basin that temporarily stores collected stormwater runoff. These basins are normally maintained in a dry condition between storm events.
<b>Stormwater drainage system</b>	A series of drains and waterways into which surface and stormwater flows. Features of a stormwater drainage system can include underground pipe drains, open channels, retarding basins, floodways, waterway improvements, water sensitive urban design, integrated water management systems and environment protection measures. All drainage under 60 ha is maintained and operated by Council.
<b>Stormwater Runoff</b>	The amount of rainfall that enters the stormwater drainage system (via pits, pipes, retarding basins, water sensitive structures, harvesting tanks and overland flow paths), after water which is not absorbed into the ground has been taken into account.

## Part 1. INTRODUCTION

### 1.1 Approval and Endorsement

This Municipal Storm and Flood Emergency Plan (MSFEP) has been prepared by Knox Municipal Emergency Management Planning Committee (MEMPC) pursuant to Section 20 of the *Emergency Management Act 1986* (as amended).

This MSFEP is a sub plan to the Knox Municipal Emergency Management Plan (MEMP). It is consistent with the State Emergency Management Plan (SEMP), State Flood Emergency Plan and State Storm Emergency Plan (sub-plans of the now superseded State Emergency Response Plan and transitioned to be sub-plans of the SEMP).

It is also consistent with the Victoria State Emergency Service (VICSES) Central Region Storm and Flood Emergency Plans and the Victorian Floodplain Management Strategy and takes into account the outcomes of the Community Emergency Risk Assessment (CERA) process undertaken by the Knox MEMPC.

This MSFEP is a result of the cooperative efforts of the Knox MEMPC and its member agencies.

Minor and administrative amendments will be made to this Plan from time to time without re-presenting the Plan to the MEMPC. Any major structural or policy changes will be considered before adoption.

This Plan is endorsed by the Knox MEMPC as a sub plan of the MEMP.

#### Endorsement

Andrew Marshall

Chair

Knox Municipal Emergency Management Planning Committee

Date: 22/03/2022

Diana Batley

Regional Operations Manager – Emergency Management

VICSES

Date: 23/03/2022



## 1.2 Purpose and scope of this Storm and Flood Emergency Plan

The purpose of this Plan is to detail arrangements agreed for the planning, preparedness/prevention, response and recovery from storm and/or flood incidents within the Knox municipality.

As such, the scope of the Plan is to:

- Identify the storm and flood risk to the Knox municipality.
- Support the implementation of measures to minimise the causes and impacts of storm and flood incidents within the Knox municipality.
- Detail response and recovery arrangements including preparedness, incident management, command and control.
- Identify linkages with Local, Regional and State emergency and wider planning arrangements with specific emphasis on those relevant to storm and flood.

## 1.3 Municipal Storm and Flood Planning Committee

The MEMPC may delegate to a Municipal Storm and Flood Planning Committee (MSFPC) to review the Plan and provide advice back to the MEMPC accordingly.

Membership of the Knox MSFPC will comprise of representatives from the following agencies and organisations:

- VICSES – Unit Controller/delegate and Regional Officer Emergency Management (**Chair**)
- Knox City Council
- Victoria Police – Municipal Emergency Response Coordinator (MERC)
- Catchment Management Authority as required
- Department of Health (DH) as required
- Department of Families, Fairness and Housing (DFFH) as required
- Department of Environment, Land, Water and Planning (DELWP) as required
- Water Authorities as required
- Bureau of Meteorology (BoM) as required
- Other agencies as required

## 1.4 Responsibility for planning, review and maintenance of this Plan

This Plan must be maintained in order to remain effective. This Plan must be assured, approved and published every three years, or more frequently if required. VICSES, through the MEMPC, has responsibility for preparing, reviewing, maintaining and distributing this Plan. The MSFPC will meet as required.

The Plan should be reviewed and where necessary, arrangements and information contained in it should be amended:

- Following any new flood or stormwater drainage studies.
- Following a change in non-structural and/or structural flood mitigation measures.
- After the occurrence of a significant storm and/or flood event within the municipality.

## Part 2. BEFORE: PREVENTION/PREPAREDNESS ARRANGEMENTS

### 2.1 Community awareness for all types of storms and flooding

This Plan will be published and maintained on the VICSES website. This will occur following any updates and amendments and in accordance with assurance, approval and publishing requirements.

VICSES, with the support of Knox City Council and Melbourne Water, will coordinate community engagement programs for storm and flooding within the council area (e.g. Local Flood Guides and public events). Engagement will include raising awareness about the projected impacts on the frequency and intensity of flood and storm events and what actions can be taken to minimise these impacts.

Community engagement programs to support this Plan may be developed in conjunction with the local VICSES unit. VICSES Knox Unit may lead the delivery of programs with support from Knox City Council and VICSES Central Region.

### 2.2 Structural flood mitigation measures

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 and/or reviewed after a significant event).

#### 2.3.2 Storm and flood warning

Arrangements for storm and flood warning are contained within the State Flood and Storm Emergency Plans ([ses.vic.gov.au/prepare/em-planning/state-plans](https://ses.vic.gov.au/prepare/em-planning/state-plans)), the SEMP and on the BoM website ([bom.gov.au](https://bom.gov.au)).

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

#### 2.3.3 Local Knowledge

Community Flood Observers provide local knowledge to VICSES and the Incident Control Centre (ICC) regarding local insights and the potential impacts and consequences of an incident and may assist with the dissemination of information to community members.

There are no official Community Flood Observers within the Knox municipality, however local knowledge is incorporated into this Plan through consultation with local response agencies.

Previous event history and likely operational considerations are noted in the Flood Intelligence Cards in **Appendix C**. In line with the VICSES Local Knowledge Policy, reviews of this Plan will be undertaken with input from multiple local sources to ensure appropriate local knowledge can be captured before, during and after incidents.

## Part 3. DURING: RESPONSE ARRANGEMENTS

### 3.1 Introduction

#### 3.1.1 Activation of response

Storm and flood response arrangements may be activated by the VICSES Regional Duty Officer (RDO), Regional Agency Commander (RAC) or Incident Controller (IC).

The VICSES RDO, RAC or IC will activate agencies as required and documented in the VICSES Central Region Storm and Flood Emergency Plans, the State Storm Emergency Plan and the State Flood Emergency Plan ([ses.vic.gov.au/about-us/state-and-regional-emergency-plans](https://ses.vic.gov.au/about-us/state-and-regional-emergency-plans)).

#### 3.1.2 Responsibilities

There are a number of agencies with specific roles that will act in support of VICSES and provide support to the community in the event of a serious storm and/or flood within the Knox municipality. These agencies will be engaged through the Incident Emergency Management Team (IEMT).

The general roles and responsibilities of supporting agencies are as agreed within the following documents:

- Knox MEMP
- The SEMP ([Roles and Responsibilities](#))
- VICSES Central Region Flood and Storm Emergency Plans and State Flood and Storm Emergency Plans ([ses.vic.gov.au/prepare/em-planning/state-plans](https://ses.vic.gov.au/prepare/em-planning/state-plans))

#### 3.1.3 Municipal Emergency Coordination Centre (MECC)

Where activated, the function, location, establishment and operation of the MECC (or similar coordination centre) will be as detailed in the Knox MEMP.

Liaison with the MECC (or similar coordination centre) will be through the VICSES Central Region RDO/IC or established ICC.

In the event that a MECC (or similar) is not operating, the Knox City Council Municipal Emergency Management Officer (MEMO) will be contacted.

#### 3.1.4 Escalation

Most storm and/or flood incidents are of local concern and an appropriate response can usually be coordinated using local resources. However, when these resources are exhausted, 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 SEMP.

### 3.2 State Emergency Management Priorities

To provide guidance to the Incident Management Team (IMT) and Incident Emergency Management Team (IEMT), the following State Emergency Management 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/tourists 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 support 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 assets** that considers the cultural, biodiversity, and social values of the environment.

Circumstances may arise where the IC 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 Response Controller and relevant stakeholders based on sound incident predictions and risk assessments.

### 3.3 The Six C's

Arrangements in this MSFEP must be consistent with the Six C's detailed in State and Regional Flood and Storm Emergency Plans and the MEMP:

- **Control:** Overall direction of response activities in an emergency, operating horizontally across agencies.
- **Command:** Internal direction of personnel and resources of an agency.
- **Coordination:** Bringing together agencies and resources to ensure effective preparation for response and recovery.
- **Consequences:** Management of the effect of emergencies on individuals, communities, infrastructure and the environment.
- **Communication:** Engagement and provision of information across agencies and proactively with the community around preparation, response and recovery in emergencies.
- **Community Connection:** Understanding and connecting with trusted networks, leaders and all communities to support resilience and decision making.

For further information, refer to the SEMP.

Specific details of arrangements for this Plan are to be provided in **Appendix C**.

### **3.3.1 Control**

Sections 5(1)(b) and 5(1)(c) of *the Victoria State Emergency Service Act 2005* detail the authority for VICSES to plan for and respond to storms and floods.

Table 9 of the SEMP ([Roles and Responsibilities](#)) identifies VICSES as the Control Agency for storm and flood. It identifies DELWP as the Control Agency responsible for dam safety, water and sewerage asset related incidents and other emergencies.

All flood response activities within the Knox municipality, including those arising from a dam failure or retarding basin/levee bank failure incident, will therefore be under the control of the appointed IC or their delegated representative.

### **3.3.2 Incident Controller (IC)**

An IC will be appointed by VICSES (as the Control Agency), to command and control available resources in response to a storm and/or flood event on the advice of the BoM (or other reliable source) that a storm and/or flood event will occur or is occurring. The IC responsibilities are as defined in the SEMP.

### **3.3.3 Incident Control Centre (ICC)**

As required, the IC will establish an ICC from which to initiate incident response command and control functions. The decision as to if and when the ICC should be activated, rests with the Control Agency (VICSES).

Pre-determined Incident Control Centres are located at:

- Sunshine ICC (Primary)
- Dandenong ICC (Primary)
- Ferntree Gully ICC (Secondary)
- Woori Yallock ICC (Secondary)\*\*
- Burnley ICC (Secondary)\*\*

\*\* to be considered as redundant ICC sites should other ICCs become unavailable or unserviceable. At the time of publishing, arrangements for the use of Burnley ICC were under review.

### **3.3.4 Divisions and Sectors**

To ensure that effective Command and Control are in place, the IC may establish Divisions and Sectors depending upon the complexity of the event and resource capacities.

Divisions and Sectors may be established to assist with the management of storms and flooding within the municipality.

Pre-determined Divisional Command Point (DCP) locations may include:

Division	Sector
DCP Knox (VICSES Knox Unit)	To be allocated on an as needs basis

### 3.3.5 Incident Management Team (IMT)

The IC will form an IMT in line with Australasian Inter-service Incident Management System (AIIMS) principles. Refer to the SEMP for guidance on IMTs.

### 3.3.6 Incident Emergency Management Team (IEMT)

The IC will establish a multi-agency IEMT to assist with the storm and/or flood response. The IEMT 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 and who are able to provide high-level strategic guidance and policy advice to the IC for consideration in developing incident management strategies.

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

Refer to the SEMP for further guidance on IEMTs.

### 3.3.7 On receipt of a Flood Watch/Severe Weather Warning

The VICSES RDO (until an IC is appointed), will undertake actions as defined within the Flood Intelligence Cards (**Appendix C**). General considerations by the VICSES RDO/IC will be as follows:

- Review storm and flood intelligence to assess likely flood consequences.
- Monitor weather and flood information ([bom.gov.au](http://bom.gov.au)).
- Assess Command and Control requirements.
- Review local resources and consider needs for further resources regarding personnel, property protection, storm/flood rescue and air support.
- Notify and brief appropriate officers. This includes the Regional Control Centre (RCC) (if established), State Control Centre (SCC) (if established), Council (as outlined in the Knox MEMP), and other emergency services through the IEMT.
- Assess ICC readiness (including staffing of IMT and IEMT) 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 storm and flood mitigation works are being checked by owners.
- Develop and issue incident action plan, if required.
- Develop and issue situation report, if required.

### 3.3.8 On receipt of the first and subsequent Storm and/or Flood Warnings

The VICSES RDO (until an IC is appointed) will undertake actions as defined within the Flood Intelligence Cards (**Appendix C**). General considerations by the VICSES RDO/IC will be as follows:

- Develop an appreciation of current flood levels and predicted levels – determine if floodwaters are rising, peaking or falling.
- Review flood and storm 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.
  - What areas may be at risk of building damage.
- Determine what the at-risk community need to know and do as the storm and/or flood develops.
- Warn the at-risk community, including ensuring that an appropriate warning and community information strategy is implemented. This includes:
  - The current storm and/or flood situation.
  - Storm and/or flood predictions.
  - What the consequences of predicted activity and or 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 storm and/or flood consequence assessment.
- Continue to monitor the storm/flood situation ([bom.gov.au/vic/flood/](http://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 VICSES Central Region Storm and Flood Emergency Plans and State Storm and Flood Emergency Plans.

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, including VicEmergency website
- VicEmergency Hotline
- Variable Message Signs (i.e. road signs)
- Community meetings and connecting to trusted community networks
- Newspapers
- Email
- Newsletters
- Letter drops
- Social media and/or social networking sites (i.e. Twitter and/or Facebook).

Refer to **Appendix 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, as the Control Agency.

Responsibility for public information, including media briefings, rest with VICSES as the Control Agency. Knox City Council will assist VICSES to warn individuals within the community where practicable, including activation of flood warning systems, where they exist. Other agencies such as the Country Fire Authority (CFA), DELWP and Victoria Police (VicPol) may be requested to assist VICSES with the communication of community storm and/or flood warnings.

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

DH will coordinate information regarding public health and safety precautions.

### 3.5 Media communication

The IC, through the Public Information Unit established at the ICC, will manage media communication. If the ICC is not established, the VICSES RDO will manage all media communication. Knox City Council will work with the IC/VICSES RDO to assist with the dissemination of public messaging and/or warnings to ensure that consistent and timely messaging occurs.

### 3.6 Impact Assessment (IA)

Impact Assessment (IA) can be conducted in accordance with State doctrine and Standard Operating Procedures (SOPs) to assess and record the extent and nature of damage caused by storms and/or flooding. This information may then be used to provide the basis for further needs assessment and recovery planning by Knox City Council, DFFH and other applicable recovery agencies. The control agency is responsible for coordinating the collection, collation and dissemination of IA information on a whole-of government basis during the emergency



response. The purpose, function and conduct of IA is outlined in the State Flood and State Storm Emergency Plan. All IA must be conducted in accordance with current State impact assessment doctrine and SOPs.

### 3.7 Preliminary deployments

When storm impacts and/or flooding are expected to be severe enough to cut access to towns, suburbs and/or communities, the IC 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 and relief centres (in line with the Knox MEMP).

### 3.8 Response to flash and riverine flooding

Emergency management response to flash and/or riverine flooding should be consistent with the guideline for the emergency management of flash/riverine flooding contained within the VICSES Central Region Storm and Flood Emergency Plans and State Storm and Flood Emergency Plans.

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

1. Determine if there are barriers to evacuation by considering warning time, safe routes, and resources available.
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.
6. Contact the MERC, MEMO and Knox City Council Municipal Recovery Manager (MRM) at the earliest opportunity to allow relief preparation to commence. The MERC will liaise with the MEMO and MRM about activating an Emergency Relief Centre (ERC) (see Knox MEMP).

Due to the rapid development of flash flooding, it will often be difficult to establish emergency relief centres ahead of triggering the evacuation. This is normal practice, but this is insufficient justification for not adopting evacuation.

Refer to **Appendix C** for response arrangements for flash and riverine flood events. Refer to the VicRoads website for road closures ([alerts.vicroads.vic.gov.au/](https://alerts.vicroads.vic.gov.au/)).

### 3.9 Evacuation

In Victoria, evacuation is largely voluntary, however in particular circumstances, legislation provides some emergency services with authority to remove people from areas or prohibit their entry.

The decision to recommend or warn people to prepare to evacuate or to evacuate immediately rests with the IC, and where possible the IEMT.

It is the choice of individuals as to how they respond to this recommendation.

Once the decision is made, VicPol are responsible for the coordination 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 delegate to Australian Red Cross) may take on the responsibility of registering people affected by the emergency (through the 'Register Find Reunite' program) including those who have been evacuated.

Evacuation operations should be consistent with the Joint Standard Operating Procedure on Evacuation (JSOP3.12). Guidelines for best practice for planning evacuations are provided in Australian Institute for Disaster Resilience Handbook 4, available at: [knowledge.aidr.org.au/resources/handbook-evacuation-planning/](https://knowledge.aidr.org.au/resources/handbook-evacuation-planning/).

If evacuation is determined as appropriate, Knox City Council MEMO and MRM should be notified as soon as possible.

There are currently no detailed evacuation arrangements for the Knox municipality. Detail will be populated into **Appendix D** of this Plan if determined.

### 3.10 Flood rescue

VicPol, as the designated Control Agency for water rescue, coordinates rescues undertaken during flood events.

In order to activate water rescue services, VICSES as the Control Agency for overall flood response, will identify areas at risk of requiring rescue and notify the Officer in Charge of the Water Police Search and Rescue Squad to request pre-deployment of rescue resources to those areas.

In conducting rescues, VicPol may require the assistance of appropriately trained and equipped personnel. In these circumstances, appropriately trained and equipped VICSES units or other agencies 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.

### 3.11 Aircraft management

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

Air support operations will be conducted under the control of the IC in line with State Aircraft Unit Policy 01-Air Operations. The IC may request aircraft support through the State Aircraft Desk located at the SCC. The SCC will establish priorities.

Suitable airbase facilities are located at:

- Essendon
- Moorabbin

### 3.12 Resupply

Communities, neighbourhoods or households can become isolated during storm and/or 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 and/or intelligence indicate that communities, neighbourhoods and/or households may become isolated, and if time permits, VICSES will advise businesses and/or households that they should stock up on essential items.

After the impact, agencies may assist with the transport of essential items to isolated communities and assist with logistics functions.

### 3.13 Essential infrastructure and property protection

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

The IC will ensure that owners of Essential Infrastructure are kept advised of the storm and/or flood situation. Essential infrastructure providers must keep the IC informed of their status and ongoing ability to provide services.

The IC will determine the priorities related to the use of sandbags, which will be consistent with the State Emergency Management Priorities.

VICSES Knox Unit maintains a small stock of sandbags, and back-up supplies are available through VICSES Regional Headquarters. If time permits, requests for supplementary supply should be carried out in line with Local Response Arrangements contained within the Knox MEMP.

If VICSES sandbags are becoming limited in supply, then priority will be given to protection of Essential Infrastructure. Other high priorities may include, for example, the protection of historic 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 Melbourne Water, Knox City Council and VicPol and within appropriate approval frameworks.

Refer to **Appendix C** for further specific details of Essential Infrastructure requiring protection. Sandbag collection points will be established as needed.

### 3.14 Disruption to services

Disruption to services, other than Essential Infrastructure and property, can occur in storm and flood events. Refer to **Appendix C** for specific details of likely disruption to services and proposed arrangements to respond to service disruptions in the Knox municipality.

### 3.15 Levees

Levee owners/operators are responsible for the maintenance, operation and monitoring of their levees. Levee owners/operators must keep the IC informed of levee status' and be prepared to provide expert advice to the IC about the design and construction of their levees. In accordance with the State Emergency Management Priorities, the IC may assist levee owners to coordinate resources, both technical and physical, to provide advice and affect temporary repairs to, or augmentation of, levees.

Levees within the Knox municipality are listed in **Appendix C**.

### 3.16 Road closures

Knox City Council, VicPol and the Department of Transport (DoT) will carry out their formal functions of road closures. This includes observation and placement of warning signs, and Traffic Management Points to its designated local and regional roads, bridges, walking and bike trails. VicPol may liaise with and advise Knox City Council and DoT of the need to erect warning signs and/or closure of roads and bridges under its jurisdiction. DoT are responsible for designated main roads and highways and Knox City Council are responsible for the designated local and regional road network.

DoT, VicPol and Knox City Council will communicate community information regarding road closures as outlined in the Knox MEMP.

### 3.17 Dam failure and Landslide

#### 3.17.1 Dam Failure

DELWP 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 (in the event of a failure) within the Knox municipality are listed in **Appendix A**.

#### 3.17.2 Landslide

VICSES is the Control Agency for landslide incidents. VICSES is also the Control Agency for any flooding that may result.

### 3.18 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 and Knox City Council MEMO of the security of critical sewerage assets to assist preparedness and response activities in the event of a 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 VICSES RDO/IC or established ICC in the event of inundation of critical sewerage assets.

It is the responsibility of the Knox City Council Environmental Health Officer and the Environment Protection Authority (EPA) to inspect and report any water quality issues relating to flooding to the Knox City Council MEMO and ICC.

General public health information and messages are provided by Knox City Council, EPA, DH and DFFH and may contain information that is relevant prior to, during and following an incident. Information may be provided in sub plans to the MEMP, specific health notifications and, after discussion within the IEMT, may be included in Flood Bulletins.

### **3.19 Access to Technical Specialists**

VICSES manages contracts with private technical specialists who can provide technical assistance in the event of flood operations or geotechnical expertise. Refer to VICSES SOP061 for the procedure to engage these specialists.

### **3.20 After action review**

As the lead agency, VICSES will coordinate the After Action Review (AAR) arrangements for storm/flood operations as soon as practical following an event.

All agencies involved in the storm/flood incident should be represented at the AAR.

## **Part 4. AFTER: EMERGENCY RELIEF AND RECOVERY ARRANGEMENTS**

### **4.1 General**

Arrangements for emergency relief and recovery from any emergency, including a storm and/or flood incident within the Knox municipality are detailed in the Knox MEMP, Recovery Sub Plan and Emergency Relief Centres Sub Plan.

### **4.2 Emergency relief**

The IC determines the need for emergency relief services with advice from the emergency management team (such as the IEMT), including the MRM, in accordance with the SEMP relief arrangements. The IC is responsible for ensuring that relief arrangements have been considered and implemented where required under the State Emergency Relief and Recovery Plan. These should be carried out in line with the Knox MEMP (Emergency Relief Centres Sub Plan).

The IC should ensure that the MERC, the Regional Recovery Coordinator and the MRM are kept informed of arrangements for relief.

The range and type of emergency relief services to be provided in response to a storm and/or flood event will be dependent upon the scale and impact of the storm/flood. Refer to the SEMP for further information.

Knox City Council has many facilities suitable for relief activities. Suitable emergency relief/recovery facilities identified for use during storms and/or floods are detailed in the Knox MEMP. The MRM will facilitate access to emergency relief/recovery facilities as required. The MEMO will facilitate access to staging areas as required.

### **4.3 Animal welfare**

Matters relating to the welfare of livestock (including feeding and rescue) are to be referred to the Department of Jobs, Precincts and Regions (DJPR). Requests for emergency supply and/or delivery of fodder to stranded livestock or for livestock rescue are passed to DJPR.

Matters relating to companion animals will be shared between Knox City Council and RSPCA/Animal Aid. Council assists, where possible, in the support and temporary rehousing of displaced companion animals.

Matters relating to the welfare of wildlife are to be referred to DELWP and Knox City Council.

Refer to the Eastern Metro Councils Animal Welfare Plan for details relating to livestock and companion animals. Refer to the State Emergency Animal Welfare Plan for detailed arrangements.

### **4.4 Transition from response to recovery**

VICSES, as the Control Agency, is responsible for ensuring effective transition from response to recovery. Transition should occur in consultation with emergency management teams (including IEMT and MRM). Further information about transition is provided in the SEMP and the Knox MEMP. Where the Knox MECC has been activated, Knox City Council will lead municipal recovery activity as outlined in the MEMP.

# APPENDIX A - FLOOD THREATS FOR KNOX MUNICIPALITY

## General

The Knox municipality is located approximately 20-25 km southeast of Melbourne and covers an area of approximately 114 square kilometres.<sup>1</sup> It is highly developed and comprises commercial, industrial and residential areas, including 59,084 private dwellings.<sup>2</sup> In 2020, the municipality had an estimated resident population of 165,147.<sup>3</sup> Rural land still exists in the southwest corner. There are eleven suburbs in the municipality. The municipality adjoins six other municipalities.

### 4.4.1 Description of Major Waterways and Drains

There are six major catchments in the Knox municipality: Northern Blind Creek, Southern Blind Creek, Upper Dandenong Creek, Rowville Main Drain, Corhanwarrabul Creek and Lower Dandenong Creek (URS, 2004). The municipality is described as '*gently undulating with flat ground in the vicinity of the creeks*'.<sup>4</sup>

Key features are waterways, channels, pipe assets, natural wetlands and retarding basins (**Figure 1**) and (**Figure 2**). The Knox municipality has no rivers. Approximately 94% of the runoff discharges into Dandenong Creek and flows through Mordialloc Creek to Port Phillip Bay while a small area of Lysterfield Hills drains to Eumerring Creek (ultimately flowing to Port Phillip Bay) (URS, 2005). There are some significant constructed waterways in the municipality (Caribbean Lake, Waterford Valley Lakes, Sutton, Hill and Cogely Lakes).<sup>5</sup>

Knox City Council's stormwater infrastructure (as at 2022) is a combination of:

- 1,231km pipes
- 38,105 pits
- 4 retarding basins
- 15 treatment wetlands
- 20 raingarden systems
- Over 100 rainwater tanks
- 9 stormwater harvesting schemes
- Overland flowpath networks
- 38 sporting reserves
- 793 hectares of public open space

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<sup>1</sup> <https://www.knox.vic.gov.au/our-council/about-knox/knox-community-demographics>

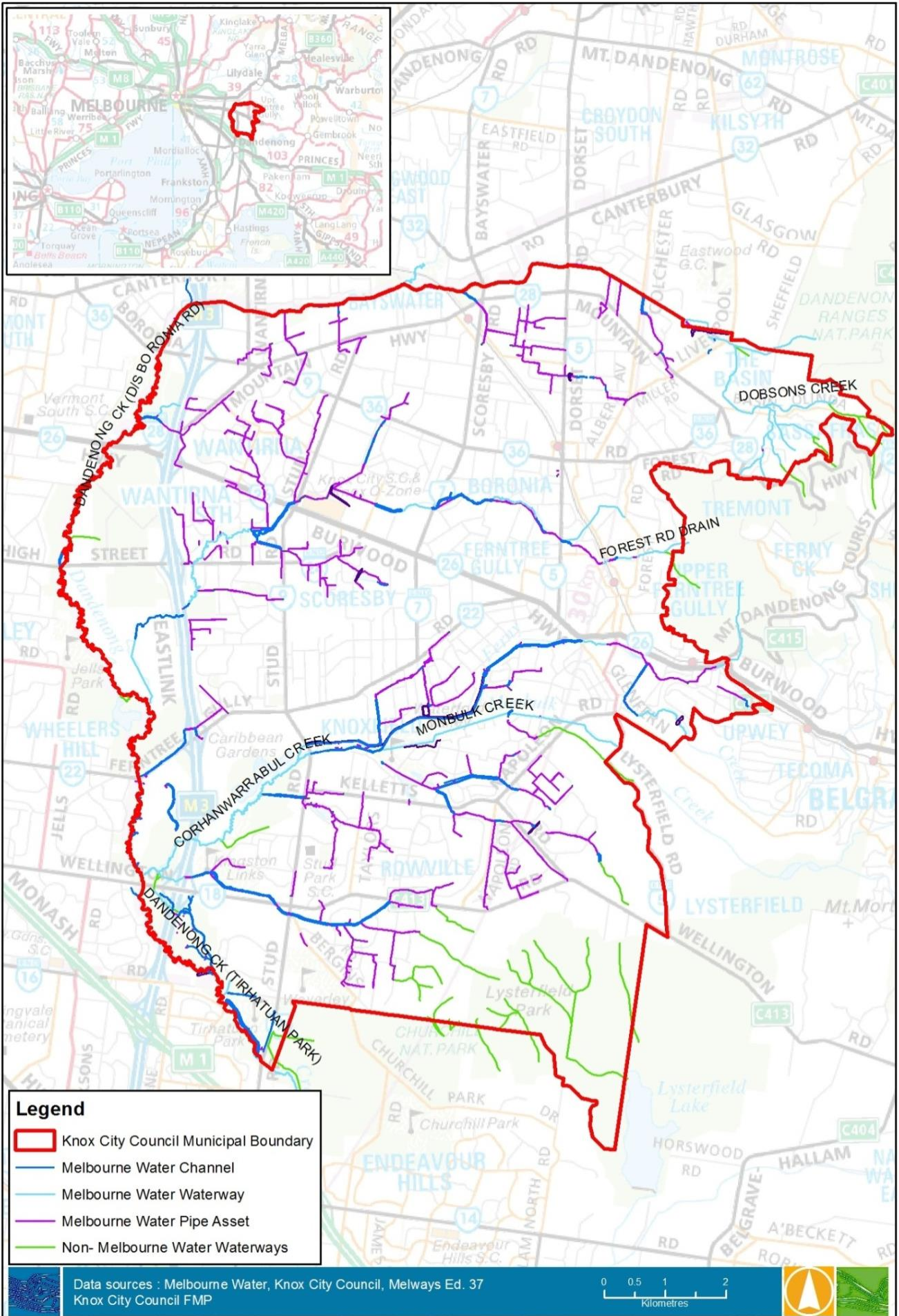
<sup>2</sup> <https://profile.id.com.au/knox/dwellings>

<sup>3</sup> <https://profile.id.com.au/knox/population>

<sup>4</sup> Knox City Council Flood Management Plan, Melbourne Water, 2012

<sup>5</sup> Knox City Council Flood Management Plan, Melbourne Water, 2012



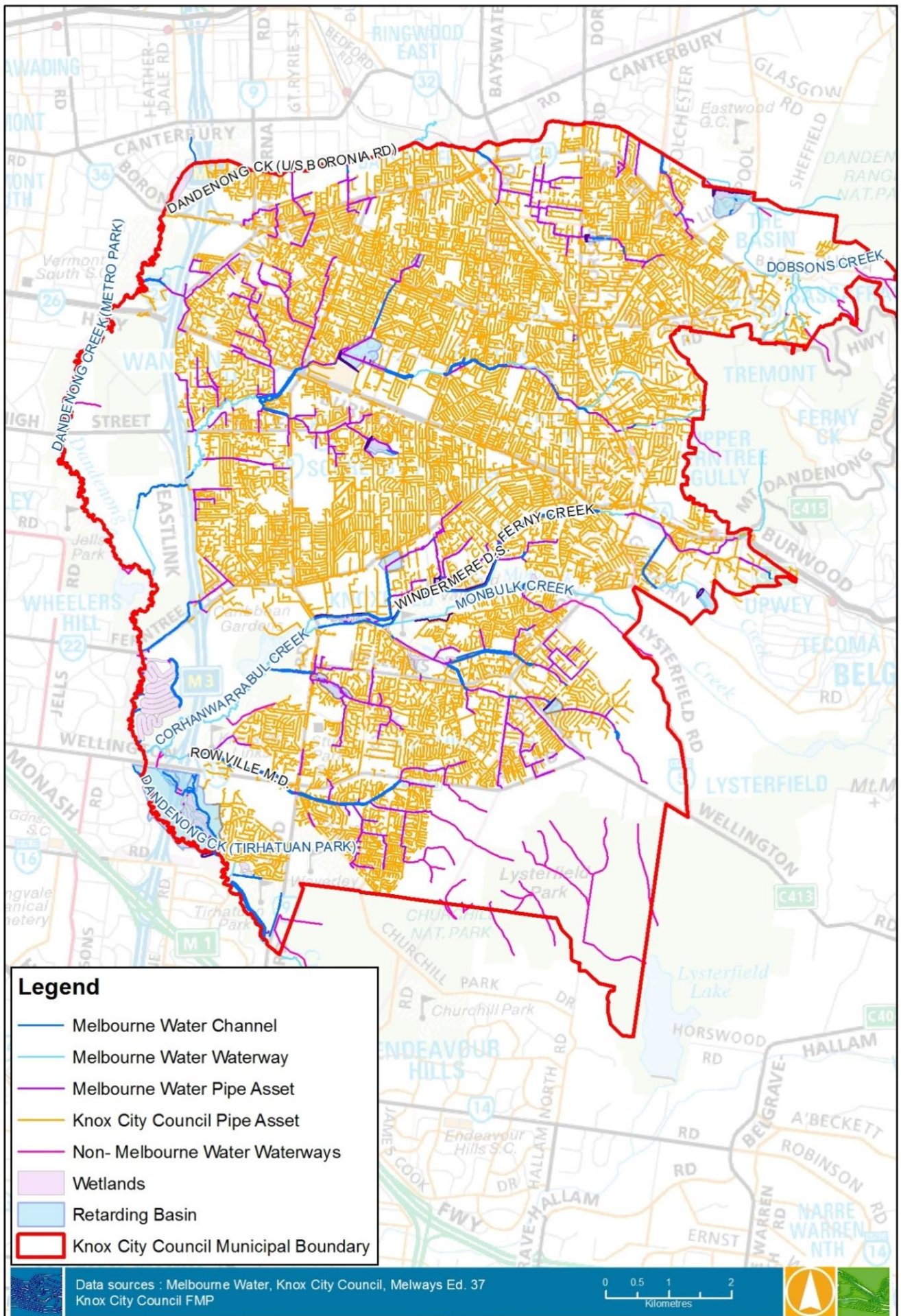


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30/09/2011

Figure 1 – Knox City Council boundary highlighting key features





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30/09/2011

Figure 2 – Knox City Council and Melbourne Water pipe and retarding basin assets

Melbourne Water Drains & Waterways	Suburb/s	Melbourne Water Drains & Waterways	Suburb/s
Blind Creek	Ferntree Gully, Boronia, Knoxfield, Wantirna, Wantirna South & Scoresby	Lysterfield West Drain	Lysterfield & Rowville
Boronia Township	Boronia	Monbulk Creek	Lysterfield, Ferntree Gully, Rowville & Knoxfield
Coppelia St Drain	Wantirna South	Old Joes Creek	Boronia, Bayswater & The Basin
Corhanwarrabul Creek	Rowville & Scoresby	Riddell Rd Drain	Wantirna South
Dandenong Creek	The Basin, Boronia, Bayswater, Wantirna, Wantirna South, Scoresby & Rowville	Rowville Main Drain	Rowville
Dobsons Creek	The Basin	Sasses Avenue Drain	Bayswater & Wantirna South
Ferntree Gully Creek	Upper Ferntree Gully	Scoresby Catchment	Knoxfield & Scoresby
Ferntree Gully South Drain	Ferntree Gully	Scoresby Outfall Drain	Scoresby
Ferny Creek	Ferntree Gully & Knoxfield	Stud Rd North Drain	Bayswater
Forest Rd Drain	Ferntree Gully	Studfield West Drain	Wantirna
George Street Drain	Wantirna South	Templeton St Drain	Wantirna
Kelletts Rd Drain	Rowville	Upwey Creek	Upper Ferntree Gully
Kent Park Drain	Ferntree Gully	Wantirna North Drain	Wantirna
Knoxfield Outfall Drain	Knoxfield	Wantirna South Drain	Wantirna South
Koomba Rd Drain	Wantirna	Windermere Drain	Ferntree Gully

## Historic Storms and Floods

### Hailstorm – 6 March 2010

In less than 20 minutes on Saturday 6 March 2010, a severe hailstorm impacted Victoria causing widespread damage to much of metropolitan Melbourne. Many properties sustained significant damage from both the hailstorm and the heavy rain that followed. By the end of operations on 12 March, VICSES had managed in excess of 3,000 requests for assistance.

### Rainfall Event – 4 February 2011

Elevated moisture from ex-Tropical Cyclone Anthony arrived in Victoria on 4 February and combined with an approaching surface trough to deliver large thunderstorms and heavy rain to Victoria. The storms affected most of the State in the late afternoon and early evening, with metropolitan Melbourne receiving repeated thunderstorms resulting in rainfall in excess of 150mm at some locations. The intense rainfall resulted in many instances of flash-flooding around the metropolitan suburbs. The Scoresby Research Institute rainfall gauge recorded 115.6 mm of rain in the 24 hour period from 9 am on 4 February. The total rainfall total for February at Scoresby was 212.4 mm which is a February record for the gauge (since 1950). The previous wettest February was 2005 (188mm). The average February rainfall at the Scoresby gauge is 53mm. **Figure 3** below shows the recorded rainfall depths across Victoria for the event (BOM, 2011).<sup>6</sup>

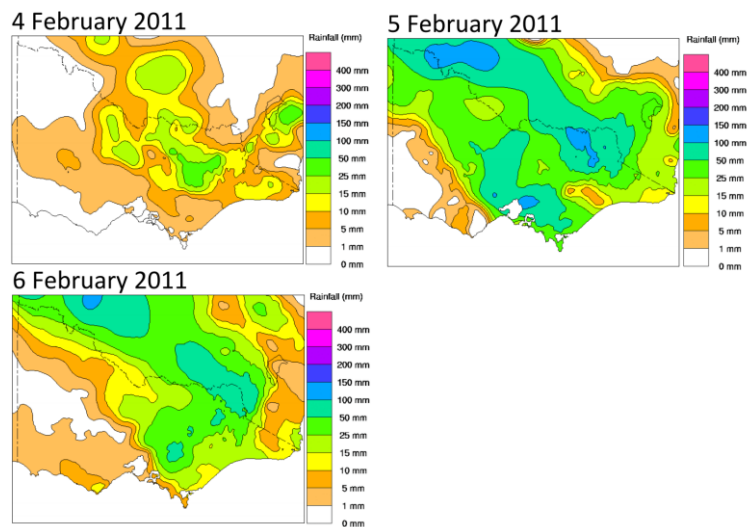


Figure 3 – Precipitation depths from February 2011 storm event (BoM, 2011)

### Storm/Flood – 9 October 2016

Following the wettest September on record, Knox municipality was hit with a storm resulting in large damage across the municipality.

### Storm/Extended Power Outage Event – 9 June 2021

Overnight storm caused significant damage due to more than 150 trees down across Knox municipality and over 2000 residences without power for an extended period, ranging from 3-7 days.

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<sup>6</sup> Knox City Council Flood Management Plan, Melbourne Water, 2012



Significant floods (with high flood gauge levels and likely flooding consequences to property and infrastructure) that have occurred within the Knox municipality are as follows in the table below. \* Note that the Gauge at Wantirna South on Blind Creek was realigned in 2008 resulting in a change in water levels against the gauge. Levels and rain totals in black indicate large-scale impacts to surrounding areas were recorded, whereas grey figures indicate localised impacts if any occurred. To view the locations of a selection of these severe weather events, see mapping in **Appendix F**.

Event	Dandenong Creek at The Basin (228373A) Creek Level	Dandenong Creek at Wantirna (228357A) Creek Level	Dandenong Creek at Rowville (228368A) Creek Level	Blind Creek at Knox (228366A) Creek Level	Blind Creek at Wantirna South (228351B) Creek Level	Monbulk Creek at Lysterfield (228229B) Creek Level	Corhanwarrabul Creek at Scoresby (228393A) Creek Level
Normal Water Level	1.0m	0.15m	0.2m	0.1m	0.50m / 0.15m*	1.10	0.15m
Minor	-	-	4.6m	-	-	-	-
Moderate	-	-	5.0m	-	-	-	-
Major	-	-	5.5m	-	-	-	-
7 August 1978	-	1.77m	4.74m	3.09m	1.90m	-	-
19 November 1978	-	2.02m	4.88m	3.23m	2.04m	-	-
6 October 1979	-	2.09m	4.85m	3.46m	2.06m	-	-
25 May 1981	-	2.19m	4.77m	3.76m	2.01m	-	-
18 September 1984	-	2.61m	5.69m	5.11m	2.47m	-	-
29 July 1987	-	1.12m	5.14m	3.94m	2.22m	-	-
25 December 1988	-	2.14m	4.60m	3.47m	2.37m	-	-
21 March 1989	-	2.18m	-	4.04m	2.37m	-	-
11 June 1989	-	2.44m	5.01m	3.12m	2.02m	-	-
18 July 1990	-	2.10m	4.95m	2.92m	2.31m	-	-
12 October 1990	3.08m	1.77m	4.91m	2.69m	2.01m	-	-
6 July 1991	3.25m	2.14m	5.04m	2.94m	2.21m	-	-
31 December 1991	1.16m	2.55m	4.70m	3.04m	2.46m	-	-
15 September 1993	-	1.86m	4.85m	2.78m	2.07m	-	-
27 December 1993	-	2.19m	4.97m	2.99m	2.41m	-	-
30 July 1996	4.68m	2.08m	5.12m	3.01m	2.30m	-	-
3 December 2003	1.15m	2.32m	4.64m	4.11m	2.79m	-	-
13 November 2004	3.28m	2.33m	4.91m	-	2.50m	-	-
3 February 2005	4.53m	2.72m	5.56m	5.14m	2.65m	-	-
22 December 2007	1.53m	2.27m	4.76m	3.33m	2.48m	3.11m	1.82m
31 October 2010	2.71m	1.81m	4.80m	3.41m	2.31m*	3.78m	1.74m

Event	Dandenong Creek at The Basin (228373A) Creek Level	Dandenong Creek at Wantirna (228357A) Creek Level	Dandenong Creek at Rowville (228368A) Creek Level	Blind Creek at Knox (228366A) Creek Level	Blind Creek at Wantirna South (228351B) Creek Level	Monbulk Creek at Lysterfield (228229B) Creek Level	Corhanwarrabul Creek at Scoresby (228393A) Creek Level
Normal Water Level	1.0m	0.15m	0.2m	0.1m	0.50m / 0.15m*	1.10	0.15m
Minor	-	-	4.6m	-	-	-	-
Moderate	-	-	5.0m	-	-	-	-
Major	-	-	5.5m	-	-	-	-
20 December 2010	2.35m	2.06m	4.83m	2.99m	2.19m*	1.46m	1.32m
5 February 2011	4.01m	2.77m	5.45m	4.98m	<b>2.58m*</b>	<b>8.56m</b>	<b>2.36m</b>
22 June 2012	2.92m	1.45m	4.80m	1.62m	1.85m*	3.66m	1.82m
2 July 2012	3.69m	1.92m	4.57m	2.13m	2.05m*	1.57m	1.71m
1 June 2013	2.02m	2.70m	4.87m	3.55m	2.37m*	3.23m	1.82m
29 December 2016	1.59m	2.64m	3.48m	3.48m	2.44m*	3.27m	2.12m
3 December 2017	2.27m	1.79m	4.76m	2.00m	2.05m*	2.55m	1.75m
8 December 2017	1.59m	1.75m	4.61m	2.42m	2.18m*	1.69m	1.66m
4 <sup>th</sup> April 2020	2.09m	1.62m	4.68m	3.23m	2.27m	3.91m	2.00m

Table A2 – Selection of Historical Flood Events along the Dandenong, Blind & Corhanwarrabul Creek catchments in the Knox municipality

## Dam Failure

No dams, either in or upstream of the Knox municipality, are expected to be affected from flooding. See Dam Failure in Part 3.17 of this Plan for more information. Service reservoirs located within the municipality are listed below.

Melbourne Water Service Reservoir	Location	Material	Reservoir Capacity	Melway Reference
Boronia Reservoir	Mountain Highway, The Basin near Academy Drive	Steel Tank	27.60 ML	65 G6
Wantirna Reservoir No.1	Mountain Highway, Wantirna near Remington Place	Steel Tank	13.96 ML	63 G6
Wantirna Reservoir No.2	Mountain Highway, Wantirna near Remington Place	Steel Tank	22.60 ML	63 G6
Ferntree Gully Reservoir	Wrexham Rd/Burke Rd, Ferntree Gully	Steel Tank	N/A	73 H1

Table A3 – Service Reservoirs in the Knox municipality

## APPENDIX B - TYPICAL FLOOD PEAK TRAVEL TIMES

In using the information contained in this Appendix, consideration needs to be given to the time of travel of the flood peak. A flood on a 'dry' waterway will generally travel more slowly than a flood on a 'wet' waterway (e.g. the first flood after a dry period will travel more slowly than the second flood in a series of floods). Hence, recent flood history, soil moisture and forecast weather conditions all need to be considered when using the following information to direct flood response activities.

Note that flooding will start some time ahead of the time indicated by the following travel times – these are the time between the flood peaks at respective sites.

### Typical Travel Times

Location From (gauge)	Location To (gauge)	Typical Travel Time	Comments
<b>DANDENONG CREEK</b>			
Wantirna	Rowville	Between 5 and 16 hours	Minor Flood
		Between 3 and 8 hours	Moderate Flood
		Around 1 hour	Major Flood
<b>BLIND CREEK</b>			
Knox	Wantirna South	Wantirna South may peak up to 3 hours before Knox due to the Retarding Basin located at the Knox Gauge. Once Knox has peaked, expect travel times of up to 6 hours.	
<b>CORHANWARRABUL CREEK</b>			
Lysterfield	Scoresby	Scoresby usually peaks up to 5 hours before Lysterfield due to the Monbulk Creek Retarding Basin at the Lysterfield Gauge.	

Table B1 – Typical Flood Travel Times between gauges on the Dandenong, Blind & Corhanwarrabul Creeks

## Historical Travel Times

Flood Event	Location From (gauge)	Location To (gauge)	Flood Peak Travel Time	Flood Class at
<b>DANDENONG CREEK</b>				<b>Rowville</b>
7 August 1978	Wantirna	Rowville	11 hours	Minor
19 November 1978	Wantirna	Rowville	9 hours	Minor
6 October 1979	Wantirna	Rowville	9 hours	Minor
25 May 1981	Wantirna	Rowville	10 hours	Minor
18 September 1984	Wantirna	Rowville	Less than 1 hour	Major
29 July 1987	Wantirna	Rowville	8 hours	Moderate
25 December 1988	Wantirna	Rowville	12 hours	Minor
11 June 1989	Wantirna	Rowville	7 hours	Moderate
12 October 1990	Wantirna	Rowville	7 hours	Minor
6 July 1991	Wantirna	Rowville	7 hours	Moderate
31 December 1991	Wantirna	Rowville	22 hours	Minor
15 September 1993	Wantirna	Rowville	11 hours	Minor
27 December 1993	Wantirna	Rowville	6 hours	Minor
30 July 1996	Wantirna	Rowville	7 hours	Moderate
3 December 2003	Wantirna	Rowville	14 hours	Minor
13 November 2004	Wantirna	Rowville	9 hours	Minor
3 February 2005	Wantirna	Rowville	1 hour	Major
22 December 2007	Wantirna	Rowville	11 hours	Minor
31 October 2010	Wantirna	Rowville	16 hours	Minor
20 December 2010	Wantirna	Rowville	8 hours	Minor
5 February 2011	Wantirna	Rowville	3 hours	Moderate
22 June 2012	Wantirna	Rowville	5 hours	Minor
1 June 2013	Wantirna	Rowville	11 hours	Minor
3 December 2017	Wantirna	Rowville	11 hours	Minor
8 December 2017	Wantirna	Rowville	17 hours	Minor
4 April 2020	Wantirna	Rowville	9 hours	Minor
<b>BLIND CREEK</b>				
18 September 1975	Knox	Wantirna South	Less than 1 hour	N/A
7 August 1978	Knox	Wantirna South	Less than 1 hour	N/A
19 November 1978	Knox	Wantirna South	1 hour	N/A
6 October 1979	Knox	Wantirna South	1 hour	N/A
25 May 1981	Knox	Wantirna South	Less than 1 hour	N/A
18 September 1984	Knox	Wantirna South	Wantirna South peaked 1 hour before Knox	N/A
29 July 1987	Knox	Wantirna South	1 hour	N/A
25 December 1988	Knox	Wantirna South	3 hours	N/A
21 March 1989	Knox	Wantirna South	Wantirna South peaked 2 hours before Knox	N/A
11 June 1989	Knox	Wantirna South	2 hours	N/A
18 July 1990	Knox	Wantirna South	Less than 1 hour	N/A
12 October 1990	Knox	Wantirna South	2 hours	N/A
6 July 1991	Knox	Wantirna South	2 hours	N/A
31 December 1991	Knox	Wantirna South	Less than 1 hour	N/A



Flood Event	Location From (gauge)	Location To (gauge)	Flood Peak Travel Time	Flood Class at
15 September 1993	Knox	Wantirna South	6 hours	N/A
27 December 1993	Knox	Wantirna South	Less than 1 hour	N/A
30 July 1996	Knox	Wantirna South	Wantirna South peaked 3 hours before Knox	N/A
3 December 2003	Knox	Wantirna South	Less than 1 hour	N/A
3 February 2005	Knox	Wantirna South	Less than 1 hour	N/A
22 December 2007	Knox	Wantirna South	Wantirna South peaked 1 hour before Knox	N/A
31 October 2010	Knox	Wantirna South	Wantirna South peaked 1 hour before Knox	N/A
20 December 2010	Knox	Wantirna South	Wantirna South peaked 3 hours before Knox	N/A
5 February 2011	Knox	Wantirna South	Wantirna South peaked 2 hours before Knox	N/A
22 June 2012	Knox	Wantirna South	Less than 1 hour	N/A
2 July 2012	Knox	Wantirna South	4 hours	N/A
1 June 2013	Knox	Wantirna South	Wantirna South peaked 3 hours before Knox	N/A
9 September 2014	Knox	Wantirna South	Less than 1 hour	N/A
29 December 2016	Knox	Wantirna South	Less than 1 hour	N/A
<b>CORHANWARRABUL CREEK</b>				
22 December 2007	Lysterfield	Scoresby	Less than 1 hour	N/A
31 October 2010	Lysterfield	Scoresby	Scoresby peaked 4 hours before Lysterfield	N/A
20 December 2010	Lysterfield	Scoresby	Scoresby peaked 1 hour before Lysterfield	N/A
5 February 2011	Lysterfield	Scoresby	Scoresby peaked 3 hours before Lysterfield	N/A
22 June 2012	Lysterfield	Scoresby	Scoresby peaked 2 hours before Lysterfield	N/A
2 July 2012	Lysterfield	Scoresby	Scoresby peaked 5 hours before Lysterfield	N/A
1 June 2013	Lysterfield	Scoresby	Scoresby peaked 3 hours before Lysterfield	N/A
9 September 2014	Lysterfield	Scoresby	Scoresby peaked 1 hour before Lysterfield	N/A
29 December 2016	Lysterfield	Scoresby	Less than 1 hour	N/A

Table B2 – Historical Flood Travel Times between gauges on the Dandenong, Blind and Corhanwarrabul Creeks in Knox

## APPENDIX C1 – DANDENONG FLOOD EMERGENCY PLAN

### Overview of Flooding Consequences

Dandenong Creek forms the northern and western boundaries of the Knox municipality within which four major tributaries join the Creek: Old Joes Creek in Boronia; Blind Creek in Wantirna South; Corhanwarrabul Creek in Scoresby; and Rowville Main Drain in Rowville. The Dandenong Creek catchment begins on Mount Dandenong in the Yarra Ranges Shire, passing alongside the municipalities of Maroondah, Knox, Monash, Casey, Greater Dandenong before discharging into Port Phillip Bay in the City of Kingston.

Along the western boundary of the Knox municipality neighbouring Dandenong Creek, a long green belt of public use land exists, minimising flooding consequences from the creek. This leaves a number of major roads: Wantirna Road; Boronia Road; High Street Road; Ferntree Gully Road; and Wellington Road as the key infrastructure at risk from this section of the creek. To see when these roads will be impacted, consult the intelligence cards in this appendix. A number of residential properties along the northern border of the Knox municipality and along Old Joes Creek are at risk in a 1% AEP (100yr ARI) flood event.

Two Melbourne Water Retarding Basins exist along Dandenong Creek in the Knox municipality, helping to minimise flood consequences on areas downstream. Liverpool Road Retarding Basin is located in the upper catchment, in The Basin, while Police Road Retarding Basin is located in Rowville.

*This Summary table is generated from Victorian Government data. The State of Victoria does not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for error, loss or damage which may arise from reliance upon it. All persons accessing this information should make appropriate enquiries to assess the currency of the data.*

**Summary of Consequences in a 1% AEP (100yr ARI) flood along Dandenong Creek in the Knox municipality**

Property					
<b>Properties</b>	<b>31</b>				
Residential	29				
Commercial	0				
Industrial	0				
Public Land	2				
Rural	0				
Community Infrastructure					
	0				
Essential Infrastructure					
Major Roads	4	Ferntree Gully Road; High Street Road; Wantirna Road; & Wellington Road			
Bus Routes	12	681, 682, 691, 754, 693, 736, 738, 753, 754, 900, 901 & 969			
Sewerage Facilities	3	Emergency Relief Points			
Drainage Facilities	2	Retarding Basins			
Tourism / Recreation					
Recreation Facilities	4	Dandenong Creek Trail; J.W. Manson Reserve; Koomba Park; & Rowville Rec Reserve No.2			
Government Boundaries					
Local Gov't Areas	1	Knox	CMA	1	Port Phillip & Westernport
Adjacent LGAs	6	Yarra Ranges; Maroondah; Whitehorse; Monash; Greater Dandenong; & Casey	CFA District	1	District 13
SES Resp' Boundary	1	Knox	FRV District	0	

Table C1.1 – Consequence Summary of 1% AEP flood along Dandenong Creek in the Knox municipality

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**Summary of Consequences in a 1% AEP (100yr ARI) flood along Dandenong Creek's stormwater tributaries in Knox**

Property (Flooded either Over-Floor or where 30cm depth in yard likely)					
<b>Properties</b>	<b>278</b>				
Residential	83				
Commercial	0				
Industrial	194				
Public Land	1				
Rural	0				
Community Infrastructure					
Care Facilities	1	Coogee Aged Care			
Essential Infrastructure					
Major Roads	1	Scoresby Road at Mountain Highway, Bayswater			
Bus Routes	3	664, 690 & 967			
Drainage Facilities	1	Retarding Basin			
Tourism / Recreation					
	0				
Government Boundaries					
Local Gov't Areas	1	Knox	CMA	1	Port Phillip & Westernport
Adjacent LGAs	0		CFA District	1	District 13
SES Resp' Boundary	1	Knox	FRV District	0	

Table C1.2 – Consequence Summary of 1% AEP flood along Dandenong Creek's stormwater tributaries in The Knox municipality

## Gauges and Warnings

Warnings are available for flooding expected along the Dandenong Creek at Rowville. Flood class levels for the Rowville gauge are detailed in table C1.3 and are used in the issuing of a flood warning for Dandenong Creek. Other level/flood gauges within the Dandenong Creek catchment are contained within table C1.4.

Gauge	River / Creek Flood Class Level		
	Minor	Moderate	Major
Dandenong Creek at Police Rd Retarding Basin, Rowville	4.6m	5.0m	5.5m

Table C1.3 – Gauges with established Flood Class Levels for Dandenong Creek

At these sites on the Dandenong Creek, the BoM in consultation with Melbourne Water will issue flood warnings if levels reach those classified above. This warning will be placed on the BoM website (<http://www.bom.gov.au/vic/warnings/index.shtml>) and the VicEmergency website (<https://emergency.vic.gov.au/>). While the Knox City Council monitors these warnings in times of high rainfall, there are no specific guidelines to advise how these situations should be responded to.

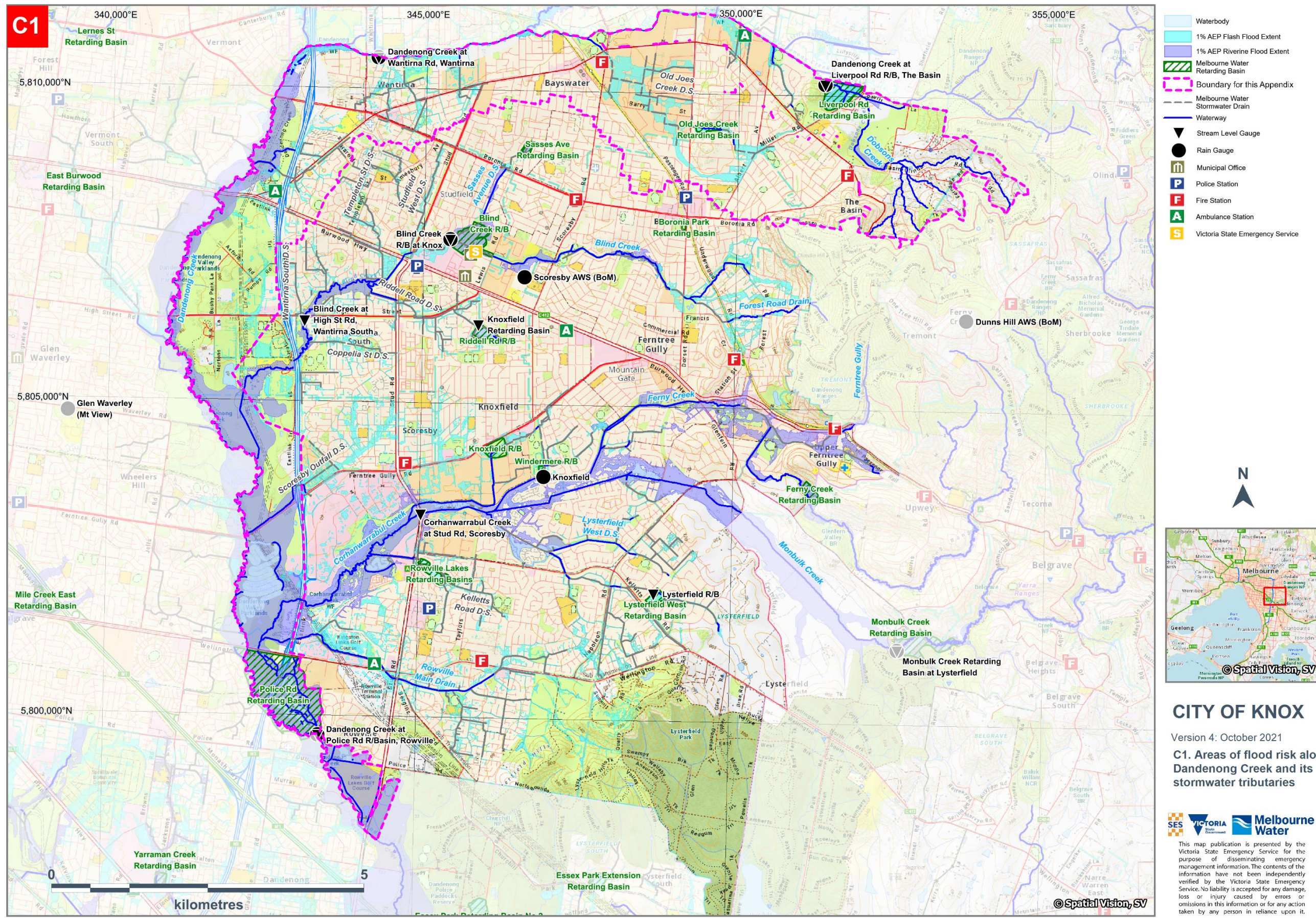
Gauge	Station No.	Location	Stream Level & Flow Gauge	Rain Gauge	Melway Reference
Bungalook Creek at Fussell Rd Retarding Basin, Montrose	228369A	North bank of the creek, 50m east of R/B embankment	✓	✓	51K11
Dandenong Creek at Liverpool Rd Retarding Basin, The Basin	228373A	At the Liverpool Road R/B outlet off Liverpool Road	✓	✓	65 F4
Dandenong Creek at Wantirna Rd, Wantirna	228357A	South side of the creek 150m east of Wantirna Road, Wantirna	✓	✓	63 H3
Dandenong Creek at Police Rd Retarding Basin, Rowville	228368A	North side of embankment. Access via Illawarra Avenue and through gate to the north.	✓	✓	81 E6

Table C1.4 – Gauges along Dandenong Creek around the Knox municipality

These Gauges may provide some warning of expected flooding. See the Melbourne Water website for more information on these gauges: <http://www.melbournewater.com.au/waterdata/rainfallandriverveldata/Pages/Rainfall-and-river-level-new.aspx>. The BoM website also links a number of these gauges at: [http://www.bom.gov.au/cgi-bin/wrap\\_fwo.pl?IDV60201.html](http://www.bom.gov.au/cgi-bin/wrap_fwo.pl?IDV60201.html). It is advised that residents monitor the BoM website <http://www.bom.gov.au/vic/warnings/index.shtml?ref=hdr> and the VicEmergency website <https://emergency.vic.gov.au/> for any thunderstorm, flood or severe weather warnings present for their area.



Area Map of Flood Risk along Dandenong Creek and small stormwater tributaries in Knox



**CITY OF KNOX**

Version 4: October 2021  
**C1. Areas of flood risk along Dandenong Creek and its stormwater tributaries**



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Figure C1 – Areas of flood risk along Dandenong Creek in the Knox municipality and area covered by this appendix



## Properties at Flood Risk

Properties listed in the table below are at risk from flooding along Dandenong Creek in the Knox municipality. As more intelligence becomes available, this list may change. This table has been populated based on modelling work as part of the Dandenong Creek u/s Bungalook Creek (BMT WBM, February 2015), the Dandenong Creek u/s Liverpool R/B (Melbourne Water, December 2013) and the Dandenong Creek David St to Morack Golf Course (Melbourne Water, January 2014) flood mapping and risk assessment programs.

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Properties at risk from Flooding along Dandenong Creek in Knox during a 1% AEP event				
Residential	Commercial	Industrial	Rural	Public Use
Street No. at Risk	Street	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
16	Botany Court	Wantirna	Dandenong Creek	Riverine
18	Botany Court	Wantirna	Dandenong Creek	Riverine
20	Botany Court	Wantirna	Dandenong Creek	Riverine
1	Burwood Highway	Wantirna	Dandenong Creek	Riverine
1	Edna Court	Wantirna	Dandenong Creek	Riverine
2	Edna Court	Wantirna	Dandenong Creek	Riverine
5	Edna Court	Wantirna	Dandenong Creek	Riverine
25	Juniper Road	Wantirna	Dandenong Creek	Riverine
27	Juniper Road	Wantirna	Dandenong Creek	Riverine
29	Juniper Road	Wantirna	Dandenong Creek	Riverine
32	Juniper Road	Wantirna	Dandenong Creek	Riverine
2	Magnolia Street	Wantirna	Dandenong Creek	Riverine
1/4	Magnolia Street	Wantirna	Dandenong Creek	Riverine
2/4	Magnolia Street	Wantirna	Dandenong Creek	Riverine
6	Magnolia Street	Wantirna	Dandenong Creek	Riverine
8	Magnolia Street	Wantirna	Dandenong Creek	Riverine
10	Magnolia Street	Wantirna	Dandenong Creek	Riverine
12	Magnolia Street	Wantirna	Dandenong Creek	Riverine
14	Magnolia Street	Wantirna	Dandenong Creek	Riverine
26	Mint Street	Wantirna	Dandenong Creek	Riverine
28	Mint Street	Wantirna	Dandenong Creek	Riverine
61	Mountain Highway	Wantirna	Dandenong Creek	Riverine
28	St Davids Drive	Wantirna	Dandenong Creek	Riverine
30	St Davids Drive	Wantirna	Dandenong Creek	Riverine
31	St Davids Drive	Wantirna	Dandenong Creek	Riverine
32	St Davids Drive	Wantirna	Dandenong Creek	Riverine
33	St Davids Drive	Wantirna	Dandenong Creek	Riverine
34	St Davids Drive	Wantirna	Dandenong Creek	Riverine
35	St Davids Drive	Wantirna	Dandenong Creek	Riverine
37	St Davids Drive	Wantirna	Dandenong Creek	Riverine
1395	Stud Road	Rowville	Dandenong Creek	Riverine
<b>Total</b>				
<b>31</b>				



Table C1.5 – Properties at risk of flooding along Dandenong Creek in the Knox municipality

Properties listed in the table below are at risk from flooding along the Wantirna North and the Koomba Rd Drainage Schemes over 30cm in depth in the yard. As more intelligence becomes available, this list may change. This table has been populated based on modelling work as part of the Wantirna North Drainage Scheme (Cardno, October 2020) and the Koomba Road Drainage Scheme (Cardno, September 2020) flood mapping and risk assessment programs. Note that any multi-lot properties situated above ground floor are likely to be impacted by isolation only with flooding on ground floor impacting access to common areas and/or carpark and storage facilities. Information on above ground-floor properties is not available in this list.

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Properties at risk from Flooding over 30cm depth along the Wantirna North and Koomba Rd Drainage Schemes						
Residential			Commercial	Industrial	Rural	Public Use
Street No. at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
		✓	6 Aughton Court	Wantirna	Koomba Rd Drainage Scheme	Flash
		✓	8 Aughton Court	Wantirna	Koomba Rd Drainage Scheme	Flash
		✓	5 Casey Court	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	7 Cathies Lane	Wantirna South	Koomba Rd Drainage Scheme	Flash
		✓	19 Colonial Court	Wantirna	Koomba Rd Drainage Scheme	Flash
		✓	20 Colonial Court	Wantirna	Koomba Rd Drainage Scheme	Flash
		✓	19 Eldale Court	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	1 Gresford Road	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	3 Gresford Road	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	5 Gresford Road	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	13 Gresford Road	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	15 Gresford Road	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	25 Hadlow Drive	Wantirna	Wantirna North Drainage Scheme	Flash
✓	✓	✓	27 Hadlow Drive	Wantirna	Wantirna North Drainage Scheme	Flash
	✓	✓	1/11 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
	✓	✓	2/11 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
	✓	✓	3/11 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
	✓	✓	4/11 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
	✓	✓	5/11 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
	✓	✓	18/11 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
✓	✓	✓	20/11 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
✓	✓	✓	21/11 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
✓	✓	✓	22/11 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
✓	✓	✓	23/11 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
✓	✓	✓	24/11 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
	✓	✓	17 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
	✓	✓	1/25 Havelock Road	Bayswater	Wantirna North Drainage Scheme	Flash
		✓	3 Kew Place	Wantirna	Koomba Rd Drainage Scheme	Flash
		✓	18 Minkell Court	Wantirna	Koomba Rd Drainage Scheme	Flash
		✓	335 Mountain Highway	Wantirna	Wantirna North Drainage Scheme	Flash
✓	✓	✓	337 Mountain Highway	Wantirna	Wantirna North Drainage Scheme	Flash

Properties at risk from Flooding over 30cm depth along the Wantirna North and Koomba Rd Drainage Schemes						
Residential		Commercial	Industrial	Rural	Public Use	
Street No. at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
	✓	✓	382 Mountain Highway	Wantirna	Wantirna North Drainage Scheme	Flash
✓	✓	✓	1/384 Mountain Highway	Wantirna	Wantirna North Drainage Scheme	Flash
✓	✓	✓	2/384 Mountain Highway	Wantirna	Wantirna North Drainage Scheme	Flash
✓	✓	✓	386 Mountain Highway	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	3 Rylands Place	Wantirna	Wantirna North Drainage Scheme	Flash
	✓	✓	4 Rylands Place	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	45 Selkirk Avenue	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	48 Selkirk Avenue	Wantirna	Wantirna North Drainage Scheme	Flash
	✓	✓	7/315 Wantirna Road	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	10/315 Wantirna Road	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	12/315 Wantirna Road	Wantirna	Wantirna North Drainage Scheme	Flash
	✓	✓	23/315 Wantirna Road	Wantirna	Wantirna North Drainage Scheme	Flash
		✓	26/315 Wantirna Road	Wantirna	Wantirna North Drainage Scheme	Flash
<b>Totals</b>						
<b>10</b>	<b>22</b>	<b>44</b>				

Table C1.6 – Properties at risk of flooding along the Wantirna North and Koomba Rd Drainage Schemes over 30cm depth in the Knox municipality

Properties listed in the table below are at risk from flooding along Old Joes Creek in the Knox municipality. As more intelligence becomes available, this list may change. This table has been populated based on modelling work as part of the Old Joes Creek (Cardno, January 2012) flood mapping and risk assessment program.

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Properties at risk from Flooding over-floor along Old Joes Creek in the Knox municipality						
Residential			Commercial	Industrial	Rural	Public Use
Street No. at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
✓	✓	✓	49 Albert Avenue	Boronia	Old Joes Creek	Flash
		✓	75 Albert Avenue	Boronia	Old Joes Creek	Flash
✓	✓	✓	2/89 Arcadia Avenue	The Basin	Old Joes Creek	Flash
	✓	✓	3/1 Bambury Street	Boronia	Old Joes Creek	Flash
	✓	✓	3/3 Bambury Street	Boronia	Old Joes Creek	Flash
		✓	2/11 Bambury Street	Boronia	Old Joes Creek	Flash
		✓	3/11 Bambury Street	Boronia	Old Joes Creek	Flash
		✓	2/31 Bambury Street	Boronia	Old Joes Creek	Flash
✓	✓	✓	3/33 Bambury Street	Boronia	Old Joes Creek	Flash
	✓	✓	1/41 Bambury Street	Boronia	Old Joes Creek	Flash
	✓	✓	5/41 Bambury Street	Boronia	Old Joes Creek	Flash
		✓	7/29 Barry Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	8/29 Barry Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	9/29 Barry Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	10/29 Barry Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	11/29 Barry Street	Bayswater	Old Joes Creek	Flash
	✓	✓	41 Barry Street	Bayswater	Old Joes Creek	Flash
		✓	1/48 Barry Street	Bayswater	Old Joes Creek	Flash
		✓	2/48 Barry Street	Bayswater	Old Joes Creek	Flash
	✓	✓	6/50 Barry Street	Bayswater	Old Joes Creek	Flash
		✓	1/52 Barry Street	Bayswater	Old Joes Creek	Flash
	✓	✓	2/52 Barry Street	Bayswater	Old Joes Creek	Flash
		✓	54 Barry Street	Bayswater	Old Joes Creek	Flash
		✓	4/28 Central Avenue	Boronia	Old Joes Creek	Flash
		✓	6/28 Central Avenue	Boronia	Old Joes Creek	Flash
		✓	7/28 Central Avenue	Boronia	Old Joes Creek	Flash
		✓	3/32 Central Avenue	Boronia	Old Joes Creek	Flash
	✓	✓	4/32 Central Avenue	Boronia	Old Joes Creek	Flash
	✓	✓	4/4 Coogee Street	Boronia	Old Joes Creek	Flash
		✓	3/6 Coogee Street	Boronia	Old Joes Creek	Flash
	✓	✓	6 Damar Avenue	Boronia	Old Joes Creek	Flash
		✓	307 Dorset Road	Boronia	Old Joes Creek	Flash
✓	✓	✓	355 Dorset Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	4/385 Dorset Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	5/385 Dorset Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	419 Dorset Road	Bayswater	Old Joes Creek	Flash

Properties at risk from Flooding over-floor along Old Joes Creek in the Knox municipality

Residential			Commercial	Industrial	Rural	Public Use
Street No. at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
	✓	✓	2/9 Elsie Street	Boronia	Old Joes Creek	Flash
✓	✓	✓	5/9 Elsie Street	Boronia	Old Joes Creek	Flash
		✓	1/13 Elsie Street	Boronia	Old Joes Creek	Flash
	✓	✓	19 Elsie Street	Boronia	Old Joes Creek	Flash
✓	✓	✓	21 Elsie Street	Boronia	Old Joes Creek	Flash
	✓	✓	23 Elsie Street	Boronia	Old Joes Creek	Flash
		✓	26A Elsie Street	Boronia	Old Joes Creek	Flash
	✓	✓	30 Elsie Street	Boronia	Old Joes Creek	Flash
	✓	✓	32 Elsie Street	Boronia	Old Joes Creek	Flash
✓	✓	✓	36 Elsie Street	Boronia	Old Joes Creek	Flash
✓	✓	✓	2/40 Elsie Street	Boronia	Old Joes Creek	Flash
✓	✓	✓	3/40 Elsie Street	Boronia	Old Joes Creek	Flash
	✓	✓	2/42 Elsie Street	Boronia	Old Joes Creek	Flash
	✓	✓	3/42 Elsie Street	Boronia	Old Joes Creek	Flash
	✓	✓	44 Elsie Street	Boronia	Old Joes Creek	Flash
✓	✓	✓	1/46 Elsie Street	Boronia	Old Joes Creek	Flash
✓	✓	✓	2/46 Elsie Street	Boronia	Old Joes Creek	Flash
✓	✓	✓	3/46 Elsie Street	Boronia	Old Joes Creek	Flash
	✓	✓	48 Elsie Street	Boronia	Old Joes Creek	Flash
		✓	50 Elsie Street	Boronia	Old Joes Creek	Flash
	✓	✓	52A Elsie Street	Boronia	Old Joes Creek	Flash
✓	✓	✓	52 Elsie Street	Boronia	Old Joes Creek	Flash
	✓	✓	2A Girdwood Road	Boronia	Old Joes Creek	Flash
✓	✓	✓	1/4 Girdwood Road	Boronia	Old Joes Creek	Flash
✓	✓	✓	2/4 Girdwood Road	Boronia	Old Joes Creek	Flash
✓	✓	✓	3/4 Girdwood Road	Boronia	Old Joes Creek	Flash
		✓	3/6 Holloway Drive	Bayswater	Old Joes Creek	Flash
	✓	✓	4/6 Holloway Drive	Bayswater	Old Joes Creek	Flash
	✓	✓	5/6 Holloway Drive	Bayswater	Old Joes Creek	Flash
✓	✓	✓	7 Holloway Drive	Bayswater	Old Joes Creek	Flash
		✓	9 Holloway Drive	Bayswater	Old Joes Creek	Flash
		✓	11 Holloway Drive	Bayswater	Old Joes Creek	Flash
	✓	✓	13 Holloway Drive	Bayswater	Old Joes Creek	Flash
		✓	20 Holloway Drive	Bayswater	Old Joes Creek	Flash
	✓	✓	52 Holloway Drive	Bayswater	Old Joes Creek	Flash
✓	✓	✓	1/54 Holloway Drive	Bayswater	Old Joes Creek	Flash
✓	✓	✓	2/54 Holloway Drive	Bayswater	Old Joes Creek	Flash
✓	✓	✓	56 Holloway Drive	Bayswater	Old Joes Creek	Flash
✓	✓	✓	58 Holloway Drive	Bayswater	Old Joes Creek	Flash
✓	✓	✓	2 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	4 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	5 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	6 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	7 Industry Place	Bayswater	Old Joes Creek	Flash

Properties at risk from Flooding over-floor along Old Joes Creek in the Knox municipality

Residential			Commercial	Industrial	Rural	Public Use
Street No. at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
✓	✓	✓	8 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	9 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	10 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	12 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	13 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	14 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	15 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	16 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	17 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	18 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	19 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	20 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	21 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	22 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	23 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	24 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	25 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	26 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	28 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	30 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	32 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	33 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	34 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	35 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	36 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	37 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	38 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	39 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	40 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	41 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	42 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	43 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	44 Industry Place	Bayswater	Old Joes Creek	Flash
✓	✓	✓	45 Industry Place	Bayswater	Old Joes Creek	Flash
	✓	✓	5/25 Jersey Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	1/28 Jersey Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	30 Jersey Road	Bayswater	Old Joes Creek	Flash
	✓	✓	13/46 Jersey Road	Bayswater	Old Joes Creek	Flash
	✓	✓	1/48 Jersey Road	Bayswater	Old Joes Creek	Flash
	✓	✓	2/48 Jersey Road	Bayswater	Old Joes Creek	Flash
	✓	✓	3/48 Jersey Road	Bayswater	Old Joes Creek	Flash
	✓	✓	4/48 Jersey Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	53 Jersey Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	56 Jersey Road	Bayswater	Old Joes Creek	Flash

Properties at risk from Flooding over-floor along Old Joes Creek in the Knox municipality

Residential			Commercial	Industrial	Rural	Public Use
Street No. at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
		✓	58 Jersey Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	1/59 Jersey Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	2/59 Jersey Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	3/59 Jersey Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	4/59 Jersey Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	5-6/59 Jersey Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	7/59 Jersey Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	8/59 Jersey Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	9/59 Jersey Road	Bayswater	Old Joes Creek	Flash
		✓	1/60 Jersey Road	Bayswater	Old Joes Creek	Flash
		✓	2/60 Jersey Road	Bayswater	Old Joes Creek	Flash
	✓	✓	1/3 Kearney Street	Bayswater	Old Joes Creek	Flash
		✓	1/5 Kearney Street	Bayswater	Old Joes Creek	Flash
	✓	✓	9 Kearney Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	12 Kearney Street	Bayswater	Old Joes Creek	Flash
	✓	✓	1/12 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	2/12 Malvern Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	14 Malvern Street	Bayswater	Old Joes Creek	Flash
		✓	18 Malvern Street	Bayswater	Old Joes Creek	Flash
		✓	1/21 Malvern Street	Bayswater	Old Joes Creek	Flash
		✓	2/21 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	3/21 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	4/21 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	5/21 Malvern Street	Bayswater	Old Joes Creek	Flash
		✓	6/21 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	7/21 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	8/21 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	9/21 Malvern Street	Bayswater	Old Joes Creek	Flash
		✓	10/21 Malvern Street	Bayswater	Old Joes Creek	Flash
		✓	11/21 Malvern Street	Bayswater	Old Joes Creek	Flash
		✓	12/21 Malvern Street	Bayswater	Old Joes Creek	Flash
		✓	1/23 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	25 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	26 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	31 Malvern Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	46 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	47 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	1/48 Malvern Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	2/48 Malvern Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	3/48 Malvern Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	4/48 Malvern Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	5/48 Malvern Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	6/48 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	51 Malvern Street	Bayswater	Old Joes Creek	Flash

Properties at risk from Flooding over-floor along Old Joes Creek in the Knox municipality

Residential			Commercial	Industrial	Rural	Public Use
Street No. at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
		✓	1/52 Malvern Street	Bayswater	Old Joes Creek	Flash
		✓	4/52 Malvern Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	13/52 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	14/52 Malvern Street	Bayswater	Old Joes Creek	Flash
		✓	15/52 Malvern Street	Bayswater	Old Joes Creek	Flash
		✓	1/54 Malvern Street	Bayswater	Old Joes Creek	Flash
	✓	✓	1/15 Marland Road	Boronia	Old Joes Creek	Flash
	✓	✓	2/15 Marland Road	Boronia	Old Joes Creek	Flash
✓	✓	✓	7 Mclellan Street	Bayswater	Old Joes Creek	Flash
	✓	✓	1/10 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	2/10 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	3/10 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	1/11 Melrich Road	Bayswater	Old Joes Creek	Flash
	✓	✓	2/11 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	3/11 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	4/11 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	5/11 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	6/11 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	1/12 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	2/12 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	3/12 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	1/14 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	2/14 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	1/17 Melrich Road	Bayswater	Old Joes Creek	Flash
	✓	✓	2/17 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	5/18 Melrich Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	6/18 Melrich Road	Bayswater	Old Joes Creek	Flash
	✓	✓	1/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	2/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	3/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	4/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	5/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	6/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	7/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	8/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	9/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	10/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	11/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	12/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	13/21 Power Road	Bayswater	Old Joes Creek	Flash
		✓	14/21 Power Road	Bayswater	Old Joes Creek	Flash
	✓	✓	20 Ramage Street	Bayswater	Old Joes Creek	Flash
	✓	✓	1/4 Reid Street	Bayswater	Old Joes Creek	Flash
✓	✓	✓	2/4 Reid Street	Bayswater	Old Joes Creek	Flash



Properties at risk from Flooding over-floor along Old Joes Creek in the Knox municipality						
Residential			Commercial	Industrial	Rural	Public Use
Street No. at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
✓	✓	✓	6 Reid Street	Bayswater	Old Joes Creek	Flash
	✓	✓	2/19 Scoresby Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	45 Scoresby Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	1/45 Scoresby Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	2/45 Scoresby Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	3A/45 Scoresby Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	4A/45 Scoresby Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	5/45 Scoresby Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	6/45 Scoresby Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	7/45 Scoresby Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	8/45 Scoresby Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	9/45 Scoresby Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	10/45 Scoresby Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	1/2 Wigan Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	1/4 Wigan Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	2/4 Wigan Road	Bayswater	Old Joes Creek	Flash
✓	✓	✓	3/4 Wigan Road	Bayswater	Old Joes Creek	Flash
	✓	✓	2/9 Woodmason Road	Boronia	Old Joes Creek	Flash
	✓	✓	1/12 Woodmason Road	Boronia	Old Joes Creek	Flash
	✓	✓	1A/12 Woodmason Road	Boronia	Old Joes Creek	Flash
	✓	✓	2/12 Woodmason Road	Boronia	Old Joes Creek	Flash
	✓	✓	1/14 Woodmason Road	Boronia	Old Joes Creek	Flash
Totals						
<b>121</b>	<b>183</b>	<b>234</b>				

Table C1.7 – Properties at risk of flooding along Old Joes Creek in the Knox municipality

## Isolation

No major isolation risks exist for areas around Dandenong Creek, Dobsons Creek and Old Joes Creek during a 1% AEP (100yr ARI) event. Some localised short-duration isolation may occur due to flash flooding.

## Essential Infrastructure

During an event, see the Public Transport Victoria’s Website for details on delays or alterations to services at <http://ptv.vic.gov.au/live-travel-updates/>. A map of public transport routes within the Knox municipality is available via the website at: [https://www.ptv.vic.gov.au/assets/PTV-default-site/more/maps/Local-area-maps/Metropolitan/9b8130fe6c/24\\_Knox\\_LAM\\_April-2021.pdf](https://www.ptv.vic.gov.au/assets/PTV-default-site/more/maps/Local-area-maps/Metropolitan/9b8130fe6c/24_Knox_LAM_April-2021.pdf).

Apart from the roads outlined below, all other Essential Infrastructure and services areas around Dandenong Creek, Dobsons Creek and Old Joes Creek are expected to remain unaffected by flooding during a 1% AEP (100yr ARI) event.

## Road Closures

The following roads are subject to closure during flooding around Dandenong Creek, Dobsons Creek, Old Joes Creek and the Wantirna North and Koomba Rd Drainage Systems. Check the VicRoads website for more details: <http://traffic.vicroads.vic.gov.au/>.

Department of Transport (VicRoads) Roads likely flooded in a 1% AEP (100yr ARI) event
<ul style="list-style-type: none"> <li>Ferntree Gully Road, Scoresby at Dandenong Creek</li> </ul>
<ul style="list-style-type: none"> <li>High Street Road, Wantirna at Dandenong Creek</li> </ul>
<ul style="list-style-type: none"> <li>Mountain Highway, Wantirna westbound lanes at Wantirna Mall and at Gresford Road</li> </ul>
<ul style="list-style-type: none"> <li>Scoresby Road, Bayswater south of Mountain Highway Intersection</li> </ul>
<ul style="list-style-type: none"> <li>Wellington Road, Rowville at Dandenong Creek</li> </ul>

Table C1.8 – Department of Transport (VicRoads) possible Road Closures during a flooding event

Knox City Council Roads flooded in a 1% AEP (100yr ARI) event		
BAYSWATER	BORONIA	THE BASIN
<ul style="list-style-type: none"> <li>Dunlop Court</li> </ul>	<ul style="list-style-type: none"> <li>Baresford Drive at Colchester Rd</li> </ul>	<ul style="list-style-type: none"> <li>Albert Avenue</li> </ul>
<ul style="list-style-type: none"> <li>Jersey Road</li> </ul>	<ul style="list-style-type: none"> <li>Coull Close</li> </ul>	<ul style="list-style-type: none"> <li>Miller Road</li> </ul>
<ul style="list-style-type: none"> <li>Kearney Street</li> </ul>	<ul style="list-style-type: none"> <li>Elsie Street</li> </ul>	<b>WANTIRNA</b>
<ul style="list-style-type: none"> <li>Malvern Street</li> </ul>	<ul style="list-style-type: none"> <li>Girdwood Road</li> </ul>	<ul style="list-style-type: none"> <li>Angus Close</li> </ul>
<ul style="list-style-type: none"> <li>Power Road</li> </ul>	<ul style="list-style-type: none"> <li>Market Street</li> </ul>	<ul style="list-style-type: none"> <li>Casey Court</li> </ul>
<ul style="list-style-type: none"> <li>Ried Street</li> </ul>		<ul style="list-style-type: none"> <li>Inchcape Avenue</li> </ul>
		<ul style="list-style-type: none"> <li>Selkirk Avenue</li> </ul>

Table C1.9 – Knox City Council possible flooded roads due to flash flooding

## Flood Mitigation

### Retarding Basins

Melbourne Water Retarding Basin	On Drain/ Waterway	Area	Storage Capacity	Spillway Crest Level	Full Supply Level	Embankment Crest Level	ANCOLD Hazard Rating	Houses In Flow Path (dam breach)	Melway Reference
Liverpool Road	Dandenong Creek Upper	18.9 ha	450 ML	137.0m AHD	137.1m AHD	137.8m AHD	Extreme	2,625	65 G5
Police Road	Dandenong Creek	118.1 ha	660 ML	39.6m AHD	42.0m AHD	42.7m AHD	Very Low	0	81 E5
Old Joes Creek	Old Joes Creek Drain	2.80 ha	62 ML	113.2m AHD	113.3m AHD	113.3m AHD	High A	277	65 B6

Table C1.10 – Melbourne Water Retarding Basins within the Dandenong Creek catchment in the Knox municipality

### Pumping Stations

Pumping Station	On Drain / Waterway	Location	Owner	No. of Pumps	Purpose	Consequence of Failure	Melway Reference
Tirhatuan Golf Course	Dandenong Creek	Tirhatuan Lake Golf Course, adjacent to Stud Road, Rowville	Private	1	Take flows from Dandenong Creek into Golf Irrigation Dam	Unavailable	81 G9

Table C1.11 – Pumping Stations along Dandenong Creek

## Sewerage Infrastructure

Sewerage Infrastructure of note during a severe flood event located within the Knox municipality is contained within the following table. To view their locations, view mapping in **Appendix F**.

### Sewer Pumping Stations

Sewerage Pumping Station	On Drain / Waterway	Bank / Side of Waterway	Operator	Location	Melway Reference
Basin-Olinda Road	Dobsons Creek	-	South East Water	Basin-Olinda Road, The Basin	65 H8
Hoskin Street	Dandenong Creek	South	South East Water	Hoskin Street, Bayswater	64 D2

Table C1.12 – Sewer Pumping Stations within the Dandenong Creek Catchment in the Knox municipality

## Sewer Emergency Relief Points

On Drain / Waterway	Location	Melway Reference
Dandenong Creek	Ringwood Public Golf Course, Canterbury Road, Ringwood	63 E3
Dandenong Creek	Morack Public Golf Course, Morack Road, Vermont South	63 C7
Dandenong Creek	Mulgrave Reserve, Wellington Road, Wheelers Hill	81 B2

Table C1.13 – Sewer Emergency Relief Points in the Dandenong Creek Catchment in the Knox municipality

## **Control, Command and Coordination**

VICSES will assume overall control of the response to flood incidents. Other agencies will be requested to support operations as detailed in this Plan. Control and coordination of a flood incident shall be carried out at the lowest effective level and in accordance with the SEMP. During significant events, VICSES will conduct incident management using multi-agency resources.

## **Flood Impacts and Operational Considerations (Intelligence Cards)**

The tables on the following pages provide a breakdown of the possible consequences of flooding along Dandenong Creek and its stormwater tributaries at various creek heights or rain totals within the Knox municipality. These tables are to be used only as a guide as no two floods at a location will have identical impacts.

Intelligence Cards have been included for the following locations:

- Dandenong Creek at Liverpool Road Retarding Basin, The Basin
- Dandenong Creek at Wantirna
- Dandenong Creek at Police Road Retarding Basin, Rowville
- Dandenong Creek's Stormwater Tributaries

# FLOOD INTELLIGENCE CARD – LIVERPOOL ROAD R/B GAUGE, DANDENONG CREEK

Version 4 – October 2021



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.

This Flood Intelligence Card publication is presented by the Victoria State Emergency Service for the purpose of disseminating emergency management information. The contents of the information have not been independently verified by the Victoria State Emergency Service. No liability is accepted for any damage, loss or injury caused by errors or omissions in this information or for any action taken by any person in reliance upon it. **Scan the QR code for the current levels for this gauge.**

LOCATION:	Liverpool Road Retarding Basin Outlet off Liverpool Rd, The Basin
CURRENT LEVEL:	<a href="https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228373A">https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228373A</a>
STREAM:	Dandenong Creek (Upper)
GAUGE NUMBER:	228373A
GAUGE ZERO:	131.14m AHD
GAUGE TYPE:	Stream Level & Rain

MELWAY REFERENCE:	65 F4
MINOR:	N/A
MODERATE:	N/A
MAJOR:	N/A
EMBANKMENT HEIGHT:	6.66m (137.8m AHD)
HIGHEST RECORDED FLOOD:	4.68m (30 July 1996)

Retarding Basin Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
2.36m		<b>Community Infrastructure Flooded</b> <ul style="list-style-type: none"> <li>Public Access areas within Retarding Basin begin to flood</li> </ul>	
5.86m		<ul style="list-style-type: none"> <li>Spillway Level of Retarding Basin reached</li> </ul>	
6.66m		<ul style="list-style-type: none"> <li>Embankment Crest Level of Retarding Basin reached.</li> </ul>	

Table C1.14 – Breakdown of likely consequences at various Liverpool Road gauge level heights along Dandenong Creek with operational considerations

# FLOOD INTELLIGENCE CARD – WANTIRNA (HEATHMONT) GAUGE, DANDENONG CREEK

Version 4 – October 2021



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.

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LOCATION:	South side of the creek 150m east of Wantirna Road, Wantirna
CURRENT LEVEL:	<a href="https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228357A">https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228357A</a>
STREAM:	Dandenong Creek
GAUGE NUMBER:	228357A
GAUGE ZERO:	79.30m AHD
GAUGE TYPE:	Stream Level & Rain

MELWAY REFERENCE:	63 H3
MINOR:	N/A
MODERATE:	N/A
MAJOR:	N/A
LEVEE HEIGHT:	N/A
HIGHEST RECORDED FLOOD:	2.77m (5 February 2011)

Creek Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
3.50m		<b>Community Infrastructure Likely Impacted</b> <ul style="list-style-type: none"> <li>Dandenong Creek Trail likely flooded at various locations</li> </ul>	
4.53m		<b>Essential Infrastructure Likely Impacted</b> <ul style="list-style-type: none"> <li>Bus Route 738 if Boronia Road flooded</li> </ul> <b>Water Over Road</b> <ul style="list-style-type: none"> <li>Boronia Road, Wantirna at Dandenong Creek</li> </ul>	
5.81m	1% AEP (100yr ARI) Flood Level	<b>Community Infrastructure Likely Flooded</b> <ul style="list-style-type: none"> <li>J.W. Manson Reserve at 57R Selkirk Avenue, Bayswater</li> <li>Koomba Park at 61 Mountain Highway, Wantirna</li> </ul> <b>Essential Infrastructure Likely Impacted</b> <ul style="list-style-type: none"> <li>Bus Routes 736, 737 &amp; 754 if High Street Road flooded</li> <li>Note existence of Sewer Emergency Relief Points at the Ringwood Public Golf Course, Ringwood and Morack Public Golf Course, Vermont South</li> <li>Sewer Pumping Station at Hoskin St, Bayswater</li> </ul> <b>Water Over Road</b> <ul style="list-style-type: none"> <li>High Street Road, Wantirna South at Dandenong Creek</li> </ul>	

Table C1.15 – Breakdown of likely consequences at various Wantirna gauge level heights along Dandenong Creek with operational considerations



# FLOOD INTELLIGENCE CARD – POLICE ROAD R/B ROWVILLE GAUGE, DANDENONG CREEK

Version 4 – October 2021



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LOCATION:	North side of embankment. Via Illawarra Avenue and through gate to the north
CURRENT LEVEL:	<a href="https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228368A">https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228368A</a>
STREAM:	Dandenong Creek
GAUGE NUMBER:	228368A
GAUGE ZERO:	35.31m AHD
GAUGE TYPE:	Stream Level & Rain

MELWAY REFERENCE:	81 E6
MINOR:	4.6m
MODERATE:	5.0m
MAJOR:	5.5m
LEVEE HEIGHT:	7.39m (42m AHD)
HIGHEST RECORDED FLOOD:	5.69m (18 Sept 1984)

Retarding Basin Height	Flood Class or Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
4.29m		<ul style="list-style-type: none"> <li>Spillway Level of Police Road Retarding Basin reached</li> </ul>	
4.6m	<b>MINOR FLOOD LEVEL</b>	<b>Community Infrastructure Likely Flooded</b> <ul style="list-style-type: none"> <li>Dandenong Creek Trail flooded in parts</li> </ul>	
5.0m	<b>MODERATE FLOOD LEVEL</b>	<b>Essential Infrastructure Likely Impacted</b> <ul style="list-style-type: none"> <li>Bus Routes 693 &amp; 753 if Ferntree Gully Road flooded</li> </ul> <b>Water Over Road</b> <ul style="list-style-type: none"> <li>Ferntree Gully Road, Scoresby at Dandenong Creek</li> </ul>	
5.5m	<b>MAJOR FLOOD LEVEL</b> 1% AEP (100yr ARI) Flood Level	<b>Properties at Flood Risk</b> <b>1 Property in Total</b> <ul style="list-style-type: none"> <li>1395 Stud Road, Rowville</li> </ul> <b>Community Infrastructure Likely Flooded</b> <ul style="list-style-type: none"> <li>Rowville Rec Reserve No.2, 1395 Stud Road, Rowville</li> </ul> <b>Essential Infrastructure Likely Impacted</b> <ul style="list-style-type: none"> <li>Bus Routes 681, 682, 691, 754, 900 &amp; 969 if Wellington Road flooded</li> </ul> <b>Water Over Road</b> <ul style="list-style-type: none"> <li>Wellington Road, Rowville at Dandenong Creek</li> </ul>	

Retarding Basin Height	Flood Class or Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
5.56m	3 February 2005 Flood Level Peak		
5.69m	18 September 1984 Flood Level Peak		
6.69m		<ul style="list-style-type: none"> <li>Full-Service Level of Police Road Retarding Basin reached</li> </ul>	
7.39m		<ul style="list-style-type: none"> <li>Embankment Level of Police Road Retarding Basin reached</li> </ul>	

Table C1.16 – Breakdown of likely consequences at various Police Road R/B gauge level heights along Dandenong Creek with operational considerations

# FLOOD INTELLIGENCE CARD – DANDENONG CREEK STORMWATER TRIBUTARIES (UNGAUGED)

Version 4 – October 2021



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.

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CLOSEST RAIN GAUGE:	<b>Dandenong Creek at Wantirna Rd, Wantirna</b>
LOCATION:	<b>South side of the creek 150m east of Wantirna Road, Wantirna</b>
RECENT RAINFALL:	<a href="https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228357A">https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228357A</a>

MELWAY REF:	<b>65 F4</b>
GAUGE NUMBER	<b>228357A</b>
GAUGE TYPE	<b>Stream Level &amp; Rain</b>

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
15mm in 10 mins; 25mm in 30 mins; 31mm in 1 hour; 38mm in 2 hours; 33mm in 3 hours; or 57mm in 6 hours  Note: rainfall depths are a very rough method of estimating flood events and have been used due to the ungauged nature of the catchment. This should be used as a guide only.	5% AEP (20-year ARI)	<b>Properties at Flood Risk (Over-Floor)</b> <b>129 Properties in Total</b> <b>Old Joes Creek</b> <ul style="list-style-type: none"> <li>49 Albert Avenue, Boronia</li> <li>2/89 Arcadia Avenue, The Basin</li> <li>3/33 Bambury Street, Boronia</li> <li>8/29, 9/29, 10/29 &amp; 11/29 Barry Street, Bayswater</li> <li>4/4 Coogee Street, Boronia</li> <li>355, 4/385, 5/385 &amp; 419 Dorset Road, Boronia</li> <li>5/9, 21, 36, 2/40, 3/40, 1/46, 2/46, 3/46 &amp; 52 Elsie Street, Boronia</li> <li>1/4, 2/4 &amp; 3/4 Girdwood Road, Boronia</li> <li>7, 1/54, 2/54, 56, 1/54, 2/54, 56 &amp; 58 Holloway Drive, Bayswater</li> <li>2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44 &amp; 45 Industry Place, Bayswater</li> <li>1/28, 30, 53, 56, Factories 1-4/59, 5-6/59 &amp; Factories 7-9/59 Jersey Road, Bayswater</li> <li>12 Kearney Street, Bayswater</li> <li>14, 46, Factories 2-6/48, 13/52 &amp; 14/52 Malvern Street, Bayswater</li> <li>7 Mclellan Street, Bayswater</li> <li>2/10, 3/10, 1/11, Factories 3-6/11, Factories 1-3/12, 1/14, 2/14, 1/17, 5/18 &amp; 6/18 Melrich Road, Bayswater</li> <li>2/4 &amp; 6 Reid Street, Bayswater</li> <li>45, 1/45, 2/45, 3A/45, 4A/45, 5/45, 6/45, 7/45, 8/45, 9/45 &amp; 10/45 Scoresby Road,</li> </ul>	

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<p>Bayswater</p> <ul style="list-style-type: none"> <li>• 1/2, 1/4, 2/4 &amp; 3/4 Wigan Road, Bayswater</li> </ul> <p><b>Properties at Flood Risk (over 30cm depth in yard - where floor level unavailable)</b></p> <p><b>10 Properties in Total</b></p> <p><b>Wantirna North D.S.</b></p> <ul style="list-style-type: none"> <li>• 27 Hadlow Drive, Wantirna</li> <li>• Factories 20-24/11 Havelock Road, Bayswater</li> <li>• 337, 1/384, 2/384 &amp; 386 Mountain Highway, Wantirna</li> </ul> <p><b>Community Infrastructure Likely Flooded</b></p> <ul style="list-style-type: none"> <li>• Coogee Aged Care Facility on Coogee Street, Boronia</li> </ul> <p><b>Water Over Road (Over 300mm Depth)</b></p> <p><b>Old Joes Creek D.S.</b></p> <ul style="list-style-type: none"> <li>• Coull Close, Boronia</li> <li>• Elsie Street, Boronia at Rangeview Road</li> <li>• Girdwood Road, Boronia</li> <li>• Ried Street, Bayswater</li> <li>• Jersey Road, Bayswater</li> <li>• Malvern Street, Bayswater</li> <li>• Kearney Street, Bayswater</li> <li>• Power Road, Bayswater between Scoresby Road and Barry Street</li> </ul> <p><b>Wantirna North D.S.</b></p> <ul style="list-style-type: none"> <li>• Angus Close, Wantirna</li> <li>• Casey Court, Wantirna</li> <li>• Inchcape Avenue, Wantirna</li> <li>• Mountain Highway, Wantirna westbound lanes at Wantirna Mall and at Gresford Road</li> <li>• Selkirk Avenue, Wantirna</li> </ul>	
<p>19mm in 10 mins; 30mm in 30 mins; 37mm in 1 hour; 45mm in 2 hours; 51mm in 3 hours; or 67mm in 6 hours</p> <p>Note: rainfall depths are a very rough method of estimating flood events and have been used due to the ungauged nature of the catchment. This</p>	<p>2% AEP (50-year ARI)</p>	<p><b>Properties at Flood Risk (Over-Floor)</b></p> <p><b>192 Properties in Total</b></p> <p><b>Old Joes Creek D.S.</b></p> <ul style="list-style-type: none"> <li>• 49 Albert Avenue, Boronia</li> <li>• 2/89 Arcadia Avenue, The Basin</li> <li>• 3/1, 3/3, 3/33, 1/41 &amp; 5/41 Bambury Street, Boronia</li> <li>• 8/29, 9/29, 10/29, 11/29, 41, 6/50 &amp; 2/52 Barry Street, Bayswater</li> <li>• 4/32 Central Avenue, Boronia</li> <li>• 4/4 Coogee Street, Boronia</li> <li>• 6 Damar Avenue, Boronia</li> <li>• 355, 4/385, 5/385 &amp; 419 Dorset Road, Boronia</li> <li>• 2/9, 5/9, 19, 21, 23, 30, 32, 36, 2/40, 3/40, 2/42, 3/42, 44, 1/46, 2/46, 3/46, 48, 52 &amp; 52A Elsie Street, Boronia</li> <li>• 2A, 1/4, 2/4 &amp; 3/4 Girdwood Road, Boronia</li> </ul>	

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
should be used as a guide only.		<ul style="list-style-type: none"> <li>• 4/6, 5/6, 7, 13, 52, 1/54, 2/54, 56, 1/54, 2/54, 56 &amp; 58 Holloway Drive, Bayswater</li> <li>• 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44 &amp; 45 Industry Place, Bayswater</li> <li>• 5/25, 1/28, 30, 13/46, 1/48, 2/48, 3/48, 4/48, 53, 56, Factories 1-4/59, 5-6/59 &amp; Factories 7-9/59 Jersey Road, Bayswater</li> <li>• 1/3, 9 &amp; 12 Kearney Street, Bayswater</li> <li>• 1/12, 2/12, 14, Factories 3-5/21, Factories 7-9/21, 25, 26, 31, 46, 47, Factories 1-6/48, 51, 13/52 &amp; 14/52 Malvern Street, Bayswater</li> <li>• 1/15 &amp; 2/15 Marland Road, Boronia</li> <li>• 7 Mclellan Street, Bayswater</li> <li>• 1/10, 2/10, 3/10, Factories 1-6/11, Factories 1-3/12, 1/14, 2/14, 1/17, 2/17, 5/18 &amp; 6/18 Melrich Road, Bayswater</li> <li>• 1/21 Power Road, Bayswater</li> <li>• 20 Ramage Street, Bayswater</li> <li>• 1/4, 2/4 &amp; 6 Reid Street, Bayswater</li> <li>• 2/19, 45, 1/45, 2/45, 3A/45, 4A/45, 5/45, 6/45, 7/45, 8/45, 9/45 &amp; 10/45 Scoresby Road, Bayswater</li> <li>• 1/2, 1/4, 2/4 &amp; 3/4 Wigan Road, Bayswater</li> <li>• 2/9, 1/12, 1A/12, 2/12 &amp; 1/14 Woodmason Road, Boronia</li> </ul> <p><b>Properties at Flood Risk (over 30cm depth in yard - where floor level unavailable)</b></p> <p><b>22 Properties in Total</b></p> <p><b>Wantirna North D.S.</b></p> <ul style="list-style-type: none"> <li>• 27 Hadlow Drive, Wantirna</li> <li>• Factories 1-5/11, 18/11, 20-24/11, 17 &amp; 1/25 Havelock Road, Bayswater</li> <li>• 337, 382, 1/384, 2/384 &amp; 386 Mountain Highway, Wantirna</li> <li>• 4 Rylands Place, Wantirna</li> <li>• 7/315 &amp; 23/315 Wantirna Road, Wantirna</li> </ul> <p><b>Community Infrastructure Likely Flooded</b></p> <ul style="list-style-type: none"> <li>• Coogee Aged Care Facility on Coogee Street, Boronia</li> </ul> <p><b>Water Over Road (Over 300mm Depth)</b></p> <p><b>Local Drainage</b></p> <ul style="list-style-type: none"> <li>• Baresford Road, Boronia at Colchester Road</li> </ul> <p><b>Old Joes Creek D.S.</b></p> <ul style="list-style-type: none"> <li>• Albert Avenue, The Basin at Miller Road Roundabout</li> <li>• Coull Close, Boronia</li> <li>• Market Street, Boronia</li> <li>• Elsie Street, Boronia at Rangeview Road</li> <li>• Girdwood Road, Boronia</li> <li>• Ried Street, Bayswater</li> <li>• Jersey Road, Bayswater</li> <li>• Malvern Street, Bayswater</li> </ul>	

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>Kearney Street, Bayswater</li> <li>Power Road, Bayswater between Scoresby Road and Barry Street</li> <li>Dunlop Court, Bayswater</li> <li>Scoresby Road, Bayswater south of Mountain Highway intersection</li> </ul> <p><b>Wantirna North D.S.</b></p> <ul style="list-style-type: none"> <li>Angus Close, Wantirna</li> <li>Casey Court, Wantirna</li> <li>Inchcape Avenue, Wantirna</li> <li>Mountain Highway, Wantirna westbound lanes at Wantirna Mall and at Gresford Road</li> <li>Selkirk Avenue, Wantirna</li> </ul>	
<p>21mm in 10 mins; 33mm in 30 mins; 41mm in 1 hour; 50mm in 2 hours; 57mm in 3 hours; or 75mm in 6 hours</p> <p>Note: rainfall depths are a very rough method of estimating flood events and have been used due to the ungauged nature of the catchment. This should be used as a guide only.</p>	<p>1% AEP (100-year ARI)</p>	<p><b>Properties at Flood Risk (Over-Floor)</b> <b>234 Properties in Total</b></p> <p><b>Old Joes Creek</b></p> <ul style="list-style-type: none"> <li>49 &amp; 75 Albert Avenue, Boronia</li> <li>2/89 Arcadia Avenue, The Basin</li> <li>3/1, 3/3, 2/11, 3/11, 2/31, 3/33, 1/41 &amp; 5/41 Bambury Street, Boronia</li> <li>7/29, 8/29, 9/29, 10/29, 11/29, 41, 1/48, 2/48, 6/50, 1/52, 2/52 &amp; 54 Barry Street, Bayswater</li> <li>4/28, 6/28, 7/28, 3/32 &amp; 4/32 Central Avenue, Boronia</li> <li>4/4 &amp; 3/6 Coogee Street, Boronia</li> <li>6 Damar Avenue, Boronia</li> <li>307, 355, 4/385, 5/385 &amp; 419 Dorset Road, Boronia</li> <li>2/9, 5/9, 1/13, 19, 21, 23, 26A, 30, 32, 36, 2/40, 3/40, 2/42, 3/42, 44, 1/46, 2/46, 3/46, 48, 50, 52 &amp; 52A Elsie Street, Boronia</li> <li>2A, 1/4, 2/4 &amp; 3/4 Girdwood Road, Boronia</li> <li>3/6, 4/6, 5/6, 7, 9, 11, 13, 20, 52, 1/54, 2/54, 56, 1/54, 2/54, 56 &amp; 58 Holloway Drive, Bayswater</li> <li>2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44 &amp; 45 Industry Place, Bayswater</li> <li>5/25, 1/28, 30, 13/46, 1/48, 2/48, 3/48, 4/48, 53, 56, 58, Factories 1-4/59, 5-6/59, Factories 7-9/59, 1/60 &amp; 2/60 Jersey Road, Bayswater</li> <li>1/3, 1/5, 9 &amp; 12 Kearney Street, Bayswater</li> <li>1/12, 2/12, 14, 18, Factories 1-12/21, 1/23, 25, 26, 31, 46, 47, Factories 1-6/48, 51, 1/52, 4/52, 13/52, 14/52, 15/52 &amp; 1/54 Malvern Street, Bayswater</li> <li>1/15 &amp; 2/15 Marland Road, Boronia</li> <li>7 Mclellan Street, Bayswater</li> <li>1/10, 2/10, 3/10, Factories 1-6/11, Factories 1-3/12, 1/14, 2/14, 1/17, 2/17, 5/18 &amp; 6/18 Melrich Road, Bayswater</li> <li>Factories 1-14/21 Power Road, Bayswater</li> <li>20 Ramage Street, Bayswater</li> <li>1/4, 2/4 &amp; 6 Reid Street, Bayswater</li> <li>2/19, 45, 1/45, 2/45, 3A/45, 4A/45, 5/45, 6/45, 7/45, 8/45, 9/45 &amp; 10/45 Scoresby</li> </ul>	

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<p>Road, Bayswater</p> <ul style="list-style-type: none"> <li>• 1/2, 1/4, 2/4 &amp; 3/4 Wigan Road, Bayswater</li> <li>• 2/9, 1/12, 1A/12, 2/12 &amp; 1/14 Woodmason Road, Boronia</li> </ul> <p><b>Properties at Flood Risk (over 30cm depth in yard - where floor level unavailable)</b></p> <p><b>44 Properties in Total</b></p> <p><b>Koomba Rd D.S.</b></p> <ul style="list-style-type: none"> <li>• 6 &amp; 8 Aughton Court, Wantirna</li> <li>• 7 Cathies Lane, Wantirna South</li> <li>• 19 &amp; 20 Colonial Court, Wantirna</li> <li>• 3 Kew Place, Wantirna</li> <li>• 18 Minkell Court, Wantirna</li> </ul> <p><b>Wantirna North D.S.</b></p> <ul style="list-style-type: none"> <li>• 5 Casey Court, Wantirna</li> <li>• 19 Eldale Court, Wantirna</li> <li>• 1, 3, 5, 13 &amp; 15 Gresford Road, Wantirna</li> <li>• 25 &amp; 27 Hadlow Drive, Wantirna</li> <li>• Factories 1-5/11, 18/11, 20-24/11, 17 &amp; 1/25 Havelock Road, Bayswater</li> <li>• 335, 337, 382, 1/384, 2/384 &amp; 386 Mountain Highway, Wantirna</li> <li>• 3 &amp; 4 Rylands Place, Wantirna</li> <li>• 45 &amp; 48 Selkirk Avenue, Wantirna</li> <li>• 7/315, 10/315, 12/315, 23/315 &amp; 26/315 Wantirna Road, Wantirna</li> </ul> <p><b>Community Infrastructure Likely Flooded</b></p> <p><b>Old Joes Creek D.S.</b></p> <ul style="list-style-type: none"> <li>• Coogee Aged Care Facility, Coogee Street, Boronia</li> </ul> <p><b>Essential Infrastructure Likely Impacted</b></p> <p><b>Dobsons Creek</b></p> <ul style="list-style-type: none"> <li>• Sewer Pumping Station on Basin-Olinda Road, The Basin</li> </ul> <p><b>Old Joes Creek D.S.</b></p> <ul style="list-style-type: none"> <li>• Bus Route 664 if Jersey Road flooded</li> <li>• Bus Routes 690 &amp; 967 if Albert Ave flooded</li> </ul> <p><b>Water Over Road (Over 300mm Depth)</b></p> <p><b>Local Drainage</b></p> <ul style="list-style-type: none"> <li>• Baresford Road, Boronia at Colchester Road</li> </ul> <p><b>Old Joes Creek D.S.</b></p> <ul style="list-style-type: none"> <li>• Albert Avenue, The Basin at Miller Road Roundabout</li> <li>• Coull Close, Boronia</li> <li>• Dunlop Court, Bayswater</li> <li>• Elsie Street, Boronia at Rangeview Road</li> <li>• Girdwood Road, Boronia</li> </ul>	



Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>• Jersey Road, Bayswater</li> <li>• Kearney Street, Bayswater</li> <li>• Malvern Street, Bayswater</li> <li>• Market Street, Boronia</li> <li>• Miller Road, The Basin at Batterham Reserve</li> <li>• Power Road, Bayswater between Scoresby Road and Barry Street</li> <li>• Ried Street, Bayswater</li> <li>• Scoresby Road, Bayswater south of Mountain Highway intersection</li> </ul> <p><b>Wantirna North D.S.</b></p> <ul style="list-style-type: none"> <li>• Angus Close, Wantirna</li> <li>• Casey Court, Wantirna</li> <li>• Inchcape Avenue, Wantirna</li> <li>• Mountain Highway, Wantirna westbound lanes at Wantirna Mall and at Gresford Road</li> <li>• Selkirk Avenue, Wantirna</li> </ul>	

Table C1.17 – Breakdown of possible consequences at various rainfall intensities around Dandenong Creek’s Stormwater Tributaries with operational considerations

## APPENDIX C2 – BLIND CREEK FLOOD EMERGENCY PLAN

### Overview of Flooding Consequences

Blind Creek runs east-to-west through Ferntree Gully, Boronia, Wantirna, Knoxfield and Wantirna South. Blind Creek begins as the Forest Road Drain in Ferntree Gully, becoming Blind Creek, before flowing into the Blind Creek Retarding Basin located to the rear of Westfield Knox. The Creek continues on before discharging into Dandenong Creek.

The area comprises of predominantly residential zones apart from an area of light industrial adjacent to Westfield Knox. Key infrastructure in the area at risk is: the underground car park at Westfield Knox; the intersection of Stud Road and Burwood Highway; High Street Road at the Blind Creek crossing; and Wantirna Village (Retirement Village) on Old Stud Road in Wantirna South.

*This Summary table is generated from Victorian Government data. The State of Victoria does not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for error, loss or damage which may arise from reliance upon it. All persons accessing this information should make appropriate enquiries to assess the currency of the data.*

#### Summary of Consequences in a 1% AEP (100yr ARI) flood within the Blind Creek Catchment

Property (either Over-Floor flooding risk or 30cm depth flooding in yard at building in various sub-catchments)					
<b>Properties</b>	<b>119</b>				
Residential	94				
Commercial	0				
Industrial	22				
Public Land	3				
Rural	0				
Community Infrastructure					
Care Facilities	1	Glengollan Village			
Retirement Villages	2	Glengollan Village; & Wantirna Village			
Schools / Colleges	3	Ferntree Gully North Primary School; Knox Gardens Primary School; & Waverly Christian College			
Community Venues	1	Westfield Knox Car Park			
Essential Infrastructure					
Major Roads	3	Dorset Road; High Street Road; & Stud Road			
Bus Routes	8	664, 732, 737, 754, 755, 757, 901 & 969			
Drainage Facilities	3	Retarding Basins			
Tourism / Recreation					
Sports Facilities	1	Knox City Tennis Club			
Recreation Facilities	2	Blind Creek Bicycle & Walking Trail at various locations; and Lewis Park on Lewis Road			
Government Boundaries					
Local Gov't Areas	1	Knox	CMA	1	Port Phillip & Westernport
Adjacent LGAs	0		CFA District	1	District 13
SES Resp' Boundary	1	Knox	FRV District	0	

Table C2.1 – Consequence Summary of 1% AEP flood along Blind Creek and its stormwater Tributaries

## Gauges and Warnings

Neither the BoM nor Melbourne Water currently provides flood forecasts for Blind Creek. All flood response actions must therefore be driven by rainfall and/or water level observations. Telemetered water level/flood gauges are located in Knoxfield and Wantirna South within the Blind Creek catchment. See **Appendix B** for typical flood travel times for Blind Creek.

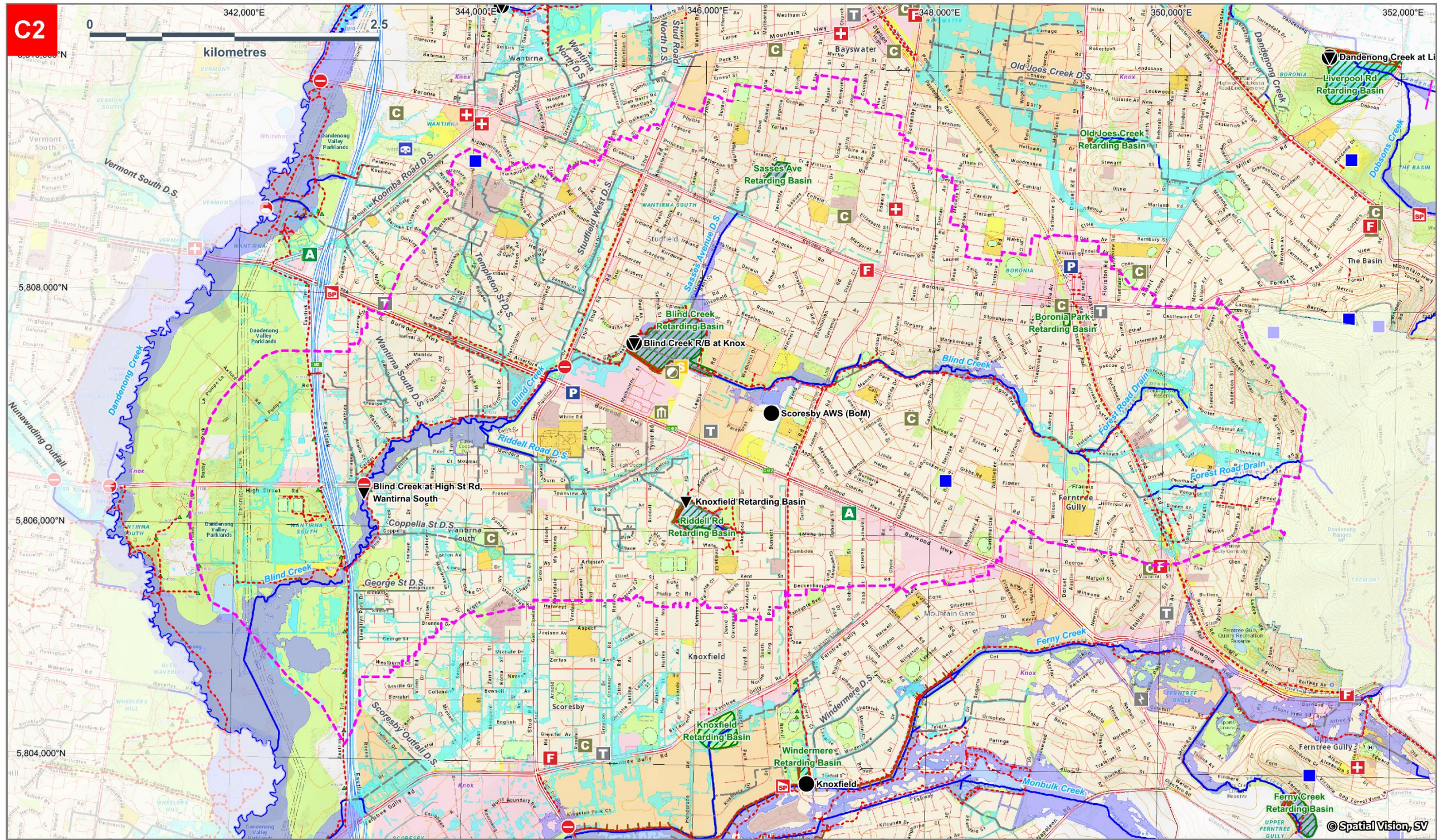
Gauge	Station No.	Location	Stream Level & Flow Gauge	Rain Gauge	Melway Reference
Blind Creek at Retarding Basin, Knox	228366A	Lewis Park, 100m beyond end of Paul Ave at R/B Outlet, Wantirna South	✓	✓	64 A10
Blind Creek at High Street Rd, Wantirna South	228351A	West side of the creek, South side of High Street Rd, Wantirna South	✓		72 E1

Table C2.2 – Hydrographic Monitoring Stations within the Blind Creek catchment

These Gauges may provide some warning of expected flooding. See the Melbourne Water website for more information on these gauges: <http://www.melbournewater.com.au/waterdata/rainfallandrivervelldata/Pages/Rainfall-and-river-level-new.aspx>. It is advised that residents monitor the BoM website <http://www.bom.gov.au/> and the VicEmergency website <https://emergency.vic.gov.au/> for any thunderstorm, flood or severe weather warnings present for their area.



# Area Map of Flood Risk within the Blind Creek catchment



Blind Creek (Upper) flood modelling completed by GHD, May 2013. Blind Creek (Middle) flood modelling completed by Cardno, September 2020. Blind Creek (Lower) flood modelling completed by GHD, June 2021. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
 1% AEP (100yr ARI) Flooding  
**C2. Area of flood risk in the Blind Creek catchment**

- |                                |                                  |                        |   |
|--------------------------------|----------------------------------|------------------------|---|
| Building                       | Aged Care / Retirement Village   | Community Centre       | Stream Level Gauge & 1% AEP Flood Level |
| Waterbody                      | Melbourne Water Retarding Basin  | Power Terminal Station | Rain Gauge                              |
| 1% AEP Riverine Flood Extent   | Melbourne Water Stormwater Drain | Ambulance Station      | Municipal Offices                       |
| 1% AEP Flash Flood Extent      | Waterway                         | Fire Station           | Sewer Pumping Station                   |
| Sewer Emergency Relief Point   | Bicycle / Walking Trail          | Hospital               | Retail Water Storage                    |
| Possible Road Closure Location | Embankment                       | Telephone Exchange     | Caravan Park                            |
| Boundary for this Appendix     | Police Station                   |                        |   |
| State Emergency Service        |                                  |                        |   |

LAND USE	
	Residential
	Commercial and Business
	Industrial
	Public Parks / Cemeteries / Recreation
	Utilities and Local Government Facilities
	Education



**Melbourne Water**  
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Figure C2 – Areas of flood risk around Blind Creek in the Knox municipality and area covered by this appendix



## Properties at Flood Risk

Properties listed in the table below are at risk from over-floor flooding within the Blind Creek catchment. As more intelligence becomes available, this list may change. This table has been populated based on modelling work as part of the Blind Creek (Upper) (GHD, May 2013) and the Blind Creek (Middle) (GHD, June 2021) flood mapping and risk assessment programs. Note that any multi-lot properties situated above ground floor are likely to be impacted by isolation only with flooding on ground floor impacting access to common areas and/or carpark and storage facilities. Information on above ground-floor properties is not available in this list.

*This Property Flood Risk Table is presented by the Victoria State Emergency Service for the purpose of disseminating emergency management information. The contents of the information have not been independently verified by the Victoria State Emergency Service. No liability is accepted for any damage, loss or injury caused by errors or omissions in this information or for any action taken by any person in reliance upon it.*

Properties at risk from Flooding Over-Floor along Blind Creek and its stormwater tributaries						
Residential			Commercial	Industrial	Rural	Public Use
Street No. at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
20% AEP	5% AEP	1% AEP				
		✓	48 Alexander Crescent	Ferntree Gully	Blind Creek (Upper)	Flash
✓	✓	✓	56 Alexander Crescent	Ferntree Gully	Blind Creek (Upper)	Flash
	✓	✓	60 Alexander Crescent	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	1 Attenborough Square	Wantirna	Studfield West D.S.	Flash
	✓	✓	2 Attenborough Square	Wantirna	Studfield West D.S.	Flash
	✓	✓	4 Barrington Court	Wantirna	Studfield West D.S.	Flash
		✓	5 Barrington Court	Wantirna	Studfield West D.S.	Flash
✓	✓	✓	6 Barrington Court	Wantirna	Studfield West D.S.	Flash
	✓	✓	413 Boronia Road	Bayswater	Sasses Avenue D.S.	Flash
		✓	413A Boronia Road	Bayswater	Sasses Avenue D.S.	Flash
	✓	✓	416 Boronia Road	Wantirna South	Sasses Avenue D.S.	Flash
✓	✓	✓	418 Boronia Road	Wantirna South	Sasses Avenue D.S.	Flash
		✓	420 Boronia Road	Wantirna South	Sasses Avenue D.S.	Flash
	✓	✓	31 Brentwood Drive	Wantirna	Studfield West D.S.	Flash
		✓	3 Chatham Avenue	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	16 Cloverlea Drive	Wantirna	Studfield West D.S.	Flash
	✓	✓	2 Deauville Court	Wantirna	Studfield West D.S.	Flash
		✓	12 Deauville Court	Wantirna	Studfield West D.S.	Flash
	✓	✓	81 Dorset Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	3/87 Dorset Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	1/1 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
	✓	✓	2/1 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
	✓	✓	2 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
	✓	✓	7 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	9 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	12/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	13/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	14/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	15/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash

Properties at risk from Flooding Over-Floor along Blind Creek and its stormwater tributaries

Properties at risk from Flooding Over-Floor along Blind Creek and its stormwater tributaries						
Residential			Commercial	Industrial	Rural	Public Use
Street No. at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
20% AEP	5% AEP	1% AEP				
		✓	16/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	17/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	19/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
	✓	✓	20/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	21/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	22/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	23/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	24/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	25/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	26/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	29/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	30/12 Edina Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	2/97 Forest Road	Ferntree Gully	Blind Creek (Upper)	Flash
	✓	✓	108 Forest Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	112 Forest Road	Ferntree Gully	Blind Creek (Upper)	Flash
	✓	✓	114 Forest Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	14 Halsey Street	Ferntree Gully	Blind Creek (Upper)	Flash
✓	✓	✓	14 Harold Street	Wantirna	Studfield West D.S.	Flash
		✓	25 Hazelwood Road	Boronia	Blind Creek (Upper)	Flash
✓	✓	✓	45 Kanooka Road	Wantirna South	Sasses Avenue D.S.	Flash
✓	✓	✓	7 Katandra Court	Bayswater	Sasses Avenue D.S.	Flash
		✓	28 Lording Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	1/28 Lording Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	2/28 Lording Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	3/28 Lording Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	4/28 Lording Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	5/28 Lording Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	6/28 Lording Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	1/30 Lording Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	2/30 Lording Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	34 Lording Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	4 Matlock Road	Wantirna South	Sasses Avenue D.S.	Flash
		✓	5 Matlock Road	Wantirna South	Sasses Avenue D.S.	Flash
		✓	6 Matlock Road	Wantirna South	Sasses Avenue D.S.	Flash
	✓	✓	1/2 Old Stud Road	Wantirna South	Templeton St D.S.	Flash
	✓	✓	2/2 Old Stud Road	Wantirna South	Templeton St D.S.	Flash
	✓	✓	3/2 Old Stud Road	Wantirna South	Templeton St D.S.	Flash
	✓	✓	4/2 Old Stud Road	Wantirna South	Templeton St D.S.	Flash
	✓	✓	5/2 Old Stud Road	Wantirna South	Templeton St D.S.	Flash
		✓	31/2 Old Stud Road	Wantirna South	Templeton St D.S.	Flash
		✓	2A Olivebank Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	8 Olivebank Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	10 Olivebank Road	Ferntree Gully	Blind Creek (Upper)	Flash

Properties at risk from Flooding Over-Floor along Blind Creek and its stormwater tributaries						
Residential			Commercial	Industrial	Rural	Public Use
Street No. at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
20% AEP	5% AEP	1% AEP				
		✓	18 Olivebank Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	24 Olivebank Road	Ferntree Gully	Blind Creek (Upper)	Flash
	✓	✓	25 Olivebank Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	26 Olivebank Road	Ferntree Gully	Blind Creek (Upper)	Flash
	✓	✓	1 Pentlowe Road	Wantirna South	Sasses Avenue D.S.	Flash
		✓	9 Pentlowe Road	Wantirna South	Sasses Avenue D.S.	Flash
		✓	15 Pentlowe Road	Wantirna South	Sasses Avenue D.S.	Flash
✓	✓	✓	19 Pentlowe Road	Wantirna South	Sasses Avenue D.S.	Flash
✓	✓	✓	21 Pentlowe Road	Wantirna South	Sasses Avenue D.S.	Flash
		✓	27 Pentlowe Road	Wantirna South	Sasses Avenue D.S.	Flash
	✓	✓	31 Pentlowe Road	Wantirna South	Sasses Avenue D.S.	Flash
		✓	9 Shannon Avenue	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	1/25 Springfield Road	Boronia	Blind Creek (Upper)	Flash
		✓	2/25 Springfield Road	Boronia	Blind Creek (Upper)	Flash
		✓	15 Teddington Way	Wantirna	Studfield West D.S.	Flash
	✓	✓	14 Tilba Place	Wantirna South	Sasses Avenue D.S.	Flash
	✓	✓	15 Tilba Place	Wantirna South	Sasses Avenue D.S.	Flash
		✓	8 Tyloid Square	Wantirna	Templeton St D.S.	Flash
		✓	97 Underwood Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	1/119A Underwood Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	2/119A Underwood Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	3/119A Underwood Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	4/119A Underwood Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	1/123 Underwood Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	2/123 Underwood Road	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	4/5 Veronica Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	1/7 Veronica Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	2/7 Veronica Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	3/7 Veronica Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	4/7 Veronica Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	3/9 Veronica Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	4/9 Veronica Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	1/13 Veronica Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	2/13 Veronica Street	Ferntree Gully	Blind Creek (Upper)	Flash
		✓	3/13 Veronica Street	Ferntree Gully	Blind Creek (Upper)	Flash
<b>Totals</b>						
<b>8</b>	<b>32</b>	<b>107</b>				

Table C2.3 – Properties at risk of flooding over-floor along Blind Creek and its stormwater tributaries in the Knox municipality  
Properties listed in the table below are at risk from flooding over 30cm in the yard at the building of the property. As more intelligence becomes available, this list may change. This table has been populated based on modelling work as part of the Blind Creek (Lower) (Cardno, September 2020) flood mapping and risk assessment program. Note that any multi-lot properties situated above ground floor are likely to be impacted by isolation only with flooding on ground floor impacting access



to common areas and/or carpark and storage facilities. Information on above ground-floor properties is not available in this list.

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Properties at risk from Flooding in yard over 30cm depth at building						
Residential		Commercial	Industrial	Rural	Public Use	
Street No. at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
20% AEP	5% AEP	1% AEP				
	✓	✓	77-81 Argyle Way	Wantirna South	Blind Creek (Lower)	Flash
	✓	✓	80 Argyle Way	Wantirna South	Blind Creek (Lower)	Flash
	✓	✓	8 Cuthbert Court	Wantirna South	Blind Creek (Lower)	Flash
		✓	10 Haideh Place	Wantirna South	Blind Creek (Lower)	Flash
	✓	✓	1248 High Street Road	Wantirna South	Blind Creek (Lower)	Flash
	✓	✓	3 Loxton Avenue	Wantirna South	Blind Creek (Lower)	Flash
		✓	22 Mead Court	Wantirna South	Blind Creek (Lower)	Flash
	✓	✓	9 Oberon Court	Wantirna South	Blind Creek (Lower)	Flash
	✓	✓	4 Sarah Court	Wantirna South	Blind Creek (Lower)	Flash
	✓	✓	5 Sarah Court	Wantirna South	Blind Creek (Lower)	Flash
	✓	✓	55 Somes Street	Wantirna South	Blind Creek (Lower)	Flash
		✓	41 Sylphide Way	Wantirna South	Blind Creek (Lower)	Flash
Totals						
0	9	12				

Table C2.4 – Properties at risk of flooding along Blind Creek Lower and its stormwater tributaries in the Knox municipality

## Isolation

No major isolation risks exist for areas around Blind Creek in Ferntree Gully, Boronia, Wantirna, Wantirna South and Knoxfield during a 1% AEP (100yr ARI) event. Some localised short-duration isolation may occur due to flash flooding.

## Essential Infrastructure

During an event, see Public Transport Victoria's Website for details on delays or alterations to services: <http://ptv.vic.gov.au/live-travel-updates/>. A map of public transport routes within the Knox municipality is available via the website at: [https://www.ptv.vic.gov.au/assets/PTV-default-site/more/maps/Local-area-maps/Metropolitan/9b8130fe6c/24\\_Knox\\_LAM\\_April-2021.pdf](https://www.ptv.vic.gov.au/assets/PTV-default-site/more/maps/Local-area-maps/Metropolitan/9b8130fe6c/24_Knox_LAM_April-2021.pdf).

Apart from the roads outlined below, all other essential infrastructure and services areas around Blind Creek in Ferntree Gully, Boronia, Wantirna, Wantirna South and Knoxfield are expected to remain unaffected by flooding during a 1% AEP (100yr ARI) event.

## Road Closures

The following roads are subject to closure during flooding around Blind Creek in Ferntree Gully, Boronia, Wantirna, Wantirna South and Knoxfield. Check the VicRoads website for more details: <http://alerts.vicroads.vic.gov.au/>.

Department of Transport (VicRoads) Roads likely flooded in a 1% AEP (100yr ARI) event
• Dorset Road, Ferntree Gully at Francis Crescent
• High Street Road, Wantirna South at Blind Creek crossing
• High Street Road, Wantirna South east of Stud Road
• Stud Road, Wantirna South at Burwood Highway

Table C2.5 – Department of Transport (VicRoads) Possible Road Closures during a flooding event

Knox City Council Roads likely flooded in a 1% AEP (100yr ARI) event			
<b>BAYSWATER</b>	<b>WANTIRNA</b>	• Bridgewood Court	• Mendora Crescent
• Mareeba Crescent	• Alderford Drive	• Cathies Lane	• Milbrey Close
<b>BORONIA</b>	• Amesbury Avenue	• Coleman Road	• Neville Street
• Hazelwood Road	• Attenborough Square	• Densham Court	• Newstead Way
• Springfield Road	• Cloverlea Drive	• Downshire Close	• Old Orchard Drive
• Wattletree Road	• Deauville Court	• Exell Court	• Pentlowe Road
<b>FERNTREE GULLY</b>	• Kaisman Square	• Findon Court	• Renou Road
• Alexander Crescent	• Teddington Way	• Glenmaggie Court	• Sylphide Way
• Edina Road	• Chiswick Court	• Jenola Parade	• Tasman Close
• Forest Road	• Coorong Court	• Julie Court	• Timmothy Drive
• Olivebank Road	• Duntroon Drive	• Kanooka Road	• Townview Avenue
<b>KNOXFIELD</b>	<b>WANTIRNA SOUTH</b>	• Llewellyn Park Drive	• Tyner Road
• Bond Street	• Arthur Street	• Loxton Avenue	• Wallace Road
	• Blind Creek Lane	• Matlock Road	• Wolf Street

Table C2.6 – Knox City Council Possible flooded roads due to flash flooding over 30cm depth

## Flood Mitigation

### Retarding Basins

Melbourne Water Retarding Basin	On Drain/ Waterway	Area	Storage Capacity	Spillway Crest Level	Full Supply Level	Embankment Crest Level	ANCOLD Hazard Rating	Buildings In Flow Path (dam breach)	Melway Reference
Blind Creek	Blind Creek	21.87 ha	370 ML	72.2m AHD	72.82m AHD	72.9m AHD	Extreme	586	64 A10
Riddell Road	Riddell Road Drain	6.69 ha	142.9 ML	73.5m AHD	74.0m AHD	74.5m AHD	High A	Unavailable	73 B2
Sasses Avenue	Sasses Avenue Drain	2.39 ha	25 ML	83.1m AHD	83.5m AHD	83.7m AHD	High A	108	64 D7

Table C2.7 – Melbourne Water Retarding Basins within the Blind Creek catchment in the Knox municipality

No formal pumping stations or levees exist along Blind Creek or its tributaries.

### Sewerage Infrastructure

There is no sewerage infrastructure expected to impact or be impacted by floodwaters during severe flood events around Blind Creek and its stormwater tributaries.

### Control, Command and Coordination

VICSES will assume overall control of the response to flood incidents. Other agencies will be requested to support operations as detailed in this Plan. Control and coordination of a flood incident shall be carried out at the lowest effective level and in accordance with the SEMP. During significant events, VICSES will conduct incident management using multi-agency resources.

### Flood Impacts and Operational Considerations (Flood Intelligence Cards)

The tables on the following pages provide a breakdown of the possible consequences of flooding along Blind Creek and its stormwater tributaries at various creek heights or rain totals. These tables are to be used only as a guide as no two floods at a location will have identical impacts.

Intelligence Cards have been included for the following locations:

- Blind Creek at the Blind Creek Retarding Basin, Wantirna South
- Blind Creek at High Street Road, Wantirna South

# FLOOD INTELLIGENCE CARD – BLIND CREEK R/B GAUGE, BLIND CREEK

Version 4 – October 2021



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.

This Flood Intelligence Card publication is presented by the Victoria State Emergency Service for the purpose of disseminating emergency management information. The contents of the information have not been independently verified by the Victoria State Emergency Service. No liability is accepted for any damage, loss or injury caused by errors or omissions in this information or for any action taken by any person in reliance upon it. **Scan the QR code for the current levels for this gauge.**

LOCATION:	Blind Creek Retarding Basin on Arthur Street, Wantirna South
CURRENT LEVEL:	<a href="https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228366A">https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228366A</a>
STREAM:	Blind Creek
GAUGE NUMBER:	228366A
GAUGE ZERO:	66.61m AHD
GAUGE TYPE:	Stream Level & Rain

MELWAY REFERENCE:	64 A10
MINOR:	N/A
MODERATE:	N/A
MAJOR:	N/A
EMBANKMENT HEIGHT:	6.29m (72.9m AHD)
HIGHEST RECORDED FLOOD:	5.14m (3 February 2005)

Retarding Basin Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
4.64m	20% AEP (5yr ARI) Flood Level	<p><b>Properties at Flood Risk (Over-Floor)</b></p> <p><b>6 Properties in Total</b></p> <p><b>Local Drainage</b></p> <ul style="list-style-type: none"> <li>56 Alexander Crescent, Ferntree Gully</li> </ul> <p><b>Sasses Avenue D.S.</b></p> <ul style="list-style-type: none"> <li>418 Boronia Road, Wantirna South</li> <li>45 Kanooka Road, Wantirna South</li> <li>7 Katandra Court, Bayswater</li> <li>21 &amp; 31 Pentlowe Road, Wantirna South</li> </ul> <p><b>Community Infrastructure Likely Flooded</b></p> <ul style="list-style-type: none"> <li>Lewis Park on Lewis Road, Wantirna South</li> </ul> <p><b>Water Over Road (over 30cm depth)</b></p> <ul style="list-style-type: none"> <li>Nil expected</li> </ul>	
4.98m	5 February 2011 Flood Level Peak	<p><b>Event Summary</b></p> <p><b>Water Over Road (Road Closed)</b></p> <ul style="list-style-type: none"> <li>Forest Road, Ferntree Gully</li> <li>Burwood Highway at Stud Road</li> </ul>	

Retarding Basin Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
5.14m	3 February 2005 Flood Level Peak		
5.46m	5% AEP (20yr ARI) Flood Level	<p><b>Properties at Flood Risk (Over-Floor)</b></p> <p><b>21 Properties in Total</b></p> <p><b>Blind Creek</b></p> <ul style="list-style-type: none"> <li>• 81 Dorset Road, Ferntree Gully</li> <li>• 2/1, 2, 7 &amp; 20/12 Edina Road, Ferntree Gully</li> </ul> <p><b>Local Drainage</b></p> <ul style="list-style-type: none"> <li>• 56 &amp; 60 Alexander Crescent, Ferntree Gully</li> <li>• 108 &amp; 114 Forest Road, Ferntree Gully</li> <li>• 25 Olivebank Road, Ferntree Gully</li> </ul> <p><b>Sasses Avenue D.S.</b></p> <ul style="list-style-type: none"> <li>• 413 Boronia Road, Bayswater</li> <li>• 416 &amp; 418 Boronia Road, Wantirna South</li> <li>• 45 Kanooka Road, Wantirna South</li> <li>• 7 Katandra Court, Bayswater</li> <li>• 1, 19, 21 &amp; 31 Pentlowe Road, Wantirna South</li> <li>• 14 &amp; 15 Tilba Place, Wantirna South</li> </ul> <p><b>Community Infrastructure Likely Flooded</b></p> <ul style="list-style-type: none"> <li>• Blind Creek Trail footbridge over Blind Creek between Lewis Road and Scoresby Road, Wantirna South (Melway 64 D11)</li> <li>• Lewis Park on Lewis Road, Wantirna South</li> </ul> <p><b>Essential Infrastructure Likely Impacted</b></p> <ul style="list-style-type: none"> <li>• Bus Route 755 if Dorset Road flooded</li> </ul> <p><b>Water Over Road (over 30cm depth) (Department of Transport Roads in Red)</b></p> <p><b>Blind Creek (Upper)</b></p> <ul style="list-style-type: none"> <li>• Alexander Crescent, Ferntree Gully</li> <li>• Dorset Road, Ferntree Gully at Francis Crescent</li> <li>• Edina Road, Ferntree Gully</li> <li>• Forest Road, Ferntree Gully</li> <li>• Hazelwood Road, Boronia</li> <li>• Springfield Road, Boronia</li> <li>• Wattletree Road, Boronia</li> </ul> <p><b>Sasses Avenue Drain</b></p> <ul style="list-style-type: none"> <li>• Arthur Street, Wantirna South</li> <li>• Neville Street, Wantirna South</li> </ul>	
5.59m		<ul style="list-style-type: none"> <li>• Water starts flowing over the spillway of Blind Creek Retarding Basin</li> </ul>	
6.03m		<p><b>Community Infrastructure Likely Flooded</b></p> <ul style="list-style-type: none"> <li>• Westfield Knox (carpark areas of Stud Road entrance)</li> </ul>	

Retarding Basin Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
6.29m		<ul style="list-style-type: none"> <li>Embankment Level of Blind Creek Retarding Basin reached. Residential areas in immediate vicinity of the Retarding Basin and Westfield Knox at high risk of flooding.</li> </ul>	
6.35m	1% AEP (100yr ARI) Flood Level	<p><b>Properties at Flood Risk (Over-Floor)</b></p> <p><b>89 Properties in Total</b></p> <p><b>Blind Creek</b></p> <ul style="list-style-type: none"> <li>81 &amp; 3/87 Dorset Road, Ferntree Gully</li> <li>1/1, 2/1, 2, 7, 9 &amp; Factories 12-30/12 Edina Road, Ferntree Gully</li> <li>14 Halsey Street, Ferntree Gully</li> <li>25 Hazelwood Road, Boronia</li> <li>9 Shannon Avenue, Ferntree Gully</li> </ul> <p><b>Forest Road Drain</b></p> <p>3 Chatham Avenue, Ferntree Gully</p> <p>2/97 Forest Road, Ferntree Gully</p> <p>1/119A, 2/119A, 3/119A, 4/119A, 1/123 &amp; 2/123 Underwood Road, Ferntree Gully</p> <p>4/5, 1/7, 2/7, 3/7, 4/7, 3/9, 4/9, 1/13, 2/13 &amp; 3/13 Veronica Street, Ferntree Gully</p> <p><b>Local Drainage</b></p> <ul style="list-style-type: none"> <li>48, 56 &amp; 60 Alexander Crescent, Ferntree Gully</li> <li>108, 112 &amp; 114 Forest Road, Ferntree Gully</li> <li>28, 1/28, 2/28, 3/28, 4/28, 5/28, 6/28, 1/30, 2/30 &amp; 34 Lording Street, Ferntree Gully</li> <li>2A, 8, 10, 18, 24, 25 &amp; 26 Olivebank Road, Ferntree Gully</li> <li>97 Underwood Road, Ferntree Gully</li> </ul> <p><b>Sasses Avenue D.S.</b></p> <ul style="list-style-type: none"> <li>413 &amp; 413A Boronia Road, Bayswater</li> <li>416, 418 &amp; 420 Boronia Road, Wantirna South</li> <li>45 Kanooka Road, Wantirna South</li> <li>7 Katandra Court, Bayswater</li> <li>4, 5 &amp; 6 Matlock Road, Wantirna South</li> <li>1, 9, 15, 19, 21, 27 &amp; 31 Pentlowe Road, Wantirna South</li> <li>14 &amp; 15 Tilba Place, Wantirna South</li> </ul> <p><b>Community Infrastructure Likely Flooded</b></p> <ul style="list-style-type: none"> <li>Blind Creek Trail footbridge over Blind Creek between Lewis Road and Scoresby Road, Wantirna South (Melway 64 D11)</li> <li>Glengollan Village for Aged People at 97Underwood Road, Ferntree Gully flooded with 2 buildings at risk of flooding over-floor</li> <li>Ferntree Gully North Primary School at 111 Forest Road, Ferntree Gully</li> <li>Westfield Knox (carpark areas of Stud Road entrance)</li> <li>Knox City Tennis Club on Neville Street, Wantirna South</li> <li>Lewis Park on Lewis Road, Wantirna South</li> </ul> <p><b>Essential Infrastructure Likely Impacted</b></p> <ul style="list-style-type: none"> <li>Bus Route 755 if Dorset Road flooded</li> </ul>	

Retarding Basin Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<p><b>Water Over Road (Over 300mm Depth) (Department of Transport Roads in Red)</b></p> <p><b>Blind Creek (Upper)</b></p> <ul style="list-style-type: none"> <li>• Alexander Crescent, Ferntree Gully</li> <li>• <b>Dorset Road, Ferntree Gully at Francis Crescent</b></li> <li>• Edina Road, Ferntree Gully</li> <li>• Forest Road, Ferntree Gully</li> <li>• Olivebank Road, Ferntree Gully</li> <li>• Hazelwood Road, Boronia</li> <li>• Springfield Road, Boronia</li> <li>• Wattletree Road, Boronia</li> <li>• Bond Street, Knoxfield</li> <li>• Bridgewood Court, Wantirna South</li> </ul> <p><b>Sasses Avenue Drain</b></p> <ul style="list-style-type: none"> <li>• Arthur Street, Wantirna South</li> <li>• Coleman Road, Wantirna South</li> <li>• Kanooka Road, Wantirna South</li> <li>• Matlock Road, Wantirna South</li> <li>• Neville Street, Wantirna South</li> <li>• Pentlowe Road, Wantirna South</li> </ul>	

Table C2.8 – Breakdown of likely consequences at various gauge level heights along Blind Creek with operational considerations

# FLOOD INTELLIGENCE CARD – WANTIRNA SOUTH GAUGE, BLIND CREEK

Version 4 – October 2021



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.

This Flood Intelligence Card publication is presented by the Victoria State Emergency Service for the purpose of disseminating emergency management information. The contents of the information have not been independently verified by the Victoria State Emergency Service. No liability is accepted for any damage, loss or injury caused by errors or omissions in this information or for any action taken by any person in reliance upon it. **Scan the QR code for the current levels for this gauge.**

LOCATION:	Blind Creek at High Street Road, Wantirna South
CURRENT LEVEL:	<a href="https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228351B">https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228351B</a>
STREAM:	Blind Creek
GAUGE NUMBER:	228351B
GAUGE ZERO:	57.65m AHD* This gauge was realigned in 2008
GAUGE TYPE:	Stream Level

MELWAY REFERENCE:	72 E1
MINOR:	N/A
MODERATE:	N/A
MAJOR:	N/A
LEVEE HEIGHT:	N/A
HIGHEST RECORDED FLOOD:	2.58m (5 February 2011)

Creek Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
2.32m	20% AEP (5yr ARI) Flood Level	<p><b>Properties at Flood Risk</b>  <b>2 Properties in Total</b>  <b>Studfield West D.S.</b></p> <ul style="list-style-type: none"> <li>6 Barrington Court, Wantirna</li> <li>14 Harold Street, Wantirna</li> </ul> <p><b>Community Infrastructure Likely Flooded</b></p> <ul style="list-style-type: none"> <li>Blind Creek Trail underpass at Junction of Burwood Highway and Stud Road, Wantirna South</li> <li>Blind Creek Trail footbridge at Timothy Drive, Wantirna South (Melway 63 G12)</li> <li>Blind Creek Trail underpass at High Street Road, Wantirna South (Melway 72 E1)</li> </ul> <p><b>Essential Infrastructure Likely Impacted</b></p> <ul style="list-style-type: none"> <li>Bus Route 757 if Timmothy Drive flooded</li> </ul> <p><b>Water Over Road (over 30cm depth)</b></p> <p><b>Blind Creek (Lower)</b></p> <ul style="list-style-type: none"> <li>Timmothy Drive, Wantirna South</li> </ul> <p><b>Coppelia Street D.S.</b></p> <ul style="list-style-type: none"> <li>Glenmaggie Court, Wantirna South</li> <li>Milbrey Close, Wantirna South</li> <li>Tasman Close, Wantirna South</li> </ul> <p><b>George Street D.S.</b></p>	



Creek Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>• Llewellyn Park Drive, Wantirna South</li> <li><b>Riddell Road D.S.</b></li> <li>• Densham Court, Wantirna South</li> <li>• Downshire Close, Wantirna South</li> <li>• Townview Avenue, Wantirna South</li> <li>• Tyner Road, Wantirna South</li> <li>• Wallace Road, Wantirna South</li> <li>• Wolf Street, Wantirna South</li> <li><b>Studfield West D.S.</b></li> <li>• Alderford Drive, Wantirna</li> <li>• Kaisman Square, Wantirna</li> <li>• Teddington Way, Wantirna</li> <li><b>Templeton Street D.S.</b></li> <li>• Chiswick Court, Wantirna</li> <li><b>Wantirna South D.S.</b></li> <li>• Cathies Lane, Wantirna South</li> <li>• Renou Road, Wantirna South</li> </ul>	
2.46m	5% AEP (20yr ARI) Flood Level	<p><b>Properties at Flood Risk</b></p> <p><b>19 Properties in Total</b></p> <p><b>Blind Creek (Lower)</b></p> <ul style="list-style-type: none"> <li>• 77-81 &amp; 80 Argyle Way, Wantirna South</li> <li>• 8 Cuthbert Court, Wantirna South</li> <li>• 1248 High Street Road, Wantirna South</li> <li>• 3 Laxton Avenue, Wantirna South</li> <li>• 9 Oberon Court, Wantirna South</li> <li>• 4 &amp; 5 Sarah Court, Wantirna South</li> <li>• 55 Somes Street, Wantirna South</li> </ul> <p><b>Studfield West D.S.</b></p> <ul style="list-style-type: none"> <li>• 2 Attenborough Square, Wantirna</li> <li>• 4 &amp; 6 Barrington Court, Wantirna</li> <li>• 31 Brentwood Drive, Wantirna</li> <li>• 2 Deauville Court, Wantirna</li> <li>• 14 Harold Street, Wantirna</li> </ul> <p><b>Templeton Street D.S.</b></p> <ul style="list-style-type: none"> <li>• Units 1-5/2 Old Stud Road, Wantirna South</li> </ul> <p><b>Community Infrastructure Likely Flooded</b></p> <ul style="list-style-type: none"> <li>• Blind Creek Trail underpass at Junction of Burwood Highway and Stud Road, Wantirna South</li> <li>• Blind Creek Trail footbridge at Timothy Drive, Wantirna South (Melway 63 G12)</li> <li>• Blind Creek Trail underpass at High Street Road, Wantirna South (Melway 72 E1)</li> <li>• Wantirna Village (Retirement Village) on Old Stud Road, Wantirna South</li> </ul> <p><b>Essential Infrastructure Likely Impacted</b></p>	

Creek Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>• Bus Route 757 if Timmothy Drive flooded</li> <li>• Bus Routes 737 &amp; 754 if High Street Road flooded at Blind Creek crossing</li> <li><b>Water Over Road (over 30cm depth) (Department of Transport Roads in Red)</b></li> <li><b>Blind Creek (Lower)</b></li> <li>• Timmothy Drive, Wantirna South</li> <li><b>Coppelia Street D.S.</b></li> <li>• Findon Court, Wantirna South</li> <li>• Glenmaggie Court, Wantirna South</li> <li>• Loxton Avenue, Wantirna South</li> <li>• Milbrey Close, Wantirna South</li> <li>• Sylphide Way, Wantirna South</li> <li>• Tasman Close, Wantirna South</li> <li><b>George Street D.S.</b></li> <li>• Llewellyn Park Drive, Wantirna South</li> <li><b>Riddell Road D.S.</b></li> <li>• Densham Court, Wantirna South</li> <li>• Downshire Close, Wantirna South</li> <li>• Exell Court, Wantirna South</li> <li>• High Street Road, Wantirna South east of Stud Road</li> <li>• Newstead Way, Wantirna South</li> <li>• Townview Avenue, Wantirna South</li> <li>• Tyner Road, Wantirna South</li> <li>• Wallace Road, Wantirna South</li> <li>• Wolf Street, Wantirna South</li> <li><b>Studfield West D.S.</b></li> <li>• Alderford Drive, Wantirna</li> <li>• Amesbury Avenue, Wantirna</li> <li>• Attenborough Square, Wantirna</li> <li>• Cloverlea Drive, Wantirna</li> <li>• Deauville Court, Wantirna</li> <li>• Kaisman Square, Wantirna</li> <li>• Teddington Way, Wantirna</li> <li><b>Templeton Street D.S.</b></li> <li>• Chiswick Court, Wantirna</li> <li>• Duntroon Drive, Wantirna</li> <li>• Old Orchard Drive, Wantirna South</li> <li><b>Wantirna South D.S.</b></li> <li>• Cathies Lane, Wantirna South</li> <li>• Julie Court, Wantirna South</li> <li>• Renou Road, Wantirna South</li> </ul>	

Creek Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
2.50m		<b>Water Over Road</b> <ul style="list-style-type: none"> <li>Stud Road, Wantirna South at Burwood Highway</li> </ul>	
2.58m	5 February 2011 Flood Level Peak	<b>Event Summary</b> <b>Water Over Road (Road Closed)</b> <ul style="list-style-type: none"> <li>Burwood Highway at Stud Road</li> <li>Tyner Road, Wantirna South</li> </ul>	
2.64m		<b>Community Infrastructure Likely Flooded</b> <ul style="list-style-type: none"> <li>Westfield Knox (carpark areas of Stud Road entrance)</li> </ul> <b>Essential Infrastructure Likely Impacted</b> <ul style="list-style-type: none"> <li>Bus Routes 664, 737, 901 &amp; 969 if Stud Road flooded at Westfield Knox</li> </ul>	
2.65m	1% AEP (100yr ARI) Flood Level	<b>Properties at Flood Risk</b> <b>30 Properties in Total</b> <b>Blind Creek (Lower)</b> <ul style="list-style-type: none"> <li>77-81 &amp; 80 Argyle Way, Wantirna South</li> <li>8 Cuthbert Court, Wantirna South</li> <li>10 Haideh Place, Wantirna South</li> <li>1248 High Street Road, Wantirna South</li> <li>3 Laxton Avenue, Wantirna South</li> <li>22 Mead Court, Wantirna South</li> <li>9 Oberon Court, Wantirna South</li> <li>4 &amp; 5 Sarah Court, Wantirna South</li> <li>55 Somes Street, Wantirna South</li> <li>41 Sylphide Way, Wantirna South</li> </ul> <b>Studfield West D.S.</b> <ul style="list-style-type: none"> <li>1 &amp; 2 Attenborough Square, Wantirna</li> <li>4, 5 &amp; 6 Barrington Court, Wantirna</li> <li>31 Brentwood Drive, Wantirna</li> <li>16 Clowerlea Drive, Wantirna</li> <li>2 &amp; 12 Deauville Court, Wantirna</li> <li>14 Harold Street, Wantirna</li> <li>15 Teddington Way, Wantirna</li> </ul> <b>Templeton Street D.S.</b> <ul style="list-style-type: none"> <li>Units 1-5/2 &amp; 31/2 Old Stud Road, Wantirna South</li> <li>8 Tyloid Square, Wantirna</li> </ul> <b>Community Infrastructure Likely Flooded</b> <ul style="list-style-type: none"> <li>Blind Creek Trail underpass at Junction of Burwood Highway and Stud Road, Wantirna South</li> <li>Blind Creek Trail footbridge at Timothy Drive, Wantirna South (Melway 63 G12)</li> <li>Blind Creek Trail underpass at High Street Road, Wantirna South (Melway 72 E1)</li> <li>Westfield Knox (carpark areas of Stud Road entrance)</li> <li>Knox Gardens Primary School on Argyle Way, Wantirna South</li> </ul>	

Creek Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>• Wantirna Village (Retirement Village) on Old Stud Road, Wantirna South with a number of residences along Ash Court and Palm Grove at risk of over-floor flooding</li> <li>• Waverly Christian College on Cathies Lane, Wantirna South</li> <li><b>Essential Infrastructure Likely Impacted</b></li> <li>• Bus Routes 664, 737, 901 &amp; 969 if Stud Road flooded at Westfield Knox</li> <li>• Bus Route 757 if Timmothy Drive flooded</li> <li>• Bus Routes 737 &amp; 754 if High Street Road flooded at Blind Creek crossing</li> <li><b>Water Over Road (over 30cm depth) (Department of Transport Roads in Red)</b></li> <li><b>Blind Creek (Lower)</b></li> <li>• High Street Road, Wantirna South at Blind Creek crossing</li> <li>• Stud Road, Wantirna South north of Burwood Highway</li> <li>• Timmothy Drive, Wantirna South</li> <li><b>Coppelia Street D.S.</b></li> <li>• Blind Creek Lane, Wantirna South</li> <li>• Findon Court, Wantirna South</li> <li>• Glenmaggie Court, Wantirna South</li> <li>• Loxton Avenue, Wantirna South</li> <li>• Milbrey Close, Wantirna South</li> <li>• Sylphide Way, Wantirna South</li> <li>• Tasman Close, Wantirna South</li> <li><b>George Street D.S.</b></li> <li>• Llewellyn Park Drive, Wantirna South</li> <li><b>Riddell Road D.S.</b></li> <li>• Densham Court, Wantirna South</li> <li>• Downshire Close, Wantirna South</li> <li>• Exell Court, Wantirna South</li> <li>• High Street Road, Wantirna South east of Stud Road</li> <li>• Mendora Crescent, Wantirna South</li> <li>• Newstead Way, Wantirna South</li> <li>• Townview Avenue, Wantirna South</li> <li>• Tyner Road, Wantirna South</li> <li>• Wallace Road, Wantirna South</li> <li>• Wolf Street, Wantirna South</li> <li><b>Studfield West D.S.</b></li> <li>• Alderford Drive, Wantirna</li> <li>• Amesbury Avenue, Wantirna</li> <li>• Attenborough Square, Wantirna</li> <li>• Cloverlea Drive, Wantirna</li> <li>• Deauville Court, Wantirna</li> <li>• Kaisman Square, Wantirna</li> <li>• Teddington Way, Wantirna</li> </ul>	

Creek Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<p><b>Templeton Street D.S.</b></p> <ul style="list-style-type: none"> <li>• Chiswick Court, Wantirna</li> <li>• Coorong Court, Wantirna</li> <li>• Duntroon Drive, Wantirna</li> <li>• Old Orchard Drive, Wantirna South</li> </ul> <p><b>Wantirna South D.S.</b></p> <ul style="list-style-type: none"> <li>• Cathies Lane, Wantirna South</li> <li>• Jenola Parade, Wantirna South</li> <li>• Julie Court, Wantirna South</li> <li>• Renou Road, Wantirna South</li> </ul>	

Table C2.9 – Breakdown of likely consequences at various Wantirna South gauge level heights along the Blind Creek catchment with operational considerations

# APPENDIX C3 – CORHANWARRABUL CREEK FLOOD EMERGENCY PLAN

## Overview of Flooding Consequences

The Corhanwarrabul Creek catchment comprises of Ferntree Gully Creek; Ferny Creek; Monbulk Creek; Lysterfield West Drain; and Kelletts Road Drain. Ferntree Gully Creek, Ferny Creek and Monbulk Creek begin in the Shire of Yarra Ranges before converging at the Waterford Valley Golf Course and Retirement Village in Rowville.

A number of levees are located along the northern side of Ferny Creek between Hancock Drive to Henderson; the southern side of Monbulk Creek along Karoo Road; and the northern side of Corhanwarrabul Creek from Henderson Road to Stud Road. These levees protect to at least 1% AEP with varying freeboards.

The area comprises of predominantly residential zones with a number of pockets of retail business districts. Key infrastructure at risk from flooding include: a number of educational facilities in Upper Ferntree Gully; the Ferntree Plaza Shopping Centre in Upper Ferntree Gully; Burwood Highway at Upper Ferntree Gully; the Ferntree Gully Sub-station on Glenfern Road; and Stud Road (South Bound) in Scoresby.

*This Summary table is generated from Victorian Government data. The State of Victoria does not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for error, loss or damage which may arise from reliance upon it. All persons accessing this information should make appropriate enquiries to assess the currency of the data.*

### Summary of Consequences in a 1% AEP (100yr ARI) flood along Ferny, Monbulk & Corhanwarrabul Creeks

Property (either over-floor flooding or a depth of 30cm in the yard at the building depending on the catchment)		
<b>Properties</b>	<b>319</b>	
Residential	215	
Commercial	56	
Industrial	40	
Public Land	8	
Rural	0	
Community Infrastructure		
Care Facilities	2	Sherbrooke Private Nursing Home; & Willowbrooke Hostel
Schools / Colleges	4	Coonara Community School; Heany Park Primary School; St Joseph's College; and Upper Ferntree Gully Primary School
Child Care / Kindergartens	1	Upper Ferntree Gully Kinder
Community Venues	1	Ferntree Plaza Shopping Centre
Essential Infrastructure		
Major Roads	8	Brenock Park Drive; Burwood Highway; Ferntree Gully Road (east bound); Kelletts Road (east bound); Lysterfield Road; Napoleon Road; Stud Road (south bound); and Wellington Road (east bound)
Bus Routes	6	681, 682, 688, 691, 693 & 732
Power Facility	1	Ferntree Gully Sub-Station on Glenfern Road

Emergency Services	1	CFA Ferntree Gully Incident Control Centre Isolation Risk			
Levees	4	On Corhanwarrabul, Ferny and Monbulk Creeks			
Drainage Facilities	9	8 Retarding Basins & 1 Drainage Pumping Station			
Sewerage Facilities	2	Pumping Stations			
<b>Tourism / Recreation</b>					
Sports Facilities	4	Gilbert Park Basball Fields; Knox Regional Netball Centre Outside Courts; Sherboorke Little Athletics Track; and Waterford Valley Golf Course			
Recreation Facilities	2	Koolamara Reserve; and Wally Tew Reserve			
<b>Government Boundaries</b>					
Local Gov't Areas	1	Knox	CMA	1	Port Phillip & Westernport
Adjacent LGAs	1	Yarra Ranges	CFA District	1	District 13
SES Resp' Boundary	1	Knox	FRV District	0	

Table C3.1 – Consequence Summary of 1% AEP flood along Ferny, Monbulk & Corhanwarrabul Creeks in Knox municipality

## Gauges and Warnings

Whilst there are hydrographic/telemetry stations (river gauges) within the municipality, Melbourne Water does not provide any flood warning service at this point, due to the generally short warning times available.

Gauge	Station No.	Location	Stream Level & Flow Gauge	Rain Gauge	Melway Reference
Monbulk Creek at Retarding Basin, Lysterfield	228229B	South bank of the creek at the end of Nixon Road, Lysterfield	✓	✓	83J2
Corhanwarrabul Creek at Stud Rd, Scoresby	228393A	Stud Road Median Strip bridge, Rowville	✓		72 J9

Table C3.2 – Gauges within the Corhanwarrabul Creek catchment

These Gauges may provide some warning of expected flooding. See the Melbourne Water website for more information on these gauges:

[http://www.melbournewater.com.au/content/rivers\\_and\\_creeks/rainfall\\_and\\_river\\_level\\_data/rainfall\\_and\\_river\\_level\\_data.asp](http://www.melbournewater.com.au/content/rivers_and_creeks/rainfall_and_river_level_data/rainfall_and_river_level_data.asp). It is advised that residents monitor the BoM website

<http://www.bom.gov.au/> and the VICSES website <http://www.ses.vic.gov.au/> for any thunderstorm, flood or severe weather warnings present for their area.



# Area Map of Flood Risk within the Corhanwarrabul Creek catchment

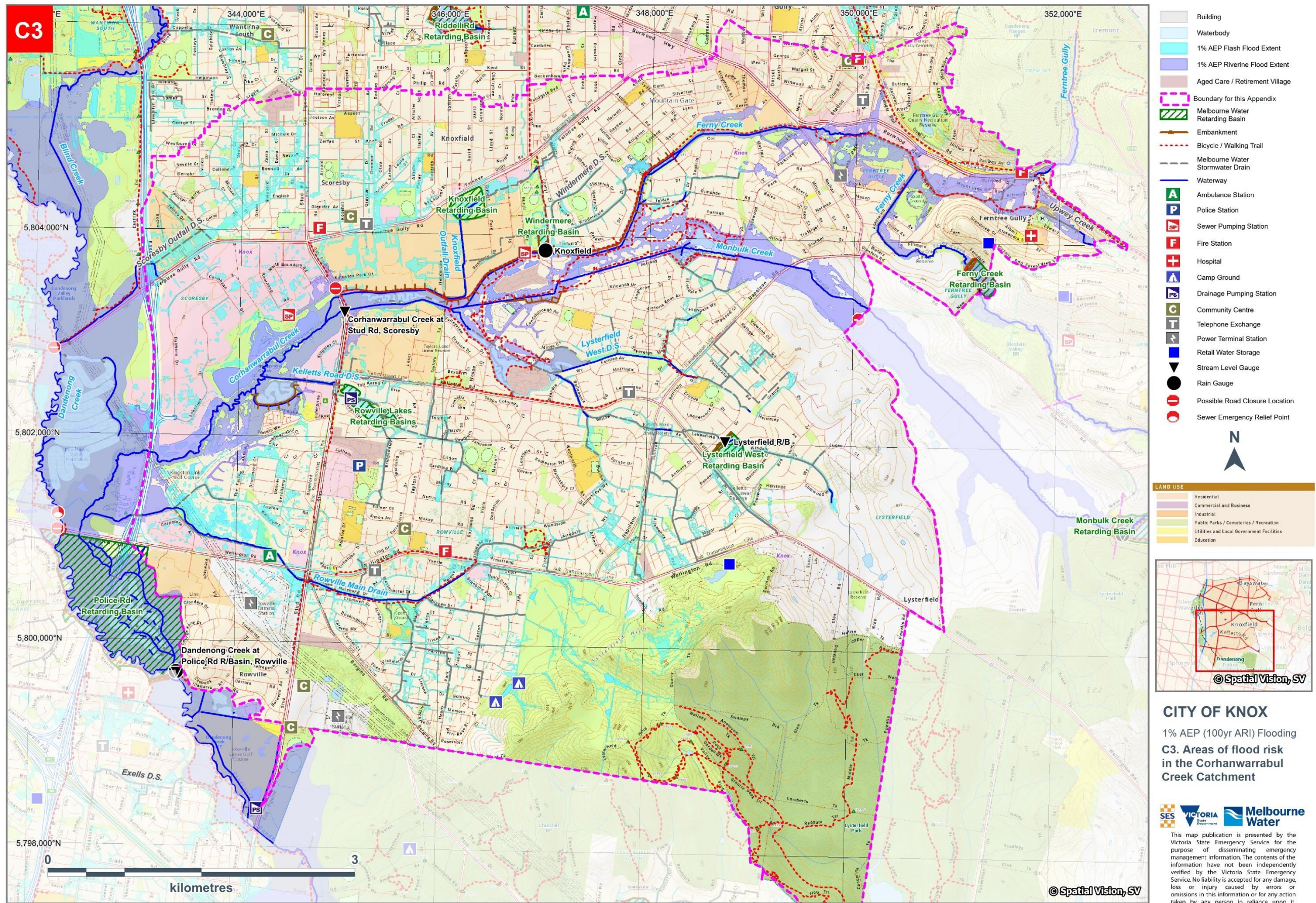


Figure C3 – Areas of flood risk around Monbulk, Ferny & Corhanwarrabul Creeks in the Knox municipality and area covered in this appendix



## Properties at Flood Risk

Properties listed in the table below are at risk from flooding over 30cm depth in the yard at the primary building on the property. As more intelligence becomes available, this list may change. This table has been populated based on modelling work as part of the Rowville Main Drain (Cardno, November 2020), the Ferny Creek (DVA, March 2011), Kelletts Road D.S. (GHD, September 2020), the Lysterfield West D.S. (GHD, September 2020), the Monbulk Creek (Melbourne Water, November 2013) and the Scoresby Outfall D.S. (Cardno, September 2020) flood mapping and risk assessment programs. Note that any multi-lot properties situated above ground floor are likely to be impacted by isolation only with flooding on ground floor impacting access to common areas and/or carpark and storage facilities. Information on above ground-floor properties is not available in this list.

*This Property Flood Risk Table is presented by the Victoria State Emergency Service for the purpose of disseminating emergency management information. The contents of the information have not been independently verified by the Victoria State Emergency Service. No liability is accepted for any damage, loss or injury caused by errors or omissions in this information or for any action taken by any person in reliance upon it.*

Properties at risk from Flooding over 30cm depth in yard at the building						
Residential			Commercial	Industrial	Rural	Public Use
Property at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
20% AEP	5% AEP	1% AEP				
		✓	9 Augusta Court	Rowville	Corhanwarrabul Creek	Riverine
		✓	25 Avalon Road	Rowville	Local Drainage	Flash
		✓	1 Centre Road	Scoresby	Corhanwarrabul Creek	Riverine
		✓	19 Centre Road	Scoresby	Corhanwarrabul Creek	Riverine
		✓	30 Centre Road	Scoresby	Corhanwarrabul Creek	Riverine
		✓	35 Centre Road	Scoresby	Corhanwarrabul Creek	Riverine
		✓	3 Daniella Court	Rowville	Rowville Main Drain	Flash
		✓	4 Daniella Court	Rowville	Rowville Main Drain	Flash
		✓	4 Dean Close	Rowville	Rowville Main Drain	Flash
		✓	47 Deschamp Crescent	Rowville	Local Drainage	Flash
		✓	64 Deschamp Court	Rowville	Local Drainage	Flash
		✓	1/1464 Ferntree Gully Road	Knoxfield	Local Drainage	Flash
		✓	1A/1464 Ferntree Gully Road	Knoxfield	Local Drainage	Flash
		✓	1469-1513 Ferntree Gully Road	Knoxfield	Local Drainage	Flash
		✓	11 Kingston Park Court	Knoxfield	Local Drainage	Flash
		✓	4 Lehhong Close	Rowville	Local Drainage	Flash
		✓	11A Lidgate Avenue	Rowville	Local Drainage	Flash
		✓	13B Lidgate Avenue	Rowville	Local Drainage	Flash
		✓	21 Ling Drive	Rowville	Local Drainage	Flash
		✓	23 Ling Drive	Rowville	Local Drainage	Flash
		✓	2 Manson Court	Rowville	Local Drainage	Flash
	✓	✓	6 Mastos Place	Rowville	Local Drainage	Flash
		✓	1 Merion Court	Rowville	Rowville Main Drain	Flash
		✓	8 Merion Court	Rowville	Rowville Main Drain	Flash
		✓	4 Oconnor Road	Knoxfield	Local Drainage	Flash
		✓	12 Oconnor Road	Knoxfield	Local Drainage	Flash
	✓	✓	18 Oconnor Road	Knoxfield	Local Drainage	Flash

Properties at risk from Flooding over 30cm depth in yard at the building						
Residential			Commercial	Industrial	Rural	Public Use
Property at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
20% AEP	5% AEP	1% AEP				
		✓	20 Oconnor Road	Knoxfield	Local Drainage	Flash
		✓	9 Roger Court	Rowville	Rowville Main Drain	Flash
		✓	47 Salerno Way	Rowville	Local Drainage	Flash
	✓	✓	50 Shearer Drive	Rowville	Local Drainage	Flash
		✓	804 Stud Road	Scoresby	Corhanwarrabul Creek	Riverine
	✓	✓	835 Stud Road	Knoxfield	Corhanwarrabul Creek	Riverine
	✓	✓	949 Stud Road	Rowville	Corhanwarrabul Creek	Riverine
		✓	1215 Stud Road	Rowville	Rowville Main Drain	Flash
		✓	1/1221 Stud Road	Rowville	Local Drainage	Flash
		✓	2/1221 Stud Road	Rowville	Local Drainage	Flash
		✓	3/1221 Stud Road	Rowville	Local Drainage	Flash
		✓	11 Towt Court	Rowville	Local Drainage	Flash
		✓	1090 Wellington Road	Rowville	Rowville Main Drain	Flash
		✓	29 Yvette Drive	Rowville	Local Drainage	Flash
		✓	75 Taylors Lane	Rowville	Kellets Road D.S.	Flash
		✓	13 Kellets Road	Rowville	Kellets Road D.S.	Flash
		✓	1600 Ferntree Gully Road	Knoxfield	Knox Outfall D.S.	Flash
		✓	1642 Ferntree Gully Road	Knoxfield	Kent Park D.S.	Flash
		✓	7 Forbes Close	Knoxfield	Knox Outfall D.S.	Flash
	✓	✓	1 Gilbert Park Drive	Knoxfield	Kent Park D.S.	Flash
		✓	9 Gilbert Park Drive	Knoxfield	Kent Park D.S.	Flash
		✓	57 Grange Drive	Lysterfield	Lysterfield West D.S.	Flash
		✓	2/20 Henderson Road	Knoxfield	Knox Outfall D.S.	Flash
		✓	31 Jubilee Drive	Rowville	Monbulk Creek	Riverine
		✓	100 Karoo Road	Rowville	Monbulk Creek	Riverine
		✓	104 Karoo Road	Rowville	Monbulk Creek	Riverine
		✓	1 Kingston Park Court	Knoxfield	Corhanwarrabul Creek	Riverine
		✓	11 Kingston Park Court	Knoxfield	Corhanwarrabul Creek	Riverine
		✓	9 Kitson Court	Rowville	Lysterfield West D.S.	Flash
		✓	95 Mountain Gate Drive	Ferntree Gully	Windermere D.S.	Flash
		✓	9 Redgum Court	Rowville	Lysterfield West D.S.	Flash
		✓	7/1 Rushdale Street	Knoxfield	Kent Park D.S.	Flash
		✓	4 Rushdale Street	Knoxfield	Kent Park D.S.	Flash
	✓	✓	6 Rushdale Street	Knoxfield	Kent Park D.S.	Flash
	✓	✓	7 Rushdale Street	Knoxfield	Kent Park D.S.	Flash
	✓	✓	8 Rushdale Street	Knoxfield	Kent Park D.S.	Flash
		✓	2/10 Rushdale Street	Knoxfield	Kent Park D.S.	Flash
		✓	3/10 Rushdale Street	Knoxfield	Kent Park D.S.	Flash
		✓	4/10 Rushdale Street	Knoxfield	Kent Park D.S.	Flash
		✓	11 Rushdale Street	Knoxfield	Kent Park D.S.	Flash
		✓	13 Rushdale Street	Knoxfield	Kent Park D.S.	Flash
		✓	10 Snowgum Close	Rowville	Lysterfield West D.S.	Flash
		✓	11 Snowgum Close	Rowville	Lysterfield West D.S.	Flash

Properties at risk from Flooding over 30cm depth in yard at the building						
Residential			Commercial	Industrial	Rural	Public Use
Property at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
20% AEP	5% AEP	1% AEP				
	✓	✓	835 Stud Road	Knoxfield	Corhanwarrabul Creek	Riverine
		✓	52 Trefoil Street	Ferntree Gully	Windermere D.S.	Flash
		✓	55 Trefoil Street	Ferntree Gully	Windermere D.S.	Flash
		✓	59 Trefoil Street	Ferntree Gully	Windermere D.S.	Flash
		✓	69 Trefoil Street	Ferntree Gully	Windermere D.S.	Flash
		✓	79 Wentworth Avenue	Rowville	Lysterfield West D.S.	Flash
		✓	18 Willow Avenue	Rowville	Lysterfield West D.S.	Flash
✓	✓	✓	22 Borg Crescent	Scoresby	Local Drainage	Flash
✓	✓	✓	24 Borg Crescent	Scoresby	Local Drainage	Flash
✓	✓	✓	28 Borg Crescent	Scoresby	Local Drainage	Flash
		✓	114 Borg Crescent	Scoresby	Local Drainage	Flash
	✓	✓	118 Borg Crescent	Scoresby	Local Drainage	Flash
		✓	122 Borg Crescent	Scoresby	Local Drainage	Flash
		✓	20 Carol Street	Scoresby	Local Drainage	Flash
		✓	22 Carol Street	Scoresby	Local Drainage	Flash
		✓	41 Collendina Crescent	Scoresby	Local Drainage	Flash
	✓	✓	43 Collendina Crescent	Scoresby	Local Drainage	Flash
✓	✓	✓	45 Collendina Crescent	Scoresby	Local Drainage	Flash
		✓	1261 Ferntree Gully Road	Scoresby	Scoresby Outfall D.S.	Flash
✓	✓	✓	1/1271 Ferntree Gully Road	Scoresby	Scoresby Outfall D.S.	Flash
✓	✓	✓	2/1271 Ferntree Gully Road	Scoresby	Scoresby Outfall D.S.	Flash
✓	✓	✓	3/1271 Ferntree Gully Road	Scoresby	Scoresby Outfall D.S.	Flash
✓	✓	✓	4/1271 Ferntree Gully Road	Scoresby	Scoresby Outfall D.S.	Flash
✓	✓	✓	5/1271 Ferntree Gully Road	Scoresby	Scoresby Outfall D.S.	Flash
✓	✓	✓	6/1271 Ferntree Gully Road	Scoresby	Scoresby Outfall D.S.	Flash
✓	✓	✓	7/1271 Ferntree Gully Road	Scoresby	Scoresby Outfall D.S.	Flash
✓	✓	✓	8/1271 Ferntree Gully Road	Scoresby	Scoresby Outfall D.S.	Flash
✓	✓	✓	9/1271 Ferntree Gully Road	Scoresby	Scoresby Outfall D.S.	Flash
		✓	2/5 Ingrid Street	Scoresby	Local Drainage	Flash
		✓	4 Karabil Close	Scoresby	Local Drainage	Flash
	✓	✓	3 Michael Street	Scoresby	Local Drainage	Flash
✓	✓	✓	5 Michael Street	Scoresby	Local Drainage	Flash
✓	✓	✓	7 Michael Street	Scoresby	Local Drainage	Flash
✓	✓	✓	9 Michael Street	Scoresby	Local Drainage	Flash
		✓	36 Michael Street	Scoresby	Local Drainage	Flash
✓	✓	✓	58 Michael Street	Scoresby	Local Drainage	Flash
		✓	60 Michael Street	Scoresby	Local Drainage	Flash
✓	✓	✓	16 Orson Street	Scoresby	Local Drainage	Flash
✓	✓	✓	18 Orson Street	Scoresby	Local Drainage	Flash
		✓	20 Orson Street	Scoresby	Local Drainage	Flash
✓	✓	✓	2/22 Orson Street	Scoresby	Local Drainage	Flash
		✓	5 Parkside Circuit	Scoresby	Local Drainage	Flash
	✓	✓	1/7 Rocco Drive	Scoresby	Local Drainage	Flash

Properties at risk from Flooding over 30cm depth in yard at the building						
Residential			Commercial	Industrial	Rural	Public Use
Property at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
20% AEP	5% AEP	1% AEP				
	✓	✓	2/7 Rocco Drive	Scoresby	Local Drainage	Flash
	✓	✓	3/7 Rocco Drive	Scoresby	Local Drainage	Flash
	✓	✓	4/7 Rocco Drive	Scoresby	Scoresby Outfall D.S.	Flash
	✓	✓	5/7 Rocco Drive	Scoresby	Local Drainage	Flash
	✓	✓	6/7 Rocco Drive	Scoresby	Scoresby Outfall D.S.	Flash
	✓	✓	13 Rocco Drive	Scoresby	Local Drainage	Flash
	✓	✓	2 Sally Frances Court	Scoresby	Local Drainage	Flash
✓	✓	✓	3 Sally Frances Court	Scoresby	Local Drainage	Flash
✓	✓	✓	4 Sally Frances Court	Scoresby	Local Drainage	Flash
✓	✓	✓	5 Sally Frances Court	Scoresby	Local Drainage	Flash
	✓	✓	6 Sally Frances Court	Scoresby	Local Drainage	Flash
		✓	9 Augusta Court	Rowville	Corhanwarrabul Creek	Riverine
		✓	25 Avalon Road	Rowville	Local Drainage	Flash
		✓	1 Centre Road	Scoresby	Corhanwarrabul Creek	Riverine
		✓	19 Centre Road	Scoresby	Corhanwarrabul Creek	Riverine
		✓	30 Centre Road	Scoresby	Corhanwarrabul Creek	Riverine
		✓	35 Centre Road	Scoresby	Corhanwarrabul Creek	Riverine
		✓	3 Daniella Court	Rowville	Rowville Main Drain	Flash
		✓	4 Daniella Court	Rowville	Rowville Main Drain	Flash
		✓	4 Dean Close	Rowville	Rowville Main Drain	Flash
		✓	47 Deschamp Crescent	Rowville	Local Drainage	Flash
		✓	64 Deschamp Court	Rowville	Local Drainage	Flash
		✓	1/1464 Ferntree Gully Road	Knoxfield	Local Drainage	Flash
<b>Totals</b>						
<b>23</b>	<b>45</b>	<b>124</b>				

Table C3.3 – Properties at risk of flooding within the Corhanwarrabul Creek in the Knox municipality

Properties listed in the table below are at risk from flooding within the Corhanwarrabul Creek catchment in the Knox municipality. As more intelligence becomes available, this list may change. This table has been populated based on modelling work as part of the Ferny Creek (DVA, March 2011), the Monbulk Creek (Melbourne Water, November 2013) and the Corhanwarrabul Creek (Melbourne Water, August 2013) flood mapping and risk assessment programs.

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Properties at risk from flooding over-floor within the along Ferny Creek and Ferntree Gully Creek

Properties at risk from flooding over-floor within the along Ferny Creek and Ferntree Gully Creek						
Residential			Commercial	Industrial	Rural	Public Use
Property at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
		✓	7 Acacia Road	Upper Ferntree Gully	Ferny Creek	Riverine
		✓	9 Acacia Road	Upper Ferntree Gully	Ferny Creek	Riverine
		✓	11 Acacia Road	Upper Ferntree Gully	Ferny Creek	Riverine
		✓	13 Acacia Road	Upper Ferntree Gully	Ferny Creek	Riverine
		✓	15 Acacia Road	Upper Ferntree Gully	Ferny Creek	Riverine
		✓	75 Acacia Road	Ferntree Gully	Ferny Creek	Riverine
		✓	1 Alfred Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	4 Alfred Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	5 Alfred Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	6 Alfred Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	8 Alfred Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	9 Alfred Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	12 Alfred Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	14 Alfred Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1/17 Alfred Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	2/17 Alfred Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1/19 Alfred Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	5 Brenock Park Drive	Ferntree Gully	Ferny Creek	Riverine
	✓	✓	6 Brenock Park Drive	Ferntree Gully	Ferny Creek	Riverine
		✓	19 Brenock Park Drive	Ferntree Gully	Ferny Creek	Riverine
		✓	21 Brenock Park Drive	Ferntree Gully	Ferny Creek	Riverine
	✓	✓	1010 Burwood Highway	Ferntree Gully	Ferny Creek	Riverine
	✓	✓	1038 Burwood Highway	Ferntree Gully	Ferny Creek	Riverine
✓	✓	✓	1150 Burwood Highway	Ferntree Gully	Ferny Creek	Riverine
✓	✓	✓	1170 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1/1174 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	2/1174 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	3/1174 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	4/1174 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	5/1174 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1182 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	1192 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1202 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1204 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1/1206 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	2/1206 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	3/1206 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	4/1206 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	1222 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	1224 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1226 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1228 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1230 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine

Properties at risk from flooding over-floor within the along Ferny Creek and Ferntree Gully Creek

Residential			Commercial	Industrial	Rural	Public Use
Property at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
✓	✓	✓	1232 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1234 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1236 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1238 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1/1240 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	2/1240 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	1254 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	1270 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1272 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1284 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1/1288 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	2/1288 Burwood Highway	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	21/19 Cornhill Street	Ferntree Gully	Ferny Creek	Riverine
		✓	22/19 Cornhill Street	Ferntree Gully	Ferny Creek	Riverine
		✓	23/19 Cornhill Street	Ferntree Gully	Ferny Creek	Riverine
	✓	✓	31 Cornhill Street	Ferntree Gully	Ferny Creek	Riverine
		✓	7 Dawson Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	11 Dawson Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	1/13 Dawson Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	2/13 Dawson Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	3/13 Dawson Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	4/13 Dawson Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	5/13 Dawson Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	6/13 Dawson Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	8/13 Dawson Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	18 Dawson Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	1/20 Dawson Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	22 Dawson Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	19 Edward Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	21 Edward Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	36 Edward Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	38 Edward Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	40 Edward Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	42 Edward Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	2 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	6 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	7 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	8 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	9 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	10 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	11 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	12 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	14 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine



Properties at risk from flooding over-floor within the along Ferny Creek and Ferntree Gully Creek

Residential			Commercial	Industrial	Rural	Public Use
Property at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
✓	✓	✓	16 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	18 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	20 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	22 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	24 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	30 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	32 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	34 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	36 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	38 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	40 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	42 Forest Oak Drive	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	1 Glenfern Road	Ferntree Gully	Ferny Creek	Riverine
	✓	✓	3 Glenfern Road	Ferntree Gully	Ferny Creek	Riverine
		✓	1/11 Glenfern Road	Ferntree Gully	Ferny Creek	Riverine
	✓	✓	2/11 Glenfern Road	Ferntree Gully	Ferny Creek	Riverine
	✓	✓	3/11 Glenfern Road	Ferntree Gully	Ferny Creek	Riverine
	✓	✓	45 Glenfern Road	Ferntree Gully	Ferny Creek	Riverine
✓	✓	✓	1 Huon Pine Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	2 Huon Pine Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	3 Huon Pine Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	4 Huon Pine Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	5 Huon Pine Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	6 Huon Pine Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	7 Huon Pine Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	8 Huon Pine Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	10 Huon Pine Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	1 Johns Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	7 Johns Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	2/2 Lyndale Court	Ferntree Gully	Ferny Creek	Riverine
✓	✓	✓	6 Lyndale Court	Ferntree Gully	Ferny Creek	Riverine
		✓	6 Merricks Close	Ferntree Gully	Ferny Creek	Riverine
✓	✓	✓	14 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	16 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	18 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	20 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	22 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	24 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	27 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	28 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	29 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	30 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	33 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine

Properties at risk from flooding over-floor within the along Ferny Creek and Ferntree Gully Creek

Residential			Commercial	Industrial	Rural	Public Use
Property at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
	✓	✓	35 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	37 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	40 Mount View Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	1 Mountain Ash Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	2 Mountain Ash Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	11 Mountain Ash Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	12 Mountain Ash Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	13 Mountain Ash Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	14 Mountain Ash Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	15 Mountain Ash Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	16 Mountain Ash Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	18 Mountain Ash Court	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	30 Old Belgrave Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	32 Old Belgrave Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	34 Old Belgrave Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	38 Old Belgrave Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	40 Old Belgrave Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	46 Old Belgrave Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	56 Old Belgrave Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	58 Old Belgrave Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	1/60 Old Belgrave Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	2/60 Old Belgrave Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	2/62 Old Belgrave Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1 Rollings Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	6 Rollings Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	8 Rollings Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	10 Rollings Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	12 Rollings Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	22 Rollings Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	29 Rollings Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	39 Rollings Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	1-3 Rose Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	9 Rose Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	1/13 Rose Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	2/13 Rose Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	3/13 Rose Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	4-10 Talaskia Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	21 Talaskia Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	23 Talaskia Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	13 Tarana Avenue	Upper Ferntree Gully	Ferny Creek	Riverine
		✓	17 Tarana Avenue	Upper Ferntree Gully	Ferny Creek	Riverine
		✓	7 Waters Avenue	Upper Ferntree Gully	Ferny Creek	Riverine
	✓	✓	1 William Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine

Properties at risk from flooding over-floor within the along Ferny Creek and Ferntree Gully Creek						
Residential			Commercial	Industrial	Rural	Public Use
Property at Risk in AEP Event			Address	Suburb	Along Melbourne Water Watercourse	Flood Risk Type
5% AEP	2% AEP	1% AEP				
✓	✓	✓	3 William Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	5 William Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	7 William Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	9 William Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	11 William Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1/13 William Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	2/13 William Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	15 William Street	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
		✓	6 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	7 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	8 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	10 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	12 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	14 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	1/16 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	2/16 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	3/16 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	4/16 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
	✓	✓	5/16 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	6/16 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	7/16 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	8/16 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
✓	✓	✓	22 Willow Road	Upper Ferntree Gully	Ferntree Gully Creek	Riverine
Totals						
99	151	195				

Table C3.4 – Properties at risk of flooding over-floor along the Ferny and Ferntree Gully Creeks in the Knox municipality

## Isolation

No major isolation risks exist for areas around Monbulk, Ferny and Corhanwarrabul Creeks during a 1% AEP (100yr ARI) event. Some localised short-duration isolation may occur due to flash flooding.

## Essential Infrastructure

During an event, see Public Transport Victoria's Website for details on delays or alterations to services: <http://ptv.vic.gov.au/live-travel-updates/>. A map of Public Transport routes within the Knox municipality is available via the website at: [https://static.ptv.vic.gov.au/siteassets/Maps/Localities/PDFs/24\\_Knox\\_LAM.pdf](https://static.ptv.vic.gov.au/siteassets/Maps/Localities/PDFs/24_Knox_LAM.pdf)

Apart from the roads outlined below, all other essential infrastructure and services areas around Monbulk, Ferny and Corhanwarrabul Creeks are expected to remain unaffected by flooding during a 1% AEP (100yr ARI) event.

## Road Closure

The following roads are subject to closure during flooding around Monbulk, Ferny and Corhanwarrabul Creeks. Check the VicRoads website for more details: <http://alerts.vicroads.vic.gov.au/>.

Department of Transport (VicRoads) Roads likely flooded in a 1% AEP (100yr ARI) event
• Brenock Park Drive, Ferntree Gully
• Burwood Highway at Upper Ferntree Gully Railway Station and at Acacia Road, Upper Ferntree Gully
• Ferntree Gully Road (east bound) between Stud Road and Carrington Park, Scoresby
• Kelletts Road (east bound) at Stud Road, Rowville
• Lysterfield Road, Lysterfield at Monbulk Creek crossing
• Napoleon Road, Lysterfield at Monbulk Creek crossing
• Stud Road (south bound), Scoresby between Kingston Park Court & Corhanwarrabul Creek
• Wellington Road (east bound) at Silkwood Way, Rowville

Table C3.5 – Department of Transport (VicRoads) Possible Road Closures during a flooding event

Knox City Council Roads likely flooded in a 1% AEP (100yr ARI) event			
<b>FERNTREE GULLY</b>	• Sherwood Way	• Maitland Close	• Waradgery Drive
• Dempster Street	• Windsor Drive	• Manhattan Terrace	• Willow Avenue
• Dorian Avenue	<b>ROWVILLE</b>	• Merion Court	• Wyandra Way
• Ferntree Court	• Adrian Place	• Muirfield Court	• Yvette Drive
• Forest Road	• Amazon Court	• Murrindal Drive	<b>SCORSEBY</b>
• Hancock Drive	• Blackwood Park Road	• Naismith Court	• Borg Crescent
• Holme Road	• Bridgewater Way	• Oakdene Court	• Carol Street
• Homer Court	• Clauscen Drive	• Pickworth Crescent	• Centre Road
• Kevin Avenue	• Cromwell Drive	• Pinehill Drive	• Della Street
• Lucerne Road	• Dandelion Drive	• Pranjic Place	• Karabil Close
• Merricks Close	• Daniella Court	• Redgum Court	• Michael Street
• Mountain Gate Drive	• Dean Close	• Sanctuary Crescent	• Nyadale Drive
• Taldra Drive	• Ellendale Street	• Santed Court	• O'Connor Road
• Trefoil Street	• Goulburn Drive	• Second Avenue	<b>UPPER FERNTREE GULLY</b>
• Windermere Drive	• Helena Court	• Shearer Drive	• Acacia Road
• Woodlea Place	• Jubilee Drive	• Silkwood Way	• Clow Avenue
<b>KNOXFIELD</b>	• Karoo Road	• Snowgum Close	• Dawson Street
• Kingston Park Court	• Lakeview Avenue	• Tampe Road	• Forest Oak Drive
<b>LYSTERFIELD</b>	• Landsborough Avenue	• Taylors Lane at Goulburn Drive	• Mount View Road
• Bethelle Court	• Lesay Court	• Turnberry Court	• New Road
• Lakesfield Drive	• Linnel Court	• Tyers Crescent	• Rollings Road
• Quinn Court	• Liviana Drive	• Victoria Knox Avenue	• Waters Avenue

Table C3.6 – Knox City Council Possible flooded roads due to flash flooding over 30cm depth

## Flood Mitigation

### Retarding Basins

Melbourne Water Retarding Basin	On Drain/ Waterway	Area	Storage Capacity	Spillway Crest Level	Full Supply Level	Embankment Crest Level	ANCOLD Hazard Rating	Buildings In Flow Path (dam breach)	Melway Reference
Ferny Creek	Ferny Creek	5.78 ha	210 ML	130m AHD	130m AHD	130.8m AHD	High A	20	74 F8
Knoxfield	Kent Park Drain / Knoxfield Outfield Drain	7.92 ha	94 ML	N/A	63.0m AHD	64.0m AHD	Low	0	73 B6
Lysterfield West	Lysterfield West Drain	4.0 ha	123 ML	77.5m AHD	77.5m AHD	78.5m AHD	High A	180	73 J12
Monbulk Creek (Shire of Yarra Ranges)	Monbulk Creek	22.5 ha	822 ML	125.8m AHD	127.3m AHD	127.8m AHD	Significant	0	83 J2
Rowville Lakes No. 1	Kelletts Road Drain	1.18 ha	Unavailable	N/A	182.5m AHD	In cut	Low	0	72 K11
Rowville Lakes No. 2	Kelletts Road Drain	4.52 ha	Unavailable	N/A	182.5m AHD	In cut	Low	0	72 K11
Rowville Lakes No. 3	Kelletts Road Drain	1.09 ha	Unavailable	N/A	182.5m AHD	In cut	Low	0	72 K11
Windermere	Windermere Drain	1.54 ha	8.5 ML	N/A	69.0m AHD	63.0m AHD	Low	0	73 D7

Table C3.7 – Melbourne Water Retarding Basins within the Corhanwarrabul Creek catchment in the Knox municipality

### Pumping Stations

Pumping Station	On Drain / Waterway	Location	Owner	No. of Pumps	Purpose	Consequence of Failure	Melway Reference
Lakeside Boulevard	Kelletts Road Drain	Lakeside Boulevard at Rowville Lakes, Rowville	Melbourne Water	1	Bore Pump to fill Lake	Unable to top up ornamental lake	72 K11

Table C3.8 – Melbourne Water Pumping Stations within the Corhanwarrabul Creek catchment

## Levees

Melbourne Water Levee	Reach	Side	Levee Height	Levee Length	Expected Level of Protection	ANCOLD Hazard Rating	Buildings at risk behind Levee	Melway Reference
Corhanwarrabul Creek	Henderson Road to Stud Road	North	2.0m: 63.15m AHD upstream to 57.19m AHD downstream	1.2km	500mm freeboard in a 1% AEP (100yr ARI) event	Low	2	73 B9 – 72 J9
Ferry Creek	Faith Street to Hancock Drive	North	2.0m: Approx 78m AHD upstream to 76m AHD downstream	400m	Unavailable	Unavailable	Unavailable	73 G6 – 73 H5
Ferry Creek	Hancock Drive to Henderson Road	North	2.5m: 75.60m AHD upstream to 61.90m AHD downstream	2.6km	Unavailable	High C	77	73 B0 – 73 G6
Monbulk Creek	Karoo Road, Moama Place to Italian Club	South	1.7m	700m	1% AEP (100yr ARI) event. Freeboard Unavailable	Low	1	73 E9 – D9

Table C3.9 – Melbourne Water Levees in the Corhanwarrabul Creek Catchment in the Knox municipality

## Sewerage Infrastructure

Sewerage Infrastructure of note during a severe flood event located within the Corhanwarrabul Creek catchment is contained within the following table.

### Sewer Pumping Stations

Sewerage Pumping Station	On Drain / Waterway	Bank / Side of Waterway	Operator	Location	Melway Reference
Ferry Creek No.2	Windermere D.S.	North	South East Water	Bunjil Way, Knoxfield	73 D8
Koornang Road	Corhanwarrabul Creek	North	South East Water	Koornang Road, Scoresby	72 H9

Table C3.10 – Sewer Pumping Stations within the Corhanwarrabul Creek Catchment in the Knox municipality

## Control, Command and Coordination

VICSES will assume overall control of the response to flood incidents. Other agencies will be requested to support operations as detailed in this Plan. Control and coordination of a flood incident shall be carried out at the lowest effective level and in accordance with the SEMP. During significant events, VICSES will conduct incident management using multi-agency resources.

## **Flood Impacts and Operational Considerations (Intelligence Cards)**

The tables on the following pages provide a breakdown of the possible consequences of flooding within the Corhanwarrabul Creek catchment at various creek heights or rain totals within the Knox municipality. These tables are to be used only as a guide as no two floods at a location will have identical impacts.

Intelligence Cards have been included for the following locations:

- Monbulk Creek at Lysterfield
- Ferny Creek at Upper Ferntree Gully
- Corhanwarrabul Creek at Scoresby
- Lysterfield West Drain at Rowville



# FLOOD INTELLIGENCE CARD – LYSTERFIELD GAUGE, MONBULK CREEK

Version 4 – October 2021



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.

This Flood Intelligence Card publication is presented by the Victoria State Emergency Service for the purpose of disseminating emergency management information. The contents of the information have not been independently verified by the Victoria State Emergency Service. No liability is accepted for any damage, loss or injury caused by errors or omissions in this information or for any action taken by any person in reliance upon it. **Scan the QR code for the current levels for this gauge.**



LOCATION:	Monbulk Creek Retarding Basin on Nixon Road, Lysterfield
CURRENT LEVEL:	<a href="https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228229B">https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228229B</a>
STREAM:	Monbulk Creek
GAUGE NUMBER:	228229B
GAUGE ZERO:	116.47m AHD
GAUGE TYPE	Stream Level & Rain

MELWAY REFERENCE:	83 J2
MINOR:	N/A
MODERATE:	N/A
MAJOR	N/A
EMBANKMENT HEIGHT	11.33m (127.8m AHD)
HIGHEST RECORDED FLOOD:	8.56m (5th Feb 2011)

Retarding Basin Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
7.17m	10% AEP (10yr ARI) Flood Level		
8.56m	5 February 2011 Flood Level Peak	<b>Event Summary</b> <b>Water Over Road (Road Closed)</b> <ul style="list-style-type: none"> <li>Blackwood Park Road, Rowville</li> </ul>	
8.66m	5% AEP (20yr ARI) Flood Level	<b>Water Over Road (over 30cm depth likely)</b> <ul style="list-style-type: none"> <li>Blackwood Park Road, Rowville</li> <li>Sanctuary Crescent, Rowville</li> </ul>	
9.33m		<ul style="list-style-type: none"> <li>Spillway level of Monbulk Creek Retarding Basin reached. Spillway starts operating.</li> </ul>	
9.8m	2% AEP (50yr ARI) Flood Level		
10.0m	1% AEP (100yr ARI) Flood Level	<b>Properties at Flood Risk (over 30cm depth in yard at the primary building on property)</b> <b>3 Properties in Total</b> <ul style="list-style-type: none"> <li>31 Jubilee Drive, Rowville</li> <li>100 &amp; 104 Karoo Road, Rowville</li> </ul> <b>Community Infrastructure Likely Flooded</b> <ul style="list-style-type: none"> <li>Waterford Valley Golf Course at Bunjil Way, Knoxfield</li> </ul>	

Retarding Basin Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<p><b>Essential Infrastructure Likely Impacted</b></p> <ul style="list-style-type: none"> <li>• Bus Route 691 with flooding along Napoleon Road, Lysterfield</li> </ul> <p><b>Water Over Road (over 30cm depth likely)</b></p> <ul style="list-style-type: none"> <li>• Ellendale Street, Rowville</li> <li>• Jubilee Drive, Rowville</li> <li>• Lysterfield Road, Lysterfield at Monbulk Creek crossing</li> <li>• Victoria Knox Avenue, Rowville</li> </ul>	
11.33m		<ul style="list-style-type: none"> <li>• Embankment Level of Monbulk Creek Retarding Basin reached. Water will start flowing over the embankment crest.</li> </ul>	

Table C3.11 – Breakdown of likely consequences at various Lysterfield gauge level heights along Monbulk Creek in Knox with operational considerations

# FLOOD INTELLIGENCE CARD – FERNY CREEK, UPPER FERNTREE GULLY (UNGAUGED)

Version 4 – October 2021



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.

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CLOSEST RAIN GAUGE:	<b>Lysterfield</b>
LOCATION:	<b>Monbulk Creek Retarding Basin on Nixon Road, Lysterfield</b>
RECENT RAINFALL:	<a href="https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228229B">https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228229B</a>

MELWAY REF:	<b>83 J2</b>
GAUGE NUMBER:	<b>228229B</b>
GAUGE TYPE:	<b>Stream Level &amp; Rain</b>

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
15mm in 10 mins; 25mm in 30 mins; 31mm in 1 hour; 38mm in 2 hours; 33mm in 3 hours; or 57mm in 6 hours  Note: rainfall depths are a very rough method of estimating flood events and have been used due to the ungauged nature of the catchment. This should be used as a guide only.	5% AEP (20-year ARI)	<b>Properties at Flood Risk (Over-Floor)</b> <b>99 Properties in Total</b> <ul style="list-style-type: none"> <li><b>Ferntree Gully Creek</b></li> <li>4, 6, 8, 14, 1/17, 2/17 &amp; 1/19 Alfred Street, Upper Ferntree Gully</li> <li>1170, Shops 1-5/1174, 1182, 1202, 1204, Shops 1-4/1206, 1226, 1228, 1230, 1232, 1234, 1236, 1238, 1/1240, 2/1240, 1272, 1284, 1/1288 &amp; 2/1288 Burwood Highway, Upper Ferntree Gully</li> <li>19, 21, 36, 38, 40 &amp; 42 Edward Street, Upper Ferntree Gully</li> <li>2, 7, 9, 11, 16, 18, 20, 22 &amp; 24 Forest Oak Drive, Upper Ferntree Gully</li> <li>1, 4, 5, 8 &amp; 10 Huon Pine Court, Upper Ferntree Gully</li> <li>14, 18, 20, 22, 28, 30 &amp; 37 Mount View Road, Upper Ferntree Gully</li> <li>11, 12, 13, 14, 15, 16 &amp; 18 Mountain Ash Court, Upper Ferntree Gully</li> <li>30, 32, 34, 38, 40, 46 &amp; 58 Old Belgrave Road, Upper Ferntree Gully</li> <li>1, 29 &amp; 39 Rollings Road, Upper Ferntree Gully</li> <li>9 Rose Street, Upper Ferntree Gully</li> <li>3, 7, 11, 1/13 &amp; 2/13 William Street, Upper Ferntree Gully</li> <li>7, 10, 12, 14, Units 1-4/16, Units 6-8/16 &amp; 22 Willow Road, Upper Ferntree Gully</li> <li><b>Ferny Creek</b></li> <li>5 Brenock Park Drive, Ferntree Gully</li> <li>1150 Burwood Highway, Ferntree Gully</li> <li>6 Lyndale Court, Ferntree Gully</li> </ul> <b>Community Infrastructure Likely Flooded</b>	

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>Upper Ferntree Gully Kinder, 1 Rollings Road, Upper Ferntree Gully flooded over-floor</li> <li>Upper Ferntree Gully Primary School on Talaskia Road, Upper Ferntree Gully likely flooded over-floor</li> <li>Ferntree Plaza Shopping Centre on Burwood Highway with a number of shops likely flooded over-floor</li> <li>St Joseph's College, 5 Bennock Park Drive, Ferntree Gully flooded with some buildings likely flooded over-floor</li> </ul> <p><b>Water Over Road (Over 30cm depth likely)</b></p> <ul style="list-style-type: none"> <li>Burwood Highway at Upper Ferntree Gully Railway Station and at Acacia Road, Upper Ferntree Gully</li> <li>Rollings Road, Upper Ferntree Gully</li> <li>Forest Road, Ferntree Gully at the railway underpass</li> <li>Merricks Close, Ferntree Gully</li> <li>Dempster Street, Ferntree Gully</li> </ul>	
<p>19mm in 10 mins; 30mm in 30 mins; 37mm in 1 hour; 45mm in 2 hours; 51mm in 3 hours; or 67mm in 6 hours</p> <p>Note: rainfall depths are a very rough method of estimating flood events and have been used due to the ungauged nature of the catchment. This should be used as a guide only.</p>	<p>2% AEP (50 year ARI)</p>	<p><b>Properties at Flood Risk (Over-Floor)</b> <b>151 Properties in Total</b></p> <ul style="list-style-type: none"> <li><b>Ferntree Gully Creek</b></li> <li>4, 6, 8, 12, 14, 1/17, 2/17 &amp; 1/19 Alfred Street, Upper Ferntree Gully</li> <li>1170, Shops 1-5/1174, 1182, 1192, 1202, 1204, Shops 1-4/1206, 1224, 1226, 1228, 1230, 1232, 1234, 1236, 1238, 1/1240, 2/1240, 1254, 1270, 1272, 1284, 1/1288 &amp; 2/1288 Burwood Highway, Upper Ferntree Gully</li> <li>11, 3/13, 4/13, 5/13, 6/13, 8/13, 1/20 &amp; 22 Dawson Street, Upper Ferntree Gully</li> <li>19, 21, 36, 38, 40 &amp; 42 Edward Street, Upper Ferntree Gully</li> <li>2, 6, 7, 9, 10, 11, 12, 14, 16, 18, 20, 22, 24, 30 &amp; 32 Forest Oak Drive, Upper Ferntree Gully</li> <li>1, 2, 3, 4, 5, 6, 7, 8 &amp; 10 Huon Pine Court, Upper Ferntree Gully</li> <li>7 Johns Street, Upper Ferntree Gully</li> <li>14, 16, 18, 20, 22, 28, 30, 33, 35 &amp; 37 Mount View Road, Upper Ferntree Gully</li> <li>11, 12, 13, 14, 15, 16 &amp; 18 Mountain Ash Court, Upper Ferntree Gully</li> <li>30, 32, 34, 38, 40, 46, 58 &amp; 2/62 Old Belgrave Road, Upper Ferntree Gully</li> <li>1, 6, 8, 10, 12, 22, 29 &amp; 39 Rollings Road, Upper Ferntree Gully</li> <li>9, 1/13, 2/13 &amp; 3/13 Rose Street, Upper Ferntree Gully</li> <li>21 &amp; 23 Talaskia Road, Upper Ferntree Gully</li> <li>1, 3, 5, 7, 11, 1/13, 2/13 &amp; 15 William Street, Upper Ferntree Gully</li> <li>7, 8, 10, 12, 14, Units 1-8/16 &amp; 22 Willow Road, Upper Ferntree Gully</li> <li><b>Ferny Creek</b></li> <li>5, 6 Brenock Park Drive, Ferntree Gully</li> <li>1010, 1038 &amp; 1150 Burwood Highway, Ferntree Gully</li> <li>31 Cornhill Street, Ferntree Gully</li> <li>1, 3, 2/11, 3/11 &amp; 45 Glenfern Road, Ferntree Gully</li> <li>2/2 &amp; 6 Lyndale Court, Ferntree Gully</li> </ul> <p><b>Community Infrastructure Likely Flooded</b></p> <ul style="list-style-type: none"> <li>Upper Ferntree Gully Kinder, 1 Rollings Road, Upper Ferntree Gully flooded over-floor</li> <li>Upper Ferntree Gully Primary School on Talaskia Road, Upper Ferntree Gully likely flooded over-floor</li> </ul>	

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>Ferntree Plaza Shopping Centre on Burwood Highway with a number of shops likely flooded over-floor</li> <li>St Joseph's College, 5 Bennock Park Drive, Ferntree Gully flooded with some buildings likely flooded over-floor</li> </ul> <p><b>Essential Infrastructure Likely Impacted</b></p> <ul style="list-style-type: none"> <li>Ferntree Gully Incident Control Centre on Acacia Road, Ferntree Gully likely isolated while Acacia Road is flooded with water over 300mm deep</li> <li>Ferntree Gully Sub-station, 47 Glenfern Road, Ferntree Gully flooded</li> </ul> <p><b>Water Over Road (Over 30cm depth likely)</b></p> <ul style="list-style-type: none"> <li>New Road, Upper Ferntree Gully</li> <li>Acacia Road, Upper Ferntree Gully</li> <li>Burwood Highway at Upper Ferntree Gully Railway Station and at Acacia Road, Upper Ferntree Gully</li> <li>Rollings Road, Upper Ferntree Gully</li> <li>Dawson Street, Upper Ferntree Gully</li> <li>Mount View Road, Upper Ferntree Gully</li> <li>Forest Road, Ferntree Gully at the railway underpass</li> <li>Merricks Close, Ferntree Gully</li> <li>Dempster Street, Ferntree Gully</li> </ul>	
<p>21mm in 10 mins; 33mm in 30 mins; 41mm in 1 hour; 50mm in 2 hours; 57mm in 3 hours; or 75mm in 6 hours</p> <p>Note: rainfall depths are a very rough method of estimating flood events and have been used due to the ungauged nature of the catchment. This should be used as a guide only.</p>	<p>1% AEP (100 year ARI)</p>	<p><b>Properties at Flood Risk (Over-Floor)</b></p> <p><b>195 Properties in Total</b></p> <p><b>Ferntree Gully Creek</b></p> <ul style="list-style-type: none"> <li>1, 4, 5, 6, 8, 9, 12, 14, 1/17, 2/17 &amp; 1/19 Alfred Street, Upper Ferntree Gully</li> <li>1170, Shops 1-5/1174, 1182, 1192, 1202, 1204, Shops 1-4/1206, 1222, 1224, 1226, 1228, 1230, 1232, 1234, 1236, 1238, 1/1240, 2/1240, 1254, 1270, 1272, 1284, 1/1288 &amp; 2/1288 Burwood Highway, Upper Ferntree Gully</li> <li>7, 11, 1/13, 2/13, 3/13, 4/13, 5/13, 6/13, 8/13, 18, 1/20 &amp; 22 Dawson Street, Upper Ferntree Gully</li> <li>19, 21, 36, 38, 40 &amp; 42 Edward Street, Upper Ferntree Gully</li> <li>2, 6, 7, 8, 9, 10, 11, 12, 14, 16, 18, 20, 22, 24, 30, 32, 34, 36, 38, 40 &amp; 42 Forest Oak Drive, Upper Ferntree Gully</li> <li>1, 2, 3, 4, 5, 6, 7, 8 &amp; 10 Huon Pine Court, Upper Ferntree Gully</li> <li>1 &amp; 7 Johns Street, Upper Ferntree Gully</li> <li>14, 16, 18, 20, 22, 24, 27, 28, 29, 30, 33, 35, 37 &amp; 40 Mount View Road, Upper Ferntree Gully</li> <li>1, 2, 11, 12, 13, 14, 15, 16 &amp; 18 Mountain Ash Court, Upper Ferntree Gully</li> <li>30, 32, 34, 38, 40, 46, 56, 58, 1/60, 2/60 &amp; 2/62 Old Belgrave Road, Upper Ferntree Gully</li> <li>1, 6, 8, 10, 12, 22, 29 &amp; 39 Rollings Road, Upper Ferntree Gully</li> <li>1-3, 9, 1/13, 2/13 &amp; 3/13 Rose Street, Upper Ferntree Gully</li> <li>4-10, 21 &amp; 23 Talaskia Road, Upper Ferntree Gully</li> <li>1, 3, 5, 7, 9, 11, 1/13, 2/13 &amp; 15 William Street, Upper Ferntree Gully</li> <li>6, 7, 8, 10, 12, 14, Units 1-8/16 &amp; 22 Willow Road, Upper Ferntree Gully</li> </ul> <p><b>Ferry Creek</b></p>	



Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>• 7, 9, 11, 13, 15 &amp; 75 Acacia Road, Upper Ferntree Gully</li> <li>• 5, 6, 19 &amp; 21 Brenock Park Drive, Ferntree Gully</li> <li>• 1010, 1038 &amp; 1150 Burwood Highway, Ferntree Gully</li> <li>• 21/19, 22/19, 23/19 &amp; 31 Cornhill Street, Ferntree Gully</li> <li>• 1, 3, 1/11, 2/11, 3/11 &amp; 45 Glenfern Road, Ferntree Gully</li> <li>• 2/2 &amp; 6 Lyndale Court, Ferntree Gully</li> <li>• 6 Merricks Close, Ferntree Gully</li> <li>• 13 &amp; 17 Tarana Avenue, Upper Ferntree Gully</li> <li>• 7 Waters Avenue, Upper Ferntree Gully</li> </ul> <p><b>Community Infrastructure Likely Flooded</b></p> <p><b>Ferntree Gully Creek</b></p> <ul style="list-style-type: none"> <li>• Coonara Community School, 22 Willow Road, Upper Ferntree Gully</li> <li>• Ferntree Plaza Shopping Centre on Burwood Highway with a number of shops likely flooded over-floor</li> <li>• Sherbrooke Little Athletics Track, Acacia Road, Upper Ferntree Gully</li> <li>• Sherbrooke Private Nursing Home on 18 Tarana Avenue, Upper Ferntree Gully possibly isolated with floodwaters along Willow Road, Acacia Road, Clow Avenue and Waters Avenue</li> <li>• Upper Ferntree Gully Kinder, 1 Rollings Road, Upper Ferntree Gully flooded over-floor</li> <li>• Upper Ferntree Gully Primary School on Talaskia Road, Upper Ferntree Gully likely flooded over-floor</li> <li>• Willowbrooke Hostel, 9A Willow Road, Upper Ferntree Gully possibly isolated with floodwaters along Willow Road, Acacia Road, Clow Avenue and Waters Avenue</li> </ul> <p><b>Ferny Creek</b></p> <ul style="list-style-type: none"> <li>• Knox Regional Netball Centre Outside Courts, Dempster Street, Ferntree Gully</li> <li>• St Joseph's College, 5 Bennock Park Drive, Ferntree Gully flooded with some buildings likely flooded over-floor</li> <li>• Wally Tew Reserve, 45 Glenfern Road, Ferntree Gully</li> <li>• Waterford Valley Golf Course at Bunjil Way, Knoxfield</li> </ul> <p><b>Essential Infrastructure Likely Impacted</b></p> <p><b>Ferntree Gully Creek</b></p> <ul style="list-style-type: none"> <li>• Bus Routes 688, 693, 732 with Burwood Highway, Dawson Street or Talaskia Road flooded</li> </ul> <p><b>Ferny Creek</b></p> <ul style="list-style-type: none"> <li>• Bus Route 691 with Brenock Park Drive flooded</li> <li>• Ferntree Gully Incident Control Centre on Acacia Road, Ferntree Gully likely isolated while Acacia Road is flooded with water over 300mm deep</li> <li>• Ferntree Gully Sub-station, 47 Glenfern Road, Ferntree Gully</li> </ul> <p><b>Water Over Road (Over 30cm depth likely)</b></p> <ul style="list-style-type: none"> <li>• New Road, Upper Ferntree Gully</li> <li>• Waters Avenue, Upper Ferntree Gully</li> <li>• Acacia Road, Upper Ferntree Gully</li> <li>• Clow Avenue, Upper Ferntree Gully</li> <li>• Burwood Highway at Upper Ferntree Gully Railway Station and at Acacia Road, Upper Ferntree Gully</li> </ul>	

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>• Rollings Road, Upper Ferntree Gully</li> <li>• Dawson Street, Upper Ferntree Gully</li> <li>• Mount View Road, Upper Ferntree Gully</li> <li>• Forest Oak Drive, Upper Ferntree Gully</li> <li>• Brenock Park Drive, Ferntree Gully</li> <li>• Dorian Avenue, Ferntree Gully</li> <li>• Forest Road, Ferntree Gully at the railway underpass</li> <li>• Merricks Close, Ferntree Gully</li> <li>• Dempster Street, Ferntree Gully</li> <li>• Kevin Avenue, Ferntree Gully</li> <li>• Mountain Gate Drive, Ferntree Gully</li> </ul>	
140mm in 12 hours	5 February 2011 Rainfall Return Period Greater than 1% AEP (100 year ARI)	<p><b>Event Summary</b></p> <p><b>Water Over Road (Road Closed)</b></p> <ul style="list-style-type: none"> <li>• Brenock Park Drive, Ferntree Gully</li> <li>• Mountain Gate Drive, Ferntree Gully</li> <li>• Burwood Highway at Station Street, Ferntree Gully</li> <li>• Burwood Highway at Hilltop Road, Upper Ferntree Gully</li> <li>• Forest Road at Railway Underpass, Ferntree Gully</li> </ul>	

Table C3.12 – Breakdown of possible consequences at various rainfall intensities around Upper Ferntree Gully with operational considerations

# FLOOD INTELLIGENCE CARD – SCORESBY GAUGE, CORHANWARRABUL CREEK

Version 4 – October 2021



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.

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LOCATION:	Stud Road Median Strip bridge, Rowville
CURRENT LEVEL:	<a href="https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228393A">https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228393A</a>
STREAM:	Corhanwarrabul Creek
GAUGE NUMBER:	228393A
GAUGE ZERO:	54.35m AHD
GAUGE TYPE:	Stream Level

MELWAY REFERENCE:	72 J9
MINOR:	N/A
MODERATE:	N/A
MAJOR:	N/A
LEEVE HEIGHT:	2.70m (Henderson Road to Stud Road)
HIGHEST RECORDED FLOOD:	2.36m (5 February 2011)

Creek Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
2.21m	20% AEP (5yr ARI) Flood Level	<b>Water Over Road (over 30cm depth likely)</b> <ul style="list-style-type: none"> <li>Lakeview Avenue, Rowville</li> </ul>	
2.33m	10% AEP (10yr ARI) Flood Level		
2.36m	5 February 2011 Flood Level Peak	<b>Event Summary</b> <b>Water Over Road (Road Closed)</b> <ul style="list-style-type: none"> <li>Stud Road (South Bound), Scoresby closed between Ferntree Gully Road and Kelletts Road</li> <li>Waradgery Drive, Rowville</li> <li>Lakeview Avenue, Rowville</li> </ul>	
2.45m	5% AEP (20yr ARI) Flood Level	<b>Properties at Flood Risk (over 30cm depth in yard at the primary building on property)</b> <b>3 Properties in Total</b> <ul style="list-style-type: none"> <li>835 &amp; 845 Stud Road, Knoxfield</li> <li>949 Stud Road, Rowville</li> <li>Bus Routes 681, 682, 754, 901 &amp; 969 with flooding on Stud Road (South Bound)</li> </ul> <b>Tourism / Recreation Likely Impacted</b> <ul style="list-style-type: none"> <li>Koolamara Reserve on Koolamara Boulevard, Ferntree Gully</li> </ul>	

Creek Height	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>Waterford Valley Golf Course at Bunjil Way, Knoxfield</li> </ul> <b>Water Over Road (over 30cm depth likely) (Department of Transport roads in Red)</b> <ul style="list-style-type: none"> <li>Stud Road (south bound), Scoresby between Kingston Park Court &amp; Corhanwarrabul Creek</li> </ul>	
2.51m	2% AEP (50yr ARI) Flood Level		
2.60m	1% AEP (100yr ARI) Flood Level	<b>Properties at Flood Risk (over 30cm depth in yard at the primary building on property)</b> <b>8 New at Level; 11 Properties in Total</b> <ul style="list-style-type: none"> <li>9 Augusta Court, Rowville</li> <li>1, 19, 30 &amp; 35 Centre Road, Scoresby</li> <li>1 &amp; 11 Kingston Park Court, Knoxfield</li> <li>804 Stud Road, Scoresby</li> </ul> <b>Water Over Road (Over 30cm depth likely)</b> <ul style="list-style-type: none"> <li>Tampe Road, Rowville</li> </ul>	
2.70m		<ul style="list-style-type: none"> <li>Levee Height of Levee along Corhanwarrabul Creek from Henderson Road to Stud Road reached</li> </ul>	

Table C3.13 – Breakdown of likely consequences at various Scoresby gauge level heights along Corhanwarrabul Creek with operational considerations

# FLOOD INTELLIGENCE CARD – CORHANWARRABUL CREEK’S STORMWATER DRAINS (UNGAUGED)

Version 4 – October 2021



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.

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CLOSEST RAIN GAUGE:	<b>Lysterfield</b>
LOCATION:	<b>Monbulk Creek Retarding Basin on Nixon Road, Lysterfield</b>
RECENT RAINFALL:	<a href="https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228229B">https://www.melbournewater.com.au/water-data-and-education/rainfall-and-river-levels#/reader/228229B</a>

MELWAY REF:	<b>83 J2</b>
GAUGE NUMBER	<b>228229B</b>
GAUGE TYPE	<b>Stream Level &amp; Rain</b>

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
11mm in 10 mins; 18mm in 30 mins; 23mm in 1 hour; 29mm in 2 hours; 34mm in 3 hours; or 43mm in 6 hours  Note: rainfall depths are a very rough method of estimating flood events and have been used due to the ungauged nature of the catchment. This should be used as a guide only.	20% AEP (5-year ARI)	<p><b>Properties at Flood Risk (over 30cm depth in yard at the primary building on property)</b></p> <p><b>23 Properties in Total</b></p> <p><b>Local Drainage</b></p> <ul style="list-style-type: none"> <li>• 22, 24 &amp; 28 Borg Crescent, Scoresby</li> <li>• 45 Collendina Crescent, Scoresby</li> <li>• 5, 7, 9 &amp; 58 Michael Street, Scoresby</li> <li>• 16, 18 &amp; 2/22 Orson Street, Scoresby</li> <li>• 3, 4 &amp; 5 Sally Frances Court, Scoresby</li> </ul> <p><b>Scoresby Outfall Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• Warehouses 1-9/1271 Ferntree Gully Road, Scoresby</li> </ul> <p><b>Tourism / Recreation Likely Impacted</b></p> <ul style="list-style-type: none"> <li>• Waterford Valley Golf Course at Bunjil Way, Knoxfield</li> </ul> <p><b>Water Over Road (over 30cm depth likely)</b></p> <p><b>Lysterfield West Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• Bethelle Court, Lysterfield</li> <li>• Quinn Court, Lysterfield</li> <li>• Snowgum Close, Rowville</li> <li>• Willow Avenue, Rowville</li> </ul> <p><b>Rowville Main Drain</b></p> <ul style="list-style-type: none"> <li>• Pickworth Crescent, Rowville</li> </ul>	



Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>• Second Avenue, Rowville</li> <li>• Silkwood Way, Rowville</li> <li>• Waradgery Drive, Rowville</li> </ul> <p><b>Scoresby Outfall Drain</b></p> <ul style="list-style-type: none"> <li>• Carol Street, Scoresby</li> <li>• Karabil Close, Scoresby</li> <li>• Michael Street, Scoresby</li> </ul> <p><b>Windermere Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• Trefoil Street, Ferntree Gully</li> </ul>	
<p>16mm in 10 mins; 26mm in 30 mins; 32mm in 1 hour; 39mm in 2 hours; 45mm in 3 hours; or 57mm in 6 hours</p> <p>Note: rainfall depths are a very rough method of estimating flood events and have been used due to the ungauged nature of the catchment. This should be used as a guide only.</p>	<p>5% AEP (20-year ARI)</p>	<p><b>Properties at Flood Risk (over 30cm depth in yard at the primary building on property)</b></p> <p><b>42 Properties in Total</b></p> <p><b>Kent Park Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• 1 Gilbert Park Drive, Knoxfield</li> <li>• 6, 7 &amp; 8 Rushdale Street, Knoxfield</li> </ul> <p><b>Local Drainage</b></p> <ul style="list-style-type: none"> <li>• 6 Mastos Place, Rowville</li> <li>• 18 O'Connor Road, Knoxfield</li> <li>• 50 Shearer Drive, Rowville</li> <li>• 22, 24, 28 &amp; 118 Borg Crescent, Scoresby</li> <li>• 43 &amp; 45 Collendina Crescent, Scoresby</li> <li>• 3, 5, 7, 9 &amp; 58 Michael Street, Scoresby</li> <li>• 16, 18 &amp; 2/22 Orson Street, Scoresby</li> <li>• Warehouses 1-3/7, 5/7 &amp; 13 Rocco Drive, Scoresby</li> <li>• 2, 3, 4, 5, &amp; 6 Sally Frances Court, Scoresby</li> </ul> <p><b>Scoresby Outfall Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• Warehouses 1-9/1271 Ferntree Gully Road, Scoresby</li> <li>• 4/7 &amp; 6/7 Rocco Drive, Scoresby</li> </ul> <p><b>Community Infrastructure Likely Flooded</b></p> <ul style="list-style-type: none"> <li>• Heany Park Primary School at 81 Buckingham Drive, Rowville</li> </ul> <p><b>Essential Infrastructure Likely Impacted</b></p> <ul style="list-style-type: none"> <li>• Bus Routes 681 &amp; 682 with flooding along Karoo Road, Rowville</li> </ul> <p><b>Tourism / Recreation Likely Impacted</b></p> <ul style="list-style-type: none"> <li>• Gilbert Park Baseball Fields on Gilbert Park Drive, Knoxfield</li> <li>• Koolamara Reserve on Koolamara Boulevard, Ferntree Gully</li> <li>• Waterford Valley Golf Course at Bunjil Way, Knoxfield</li> </ul> <p><b>Water Over Road (over 30cm depth likely) (Department of Transport roads in Red)</b></p> <p><b>Kelletts Road Drainage Scheme</b></p>	

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>• Amazon Court, Rowville</li> <li>• Bridgewater Way, Rowville</li> <li>• Goulburn Drive, Rowville</li> <li>• Taylors Lane at Goulburn Drive, Rowville</li> <li>• Tyers Crescent, Rowville</li> <li><b>Lysterfield West Drainage Scheme</b></li> <li>• Bethelle Court, Lysterfield</li> <li>• Karoo Road, Rowville</li> <li>• Landsborough Avenue, Rowville</li> <li>• Murrindal Drive, Rowville</li> <li>• Quinn Court, Lysterfield</li> <li>• Redgum Court, Rowville</li> <li>• Sherwood Way, Lysterfield</li> <li>• Snowgum Close, Rowville</li> <li>• Willow Avenue, Rowville</li> <li>• Windsor Drive, Lysterfield</li> <li><b>Rowville Main Drain</b></li> <li>• Adrian Place, Rowville</li> <li>• Cromwell Drive, Rowville</li> <li>• Daniella Court, Rowville</li> <li>• Dean Close, Rowville</li> <li>• <b>Ferntree Gully Road east bound between Stud Road and Carrington Park, Scoresby</b></li> <li>• Helena Court, Rowville</li> <li>• Lesay Court, Rowville</li> <li>• Linnel Court, Rowville</li> <li>• Liviana Drive, Rowville</li> <li>• Manhatten Terrace, Rowville</li> <li>• Muirfield Court, Rowville</li> <li>• Naismith Court, Rowville</li> <li>• Pickworth Crescent, Rowville</li> <li>• Pinehill Drive, Rowville</li> <li>• Pranjic Place, Rowville</li> <li>• Santed Court, Rowville</li> <li>• Second Avenue, Rowville</li> <li>• Shearer Drive, Rowville</li> <li>• Silkwood Way, Rowville</li> <li>• Turnberry Court, Rowville</li> <li>• Waradgery Drive, Rowville</li> <li>• <b>Wellington Road east bound at Silkwood Way, Rowville</b></li> <li>• Yvette Drive, Rowville</li> <li><b>Scoresby Outfall Drain</b></li> </ul>	

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>• Borg Crescent, Scoresby</li> <li>• Carol Street, Scoresby</li> <li>• Karabil Close, Scoresby</li> <li>• Michael Street, Scoresby</li> <li>• Nyadale Drive, Scoresby</li> </ul> <p><b>Windermere Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• Ferntree Court, Ferntree Gully</li> <li>• Hancock Drive, Ferntree Gully</li> <li>• Taldra Drive, Ferntree Gully</li> <li>• Trefoil Street, Ferntree Gully</li> <li>• Windermere Drive, Ferntree Gully</li> </ul>	
<p>21mm in 10 mins; 35mm in 30 mins; 43mm in 1 hour; 51mm in 2 hours; 58mm in 3 hours; or 74mm in 6 hours</p> <p>Note: rainfall depths are a very rough method of estimating flood events and have been used due to the ungauged nature of the catchment. This should be used as a guide only.</p>	<p>1% AEP (100 year ARI)</p>	<p><b>Properties at Flood Risk (over 30cm depth in yard at the primary building on property)</b></p> <p><b>110 Properties in Total</b></p> <p><b>Kelletts Road Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• 13 Kelletts Road, Rowville</li> <li>• 75 Taylors Lane, Rowville</li> </ul> <p><b>Kent Park Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• 1642 Ferntree Gully Road, Knoxfield</li> <li>• 1 &amp; 9 Gilbert Park Drive, Knoxfield</li> <li>• 7/1 Rushdale Street, Knoxfield</li> <li>• 4, 6, 7, 8, Warehouses 2-4/10, 11 &amp; 13 Rushdale Street, Knoxfield</li> </ul> <p><b>Knox Outfall Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• 1600 Ferntree Gully Road, Knoxfield</li> <li>• 7 Forbes Close, Knoxfield</li> <li>• 2/20 Henderson Road, Knoxfield</li> </ul> <p><b>Local Drainage</b></p> <ul style="list-style-type: none"> <li>• 25 Avalon Road, Rowville</li> <li>• 47 Deschamp Crescent, Rowville</li> <li>• 64 Deschamp Court, Rowville</li> <li>• 1-1A/1464 &amp; 1469-1513 Ferntree Gully Road, Knoxfield</li> <li>• 11 Kingston Park Court, Knoxfield</li> <li>• 4 Lehhong Close, Rowville</li> <li>• 11A &amp; 13B Lidgate Avenue, Rowville</li> <li>• 21 &amp; 23 Ling Drive, Rowville</li> <li>• 2 Manson Court, Rowville</li> <li>• 6 Mastos Place, Rowville</li> <li>• 4, 12, 18 &amp; 20 O'Connor Road, Knoxfield</li> </ul>	

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>• 47 Salerno Way, Rowville</li> <li>• 50 Shearer Drive, Rowville</li> <li>• Units 1-3/1221 Stud Road, Rowville</li> <li>• 11 Towt Court, Rowville</li> <li>• 29 Yvette Drive, Rowville</li> <li>• 22, 24, 28, 114, 118 &amp; 122 Borg Crescent, Scoresby</li> <li>• 20 &amp; 22 Carol Street, Scoresby</li> <li>• 41, 43 &amp; 45 Collendina Crescent, Scoresby</li> <li>• 2/5 Ingrid Street, Scoresby</li> <li>• 4 Karabil Close, Scoresby</li> <li>• 3, 5, 7, 9, 36, 58 &amp; 60 Michael Street, Scoresby</li> <li>• 16, 18, 20 &amp; 2/22 Orson Street, Scoresby</li> <li>• 5 Parkside Circuit, Scoresby</li> <li>• Warehouses 1-3/7, 5/7 &amp; 13 Rocco Drive, Scoresby</li> <li>• 2, 3, 4, 5, &amp; 6 Sally Frances Court, Scoresby</li> </ul> <p><b>Lysterfield West Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• 57 Grange Drive, Lysterfield</li> <li>• 9 Kitson Court, Rowville</li> <li>• 9 Redgum Court, Rowville</li> <li>• 10 &amp; 11 Snowgum Court, Rowville</li> <li>• 79 Wentworth Avenue, Rowville</li> <li>• 18 Willow Avenue, Rowville</li> </ul> <p><b>Rowville Main Drain</b></p> <ul style="list-style-type: none"> <li>• 3 &amp; 4 Daniella Court, Rowville</li> <li>• 4 Dean Close, Rowville</li> <li>• 1 &amp; 8 Merion Court, Rowville</li> <li>• 9 Roger Court, Rowville</li> <li>• 1215 Stud Road, Rowville</li> </ul> <p><b>Scoresby Outfall Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• 1261 &amp; Warehouses 1-9/1271 Ferntree Gully Road, Scoresby</li> <li>• 4/7 &amp; 6/7 Rocco Drive, Scoresby</li> </ul> <p><b>Windermere Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• 95 Mountain Gate Drive, Ferntree Gully</li> <li>• 52, 55, 59 &amp; 69 Trefoil Street, Ferntree Gully</li> </ul> <p><b>Community Infrastructure Likely Flooded</b></p> <ul style="list-style-type: none"> <li>• Heany Park Primary School at 81 Buckingham Drive, Rowville</li> </ul> <p><b>Essential Infrastructure Likely Impacted</b></p> <ul style="list-style-type: none"> <li>• Bus Routes 681 &amp; 682 with flooding along Karoo Road, Rowville</li> </ul> <p><b>Tourism / Recreation Likely Impacted</b></p>	

Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>• Gilbert Park Baseball Fields on Gilbert Park Drive, Knoxfield</li> <li>• Koolamara Reserve on Koolamara Boulevard, Ferntree Gully</li> <li>• Waterford Valley Golf Course at Bunjil Way, Knoxfield</li> </ul> <p><b>Water Over Road (over 30cm depth likely) (Department of Transport roads in Red)</b></p> <p><b>Kellets Road Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• Amazon Court, Rowville</li> <li>• Bridgewater Way, Rowville</li> <li>• Goulburn Drive, Rowville</li> <li>• Taylors Lane at Goulburn Drive, Rowville</li> <li>• Tyers Crescent, Rowville</li> </ul> <p><b>Lysterfield West Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• Bethelle Court, Lysterfield</li> <li>• Dandelion Drive, Rowville</li> <li>• Karoo Road, Rowville</li> <li>• Lakesfield Drive, Lysterfield</li> <li>• Landsborough Avenue, Rowville</li> <li>• Maitland Close, Rowville</li> <li>• Murrindal Drive, Rowville</li> <li>• Oakdene Court, Rowville</li> <li>• Quinn Court, Lysterfield</li> <li>• Redgum Court, Rowville</li> <li>• Sherwood Way, Lysterfield</li> <li>• Snowgum Close, Rowville</li> <li>• Willow Avenue, Rowville</li> <li>• Windsor Drive, Lysterfield</li> <li>• Wyandra Way, Rowville</li> </ul> <p><b>Rowville Main Drain</b></p> <ul style="list-style-type: none"> <li>• Adrian Place, Rowville</li> <li>• Clauscen Drive, Rowville</li> <li>• Cromwell Drive, Rowville</li> <li>• Daniella Court, Rowville</li> <li>• Dean Close, Rowville</li> <li>• <b>Ferntree Gully Road east bound between Stud Road and Carrington Park, Scoresby</b></li> <li>• Helena Court, Rowville</li> <li>• <b>Kellets Road east bound at Stud Road, Rowville</b></li> <li>• Lesay Court, Rowville</li> <li>• Linnel Court, Rowville</li> <li>• Liviana Drive, Rowville</li> <li>• Manhattan Terrace, Rowville</li> <li>• Merion Court, Rowville</li> <li>• Muirfield Court, Rowville</li> <li>• Naismith Court, Rowville</li> </ul>	



Design Rainfall Depths (mm) – Indication of Possible Flooding	Annual Exceedance Probability (% AEP)	Consequence / Impact	Operational Considerations
		<ul style="list-style-type: none"> <li>• Pickworth Crescent, Rowville</li> <li>• Pinehill Drive, Rowville</li> <li>• Pranjic Place, Rowville</li> <li>• O'Connor Road, Scoresby</li> <li>• Santed Court, Rowville</li> <li>• Second Avenue, Rowville</li> <li>• Shearer Drive, Rowville</li> <li>• Silkwood Way, Rowville</li> <li>• Turnberry Court, Rowville</li> <li>• Waradgery Drive, Rowville</li> <li>• Wellington Road east bound at Silkwood Way, Rowville</li> <li>• Yvette Drive, Rowville</li> </ul> <p><b>Scoresby Outfall Drain</b></p> <ul style="list-style-type: none"> <li>• Borg Crescent, Scoresby</li> <li>• Carol Street, Scoresby</li> <li>• Della Street, Scoresby</li> <li>• Karabil Close, Scoresby</li> <li>• Michael Street, Scoresby</li> <li>• Nyadale Drive, Scoresby</li> </ul> <p><b>Windermere Drainage Scheme</b></p> <ul style="list-style-type: none"> <li>• Ferntree Court, Ferntree Gully</li> <li>• Hancock Drive, Ferntree Gully</li> <li>• Holme Road, Ferntree Gully</li> <li>• Homer Court, Ferntree Gully</li> <li>• Kingston Park Court, Knoxfield</li> <li>• Lucerne Road, Ferntree Gully</li> <li>• Taldra Drive, Ferntree Gully</li> <li>• Trefoil Street, Ferntree Gully</li> <li>• Windermere Drive, Ferntree Gully</li> <li>• Woodlea Place, Ferntree Gully</li> </ul>	
140mm in 12 hours	5 February 2011 Rainfall Return Period Greater than 1% AEP (100-year ARI)	<p><b>Event Summary</b></p> <p><b>Water Over Road (Road Closed)</b></p> <ul style="list-style-type: none"> <li>• Karoo Road, Rowville</li> <li>• Snowgum Close, Rowville</li> </ul>	

Table C3.14 – Breakdown of possible consequences at various rainfall intensities around Rowville with operational considerations

## APPENDIX D - FLOOD EVACUATION ARRANGEMENTS

### Phase 1 - Decision to Evacuate

The IC 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 by the IC in consultation with the MERC, MEMO, MRM, DFFH, Health Commander and other key agencies and expert advice (CMA's and Flood Intelligence specialists).

Where established, the table below details triggers for evacuation. If these heights are predicted or are likely to occur, evacuation should be considered.

Sector	Gauge	Trigger
-	-	-

Where established, the table below details time required to evacuate established areas.

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

There are currently no pre-established triggers for evacuation within the Knox municipality area.

## 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.

Where time permits, evacuation warning messages will be developed and issued by VICSES in consultation with the MERC, MEMO, MRM, DFFH and other key agencies and expert advice (CMA's and Flood Intelligence specialists).

## Phase 3 – Withdrawal

Withdrawal will be controlled by VicPol. VICSES may provide advice regarding the most appropriate evacuation routes and locations for at-risk communities to evacuate to.

VICSES, CFA, AV and Local Government will provide resources where available to support VicPol/DoT 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 **at the request of the IC or via the appointed VicPol Evacuation Manager.**

Where established, the table below details possible evacuation routes to be used:

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

There are currently no pre-established triggers for evacuation within the Knox municipality area.

Landing zones for aircraft will be determined by the following:

- The IC will determine the requirements for airborne resources.
- The State Aircraft Desk will deploy and coordinate air resources.
- The pilot in command will determine the safest location to land.

### **Vulnerable People in Emergencies**

Vulnerable people living in the community will be identified through funded agencies, community service organisations or other community networks. Such people will be assessed against the definition of a vulnerable person and may qualify for registration on the Vulnerable Persons Register (VPR). A list of facilities where vulnerable people may be located, is maintained by Knox City Council. These may be funded facilities including, education, health and childcare, Commonwealth regulated aged care facilities and other locally identified facilities. Further information on Vulnerable People in Emergencies can be obtained from the Knox City Council Coordinator Emergency Management, MEMO or MRM.

### **Phase 4 – Shelter**

Relief/recovery centres and/or assembly areas which cater for people's basic needs for storms/floods may be established to meet the immediate needs of people affected by storm and/or flooding. The need for relief centres will be determined dependent on the location and scale of the event.

VicPol, in consultation with VICSES, will liaise with Local Government and DFFH (where regional coordination is required) via the relevant RCC to plan for the opening and operation of relief centres. This can best be achieved through the IEMT.

#### **Animal Shelter**

The need for animal shelters will be determined dependent on the location and scale of the event. Where required, animal shelter compounds will be established for domestic pets and companion animals of evacuees. For further details, refer to sub-plans and complementary plans referenced within the Knox MEMP.

#### **Caravan Parks**

Caravans parks may be evacuated. Caravan park evacuation will be determined dependent on the location and scale of the event.

### **Phase 5 – Return**

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

The IC, 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 storm/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.

### Disruption to Services

Disruption to a range of services can occur in the event of a storm and/or flood. For example, this may include road closures affecting school bus routes and water treatment plant affecting potable water supplies. Refer to **Appendix C** for specific details of likely disruption to services in the Knox municipality area.

Service	Impact	Trigger Point for action	Strategy/Temporary Measures
Refer to <b>Appendix C</b>			

### Essential Infrastructure and Property Protection

Essential infrastructure and property may be affected in the event of a storm and/or flood. For example, this may include residences, businesses, roads and power supply. Refer to **Appendix C** for further specific details of essential infrastructure and properties requiring protection in the Knox municipality area.

Facility	Impact	Trigger Point for action	Strategy/Temporary Measures
Refer to <b>Appendix C</b>			

For small scale events, sandbags can be purchased from hardware stores such as Bunnings. For larger scale events, sandbag collection points and filling points will be determined, with the community being informed of these points depending on the nature and proximity of the event.

### Rescue

Resources are available within the VICSES Knox Unit to assist with rescue operations. Specific details of equipment and resources available can be obtained from the VICSES RDO.

Requests for Knox City Council resources to support rescue activities should be forwarded to the MECC or EMLO, if an ICC has been established.

Known high-risk areas/communities (i.e., low-lying islands) where rescues might be required are detailed in the **Appendix F** flood maps.

## APPENDIX E – STORM AND FLOOD WARNING SYSTEMS

### Storm and Flood Warning

Storm and Flood Warning products and Flood Class Levels can be found on the BoM website and the VicEmergency website. Storm and Flood Warning Products include Severe Thunderstorm Warnings, Severe Weather Warnings, Flood Watches and Flood Warnings – see example on following page.

### 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 RDO or the established ICC will normally be responsible for drafting, authorising and issuing Flood Bulletins, using the VicEmergency 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.

### Local Flood Warning system arrangements

No local arrangements in place.





## **EXAMPLE**

# **Moderate Flood Warning for the Yarra River at Yarra Glen**

**Effective Date:** 04/07/12 11:08 AM

**Expiry Date:** 05/07/12 11:00 AM

### **Current Situation**

The Yarra River catchment has received rainfall averaging about 2mm in both of the Upper Yarra and Lower Yarra Regions since 09:00AM yesterday (Tuesday 3 July 2012).

The level of the Yarra River at Yarra Glen is currently at 4.51 metres and rising. It is expected to peak around the moderate flood level in the early hours of tomorrow morning.

Minor flooding is expected to affect low-lying areas adjacent to the river; in particular bicycle/ pedestrian paths and parklands.

Moderate flooding, in addition to the above, is also expected to cause substantial inundation to rural areas.

In the interests of community safety the SES suggests following precautions:

- Don't walk, ride or drive through floodwater
- Don't allow children to play in floodwater
- Stay away from waterways and stormwater drains
- Keep well clear of fallen power lines

Current Emergency Information is available at <http://www.ses.vic.gov.au> For emergency assistance contact the SES on 132 500. Current Road and Traffic Information is available at the VicRoads website: <http://www.vicroads.vic.gov.au/trafficalerts>

Weather Forecast:

For the latest weather forecast see <http://www.bom.gov.au/vic/forecasts>

Flood Warnings, Flood Watches, River Height and Rainfall information are available on the Bureau of Meteorology web site at <http://www.bom.gov.au/vic/flood> . Flood Warnings and Flood Watches for Victorian Catchments are available on: Telephone Weather Service No. 1300 659 217. River height and additional rainfall data for Greater Melbourne catchments is available from Melbourne Water at <http://www.melbournewater.com.au>

## Potential Impact In Your Area

The potential local impact of this flooding in your area may include:

- Main roads may be closed and low bridges may be underwater
- Floodwater may cover low lying areas
- Floodwater may surround some properties or enter homes
- Some homes and businesses may be cut-off by floodwater

## What You Should Do

- **Act quickly - conditions can change rapidly**
- Farmers should move machinery and livestock to higher ground if it is still safe to do so
- Tune in to your emergency broadcasters: ABC Local Radio, commercial radio and designated community radio stations, or SKY NEWS Television
- If you are likely to become isolated, make sure you have enough food, drinking water, medications and pet food
- If possible, make sure your family and neighbours are aware of the situation
- Floodwaters are dangerous - never drive, walk or ride through floodwaters
- Floodwaters are toxic - never play or swim in floodwaters

## Emergency Contacts

- For flood or storm emergency assistance from the SES call 132 500
- For life threatening emergencies call 000

## Additional Information

Road Closures:

[www.vicroads.vic.gov.au](http://www.vicroads.vic.gov.au)

phone 131 170

Weather Warnings and River Heights:

[www.bom.gov.au](http://www.bom.gov.au)

phone 1300 659 217

SES Information:

[www.ses.vic.gov.au](http://www.ses.vic.gov.au)

phone 1300 842 737

## Issued By

Victoria State Emergency Service

## APPENDIX F – MAPS AND SCHEMATICS

### Overview

Maps considered useful to flood response are included in this Appendix. They include:

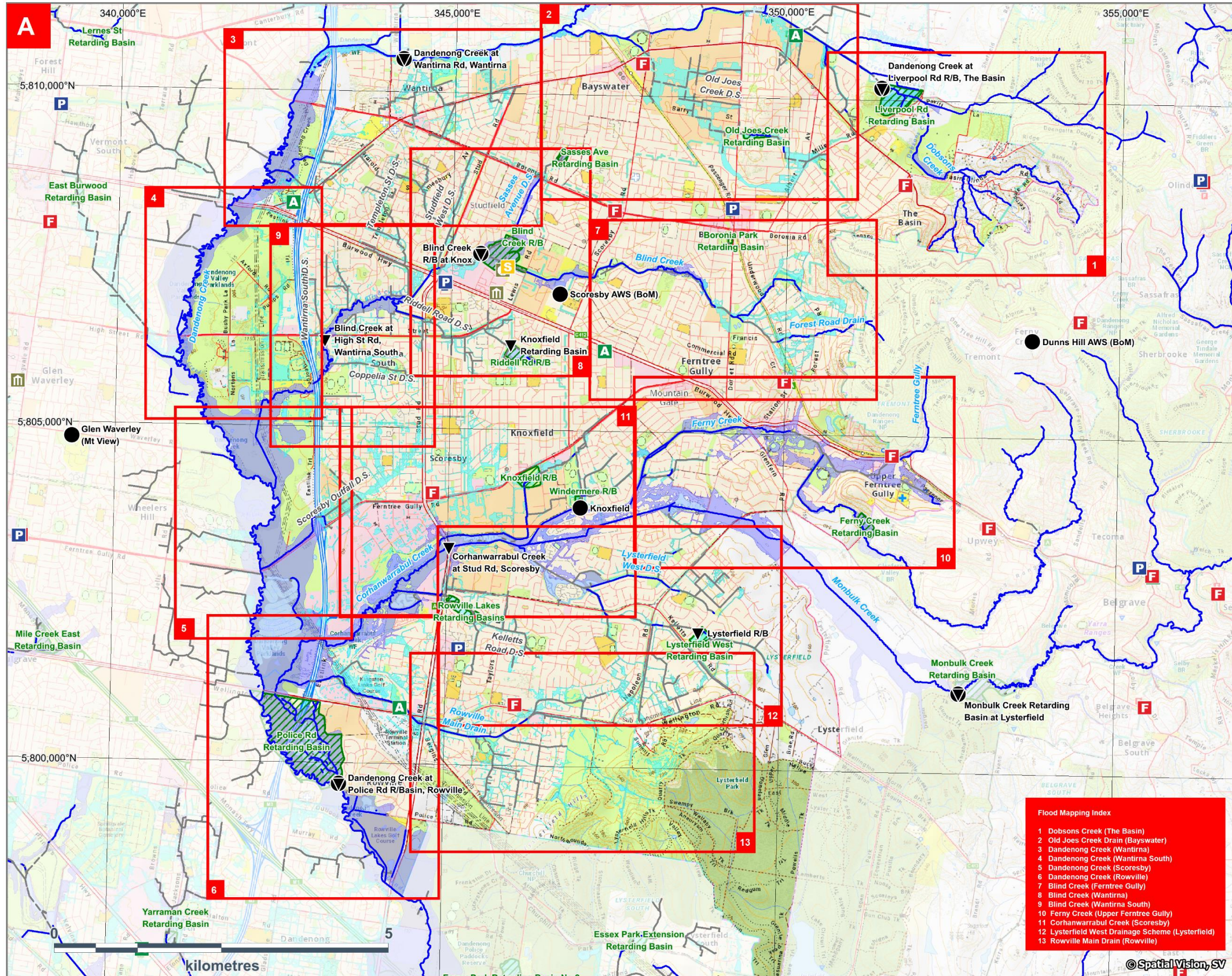
- A map outlining a series of flooding hot spot maps within the Knox municipality.
- A map showing the municipal boundary together with the open waterways and underground stormwater drainage pipe network within Knox and the 1% AEP (100-year ARI) flood extents (sourced from Melbourne Water GIS).
- A set of 13 maps showing flooding hot spots within the Knox municipality together with the 1% AEP (100-year ARI) flood extents (sourced from the Melbourne Water GIS).
- Schematics detailing the drainage catchments relevant for this municipality:
  - Each Schematic outlines the drainage system comprising of rivers, creeks or storm-water drains contained within one of the major catchments in the Port Phillip and Westernport Region.
  - Within each Schematic, there are details useful to flood response such as those relating to gauges, towns, rivers, creeks, drains and reservoirs. Historical facts and figures may also be shown.
  - The schematics also detail the response boundaries for VICSES units and local government, and provide a reference link to the corresponding MSFEP.
  - Details within these Catchment Schematics reflect those contained within either other sections of this Plan, or refer to another MSFEP. These details have been filtered to contain only key facts. For more information on a gauge, drainage system or town, consult the corresponding MSFEP.

### Note that:

- The mapping/data provided in this Appendix has been developed from Melbourne Water and other sources and taken from historical records and flood modelling. It may not include more recent data or local anecdotal information. It is planned that the mapping/data be updated as further studies or modelling is completed and other information obtained.
- Maps showing the Special Building Overlay and Land Subject to Inundation Overlay are included in the Knox Planning Scheme and can be used as a guide for areas that may flood during an event. The maps can be found in hard copy form at the Council's main office or online at the DELWP website <https://mapshare.vic.gov.au/vicplan/>.
- Maps showing 1 in 100-year ARI (1% AEP) flood extents and floodways (together with volume, height and water quality data) are shown at the Victorian Water Resources website: <http://mapshare.maps.vic.gov.au/MapShareVic/index.html?viewer=MapShareVic.PublicSite&locale=en-AU>.



# Knox Municipal Maps (sourced Melbourne Water GIS)



**Waterbody**

- 1% AEP Flash Flood Extent
- 1% AEP Riverine Flood Extent
- Melbourne Water Retarding Basin
- Melbourne Water Stormwater Drain
- Waterway
- Stream Level Gauge
- Rain Gauge
- Municipal Office
- Police Station
- Fire Station
- Ambulance Station
- Victoria State Emergency Service
- Flood Map Border

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© Spatial Vision, SV

**CITY OF KNOX**  
 Version 4: October 2021  
**A. Flood Mapping Index**

- Flood Mapping Index**
- 1 Dobsons Creek (The Basin)
  - 2 Old Joes Creek Drain (Bayswater)
  - 3 Dandenong Creek (Wantirna)
  - 4 Dandenong Creek (Wantirna South)
  - 5 Dandenong Creek (Scoresby)
  - 6 Dandenong Creek (Rowville)
  - 7 Blind Creek (Ferntree Gully)
  - 8 Blind Creek (Wantirna)
  - 9 Blind Creek (Wantirna South)
  - 10 Ferny Creek (Upper Ferntree Gully)
  - 11 Corhanwarrabul Creek (Scoresby)
  - 12 Lysterfield West Drainage Scheme (Lysterfield)
  - 13 Rowville Main Drain (Rowville)

SES VICTORIA Melbourne Water

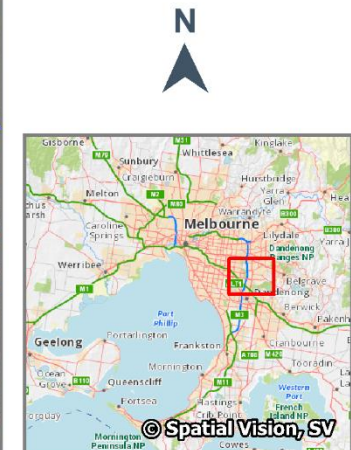
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Map Produced by VICSES October 2021.





- Waterbody
- 1% AEP Flash Flood Extent
- 1% AEP Riverine Flood Extent
- Melbourne Water Retarding Basin
- Melbourne Water Stormwater Drain
- Waterway
- Stream Level Gauge
- Rain Gauge
- Municipal Office
- Police Station
- Fire Station
- Ambulance Station
- Victoria State Emergency Service



**CITY OF KNOX**  
 Version 4: October 2021  
**B. 1% AEP (100yr ARI) Flood Mapping**

**SES** **VICTORIA** **Melbourne Water**

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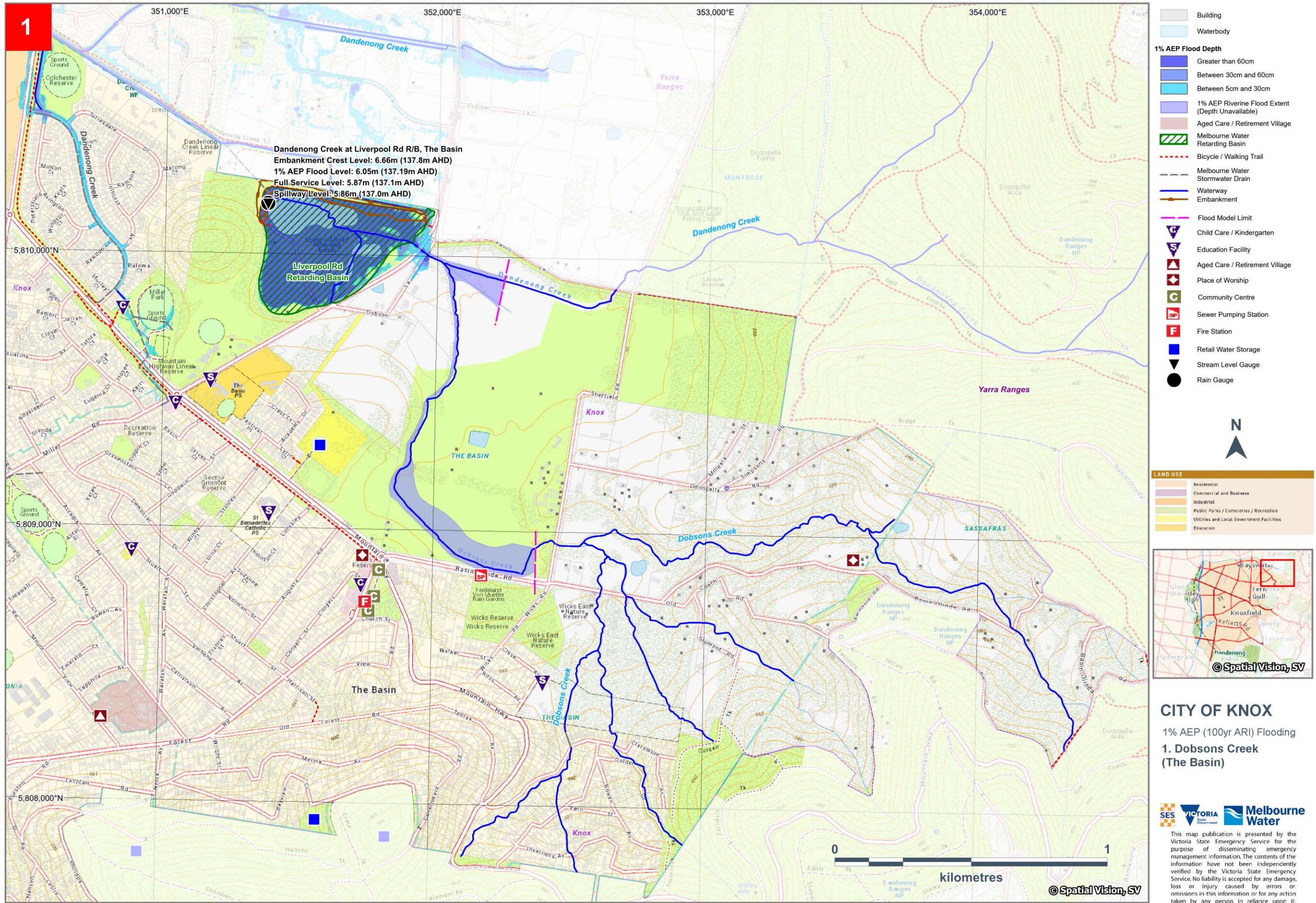
**Flood Study Details**

- Blind Creek (Middle) (GHD, June 2021)
- Blind Creek (Lower) (Cardno, September 2020)
- Blind Creek (Upper) (GHD, May 2013)
- Corhanwarrabul Creek (Cardno, November 2020)
- Dandenong Creek David St to Morack Golf Course (Melbourne Water, January 2014)
- Dandenong Creek u/s Bungallok Creek (BMT WBM, February 2015)
- Ferny Creek (DVA, March 2011)
- Kellett's Rd D.S. (GHD, September 2020)
- Koomba Rd D.S. (Cardno, September 2020)
- Lysterfield West D.S. (GHD, September 2020)
- Monbulk Creek (Melbourne Water, November 2013)
- Old Jones Creek D.S. (Cardno, January 2012)
- Rowville Main Drain (Cardno, November 2020)
- Sasses Avenue D.S. (GHD, June 2021)
- Scoresby Outfall D.S. (Cardno, September 2020)
- Wantirna North D.S. (Cardno, October 2020)

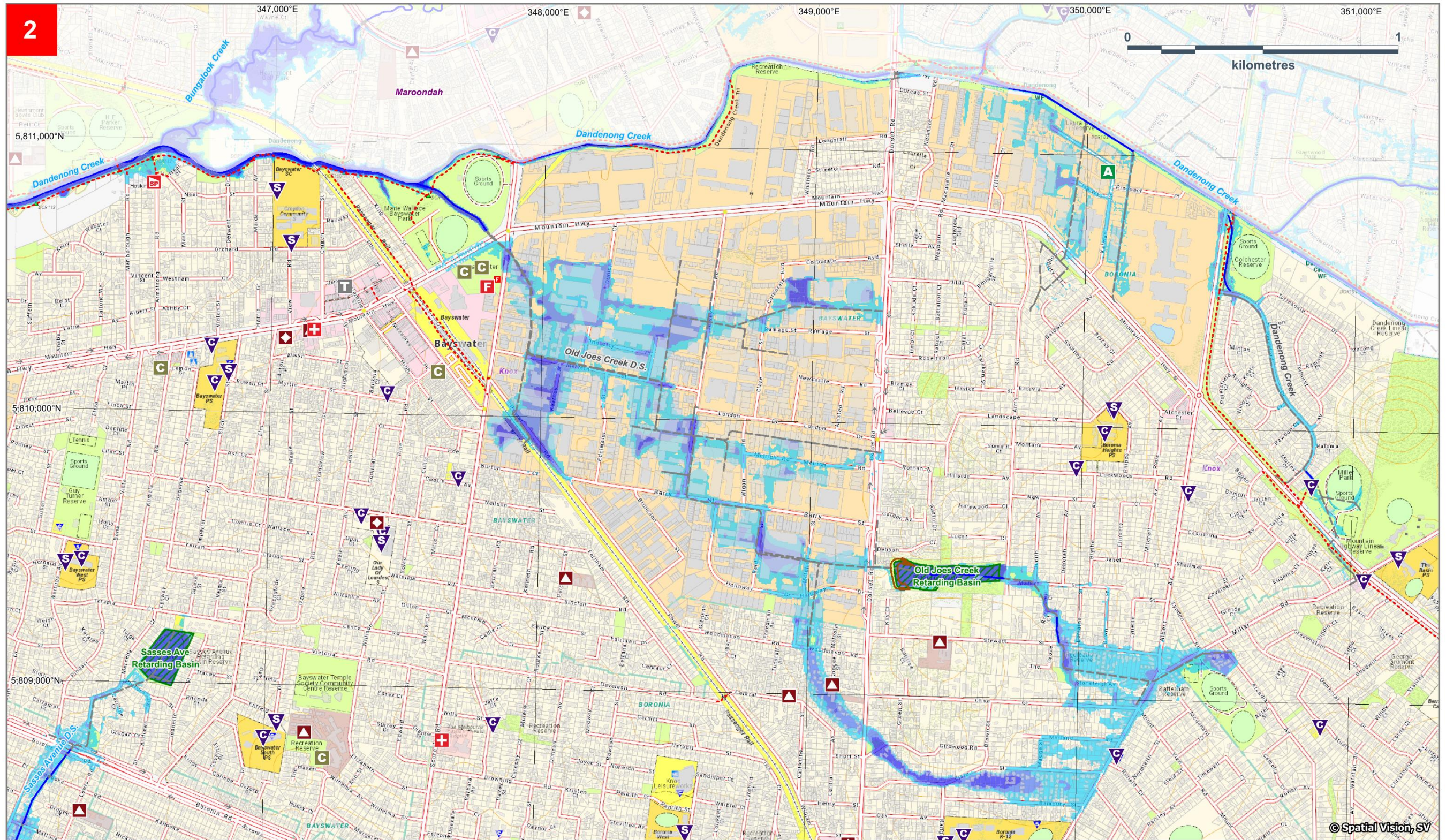
Map Produced by VICSES October 2021.



# Flood Extent Maps (sourced Melbourne Water GIS)







Old Joes Creek flood modelling completed by Cardno, January 2012. Dandenong Creek flood modelling completed by Engery, February 2019. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
 1% AEP (100yr ARI) Flooding  
**2. Old Joes Creek Drain (Bayswater)**

- |                                |                                  |                       |                    |
|--------------------------------|----------------------------------|-----------------------|--------------------|
| Building                       | Melbourne Water Retarding Basin  | Community Centre      | Aged Care Facility |
| Waterbody                      | Melbourne Water Stormwater Drain | Ambulance Station     | Place Of Worship   |
| Greater than 60cm              | Waterway                         | Telephone Exchange    | Hospital           |
| Between 30cm and 60cm          | Bicycle / Walking Trail          | Sewer Pumping Station |                    |
| Between 5cm and 30cm           | Embankment                       |                       |                    |
| Aged Care / Retirement Village | School / College                 |                       |                    |
|                                | Child Care / Kindergarten        |                       |                    |

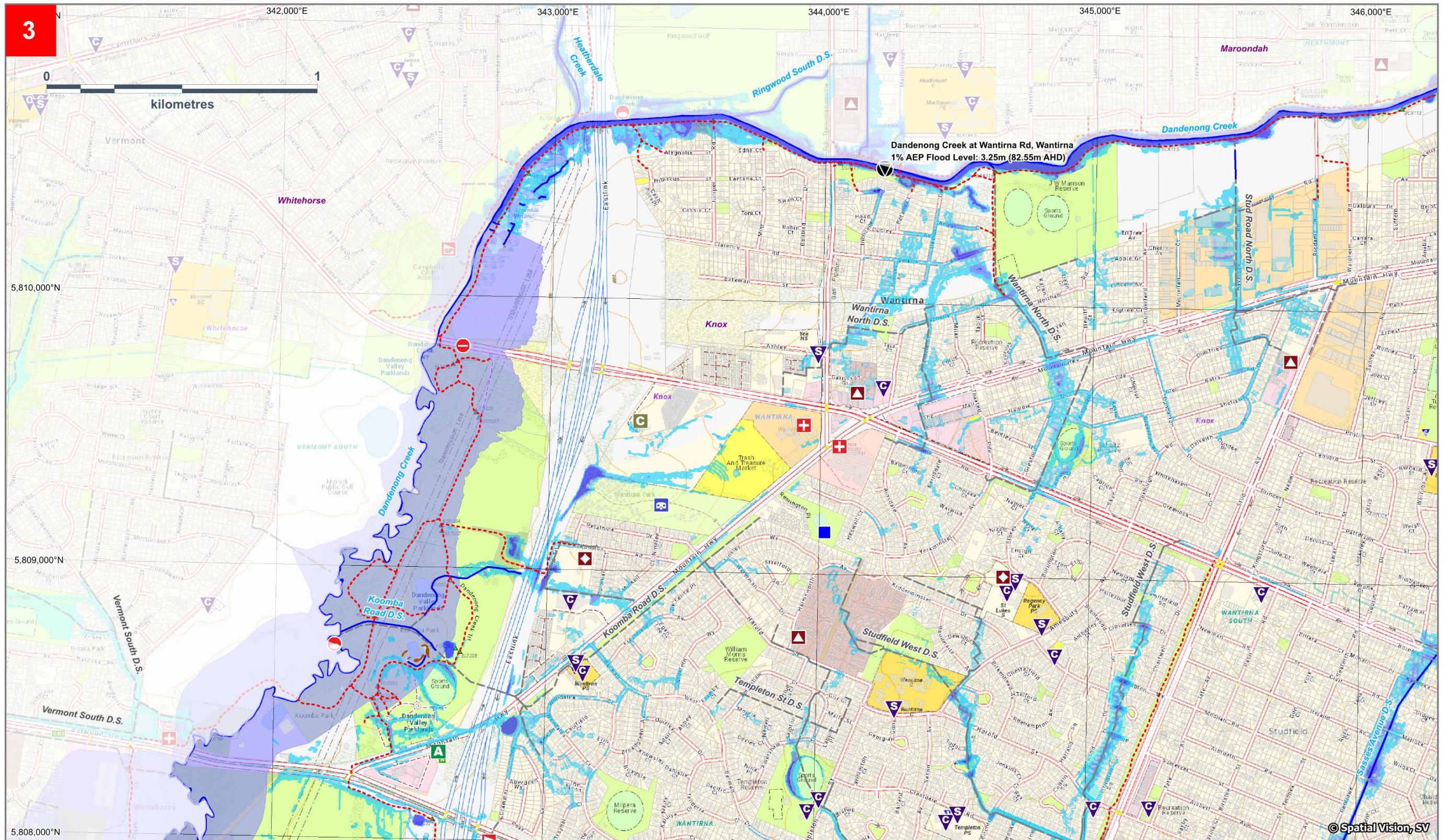
LAND USE	
	Residential
	Commercial and Business
	Industrial
	Public Parks / Cemeteries / Recreation
	Utilities and Local Government Facilities
	Education



**SES VICTORIA** State Government **Melbourne Water**

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Dandenong Creek (David St to Morack Golf Course flood modelling completed by Melbourne Water, January 2014. Dandenong Creek u/s Heatherdale Creek flood modelling completed by Engery, February 2019. Wantirna North D.S. flood modelling completed by Cardno, October 2020. Koomba Rd D.S. flood modelling completed by Cardno, September 2020. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
 1% AEP (100yr ARI) Flooding  
**3. Dandenong Creek (Wantirna)**

- |  |                                       |                              |   |
|--|---------------------------------------|------------------------------|---|
| Building   | Aged Care / Retirement Village        | Community Centre             | Aged Care Facility                      |
| Waterbody  | Melbourne Water Stormwater Drain      | Ambulance Station            | Place Of Worship                        |
| <b>1% AEP Flood Depth</b>                        | Waterway                              | Telephone Exchange           | Hospital                                |
| Greater than 60cm                                | Bicycle / Walking Trail               | Retail Water Storage         | Sewer Pumping Station                   |
| Between 30cm and 60cm                            | School / College                      | Sewer Emergency Relief Point | Stream Level Gauge & 1% AEP Flood Level |
| Between 5cm and 30cm                             | Child Care / Kindergarten             | Rain Gauge                   |   |
| 1% AEP Flash Flood Extent (Depth Unavailable)    | Road Closure Likely Required at Level |                              |   |
| 1% AEP Riverine Flood Extent (Depth Unavailable) |                                       |                              |   |

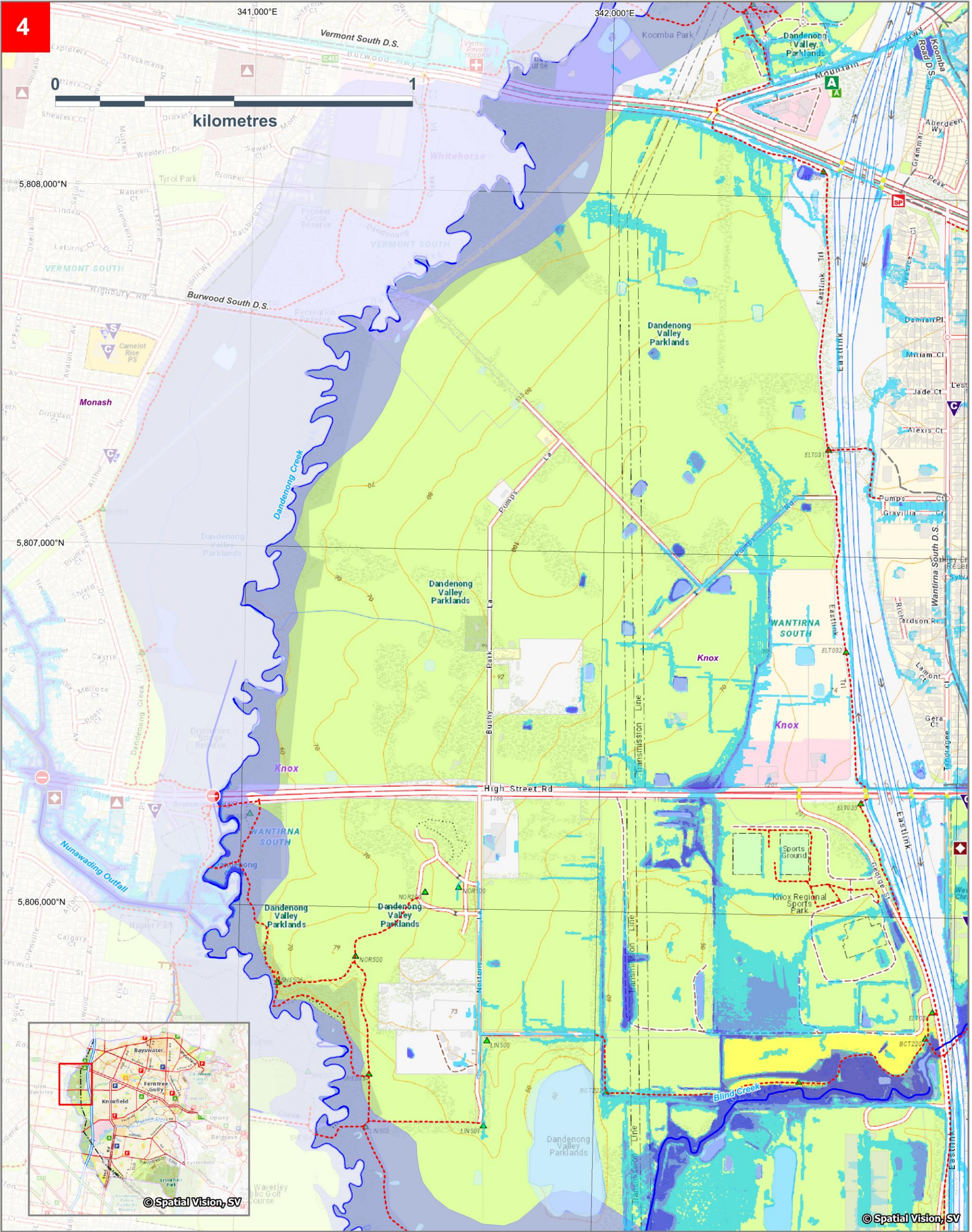
LAND USE	
	Residential
	Commercial and Business
	Industrial
	Public Parks / Cemeteries / Recreation
	Utilities and Local Government Facilities
	Education



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Dandenong Creek flood modelling completed by Melbourne Water, January 2014. Blind Creek (Lower) flood modelling completed by Cardno, September 2020. Koomba Rd D.S. flood modelling completed by Cardno, September 2020. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
1% AEP (100yr ARI) Flooding  
**4. Dandenong Creek (Wantirna South)**

Building	Aged Care / Retirement Village	Hospital
Waterbody	Melbourne Water Underground Drain	Education Facility
Greater than 60cm	Bicycle / Walking Trail	Child Care / Kindergarten
Between 30cm and 60cm	Waterway	Sewer Pumping Station
Between 5cm and 30cm	Ambulance Station	
1% AEP Riverine Flood Extent (Depth Unavailable)	Aged Care / Retirement Village	
1% AEP Flash Flood Extent (Depth Unavailable)	Road Closure Likely during Event	
	Place of Worship	

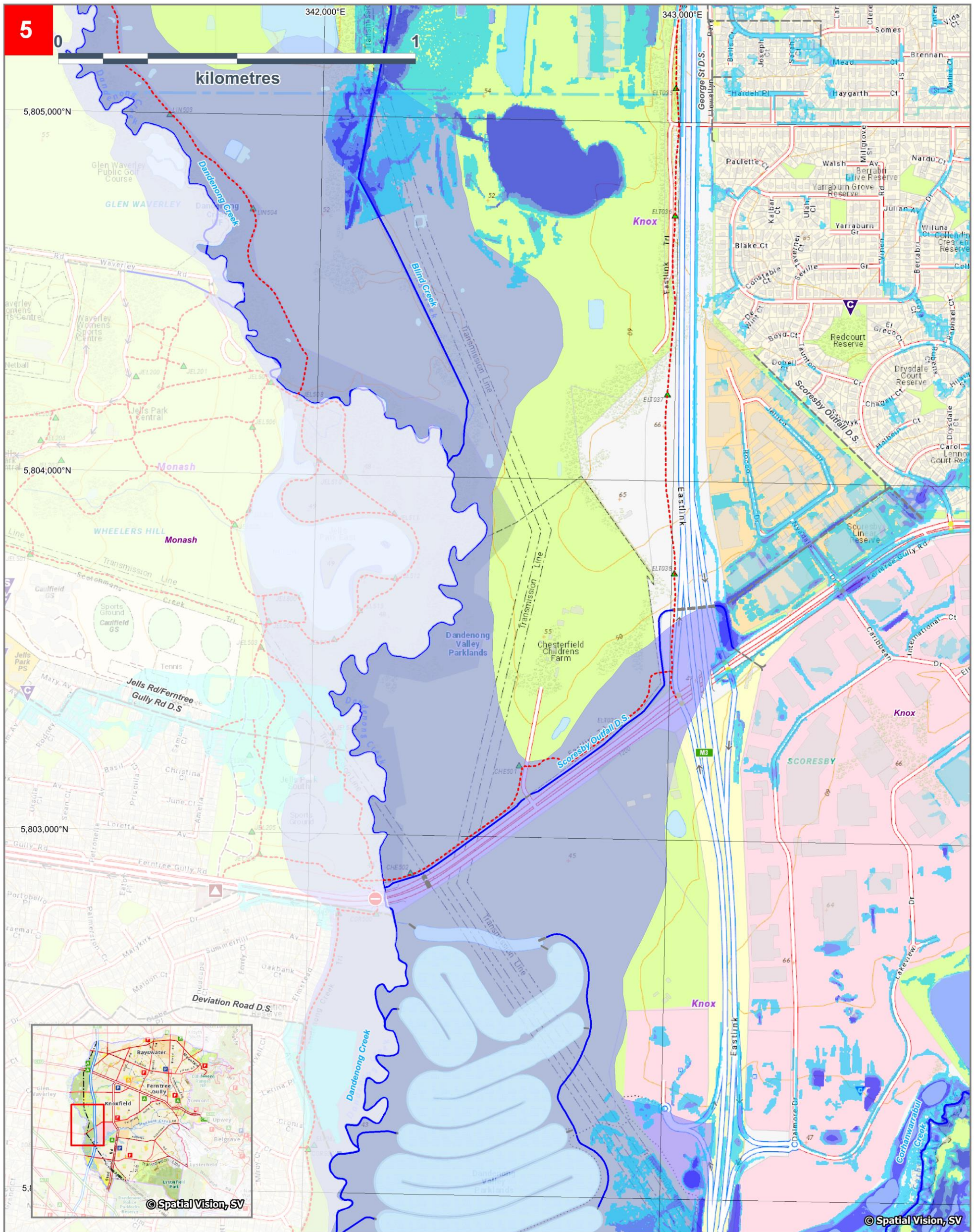
**LAND USE**

- Residential
- Commercial and Business
- Industrial
- Public Parks / Cemeteries / Recreation
- Utilities and Local Government Facilities
- Education

© Spatial Vision, SV

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Dandenong Creek flood modelling completed by Melbourne Water, January 2014. Blind Creek (Lower) flood modelling completed by Cardno, September 2020. Rowville flood modelling completed by Cardno, November 2020. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
 1% AEP (100yr ARI) Flooding  
**5. Dandenong Creek (Scoresby)**

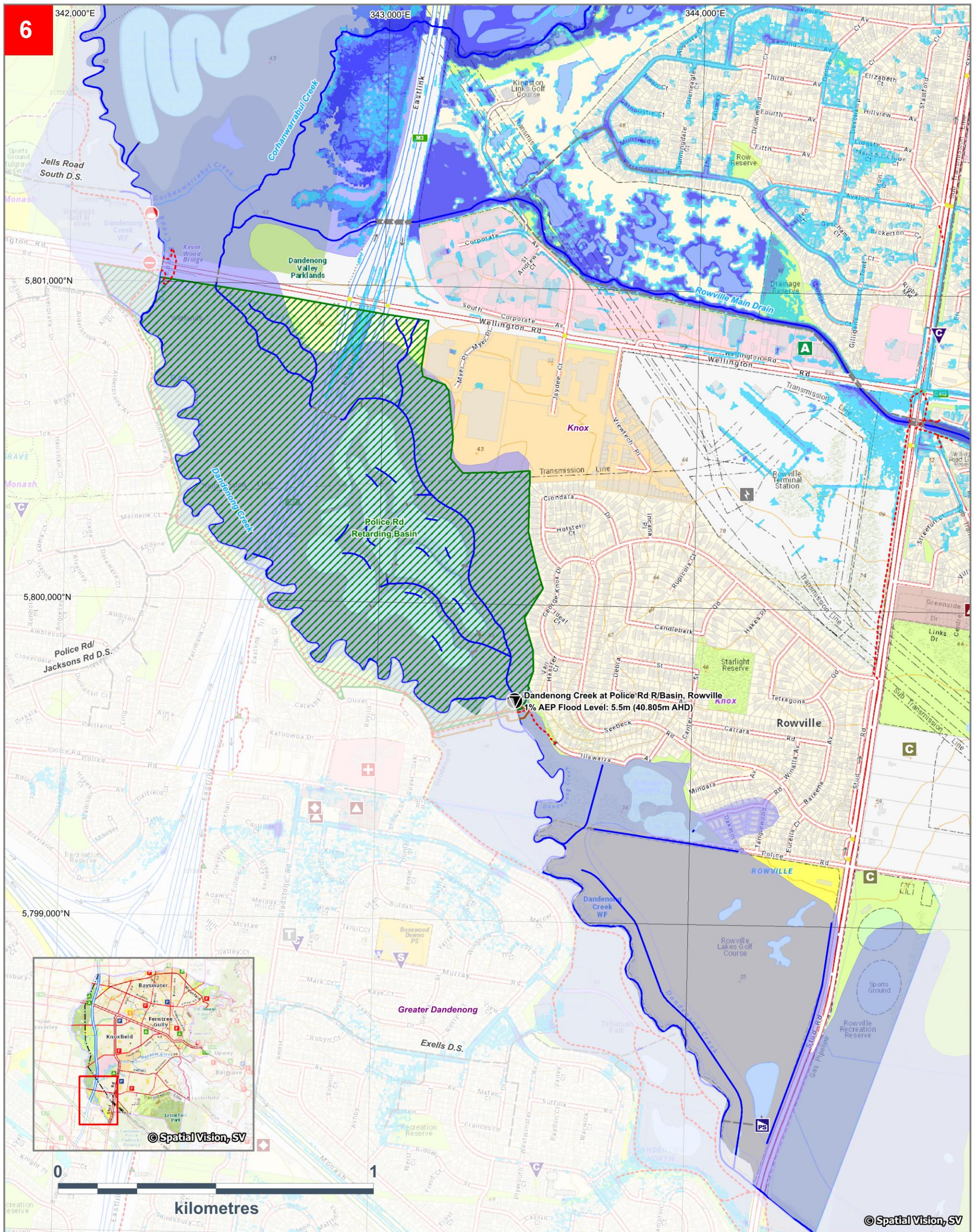
- Building
- Waterbody
- 1% AEP Flood Depth**
  - Greater than 60cm
  - Between 30cm and 60cm
  - Between 5cm and 30cm
  - 1% AEP Riverine Flood Extent (Depth Unavailable)
  - 1% AEP Flash Flood Extent (Depth Unavailable)
- Melbourne Water Underground Drain
- Bicycle / Walking Trail
- Waterway
- Aged Care / Retirement Village
- Road Closure Likely during Event
- Education Facility
- Child Care / Kindergarten

LAND USE	
	Residential
	Commercial and Business
	Industrial
	Public Parks / Cemeteries / Recreation
	Utilities and Local Government Facilities
	Education



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Dandenong Creek flood modelling completed by Melbourne Water, January 2014. Rowville flood modelling completed by Cardno, November 2020. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
1% AEP (100yr ARI) Flooding  
**6. Dandenong Creek (Rowville)**

**1% AEP Flood Depth**

- Greater than 60cm
- Between 30cm and 60cm
- Between 5cm and 30cm
- 1% AEP Riverine Flood Extent (Depth Unavailable)
- Aged Care / Retirement Village
- Melbourne Water Retarding Basin

- Melbourne Water Underground Drain
- Bicycle / Walking Trail
- Waterway
- Embankment
- Aged Care / Retirement Village
- Road Closure Likely during Event
- Education Facility
- Child Care / Kindergarten
- Sewer Emergency Relief Point

- Ambulance Station
- Community Centre
- Drainage Pumping Station
- Hospital
- Place of Worship
- Power Terminal Station
- Retail Water Storage
- Telephone Exchange

**LAND USE**

- Residential
- Commercial and Business
- Industrial
- Public Parks / Cemeteries / Recreation
- Utilities and Local Government Facilities
- Education

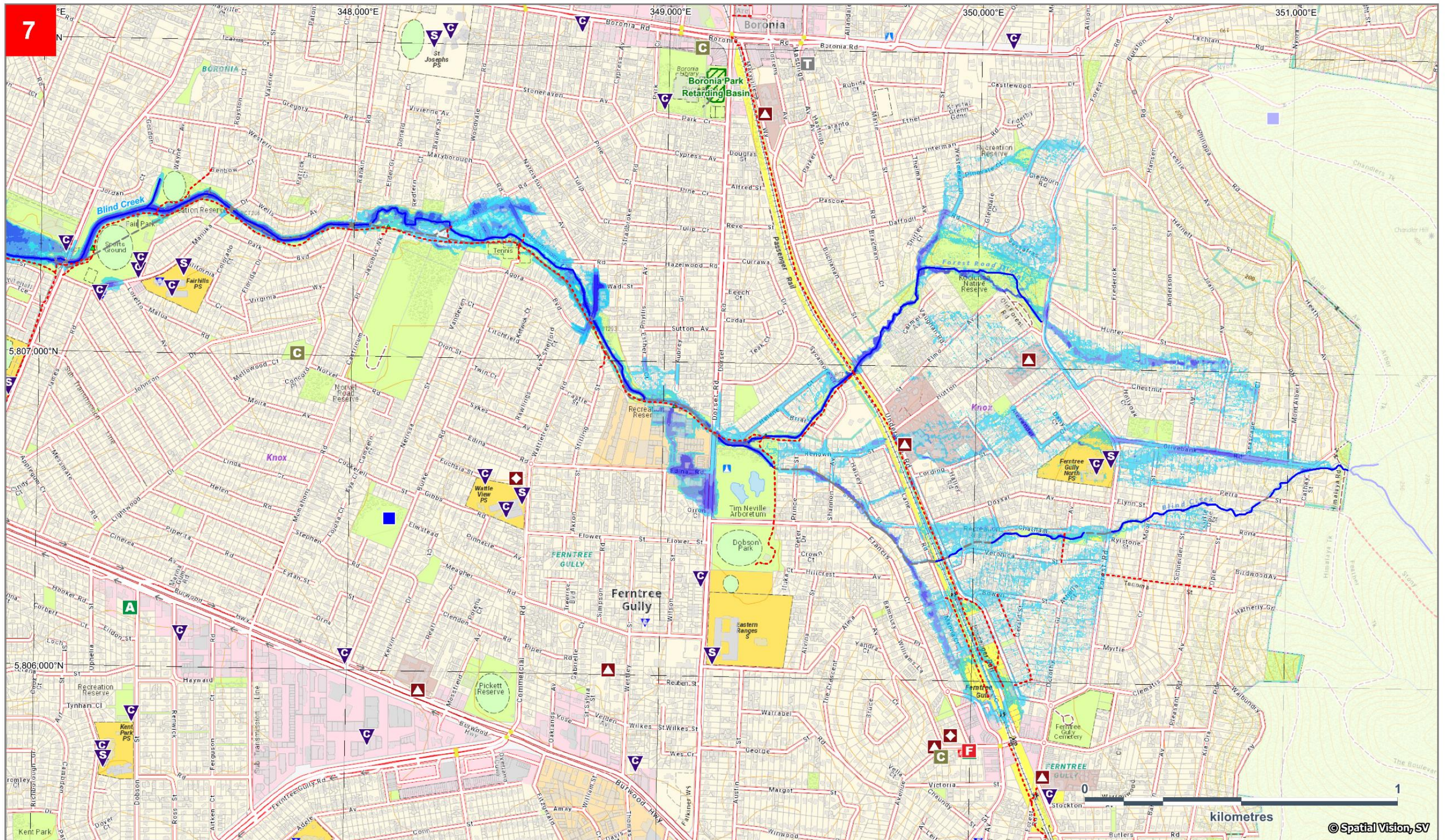
- Stream Level Gauge & 1% AEP Flood Level
- Rain Gauge

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State Emergency Service

**Melbourne Water**

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Blind Creek (Upper) flood modelling completed by GHD, May 2013. Blind Creek (Middle) flood modelling completed by GHD, June 2021. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
 1% AEP (100yr ARI) Flooding  
**7. Blind Creek (Ferntree Gully)**

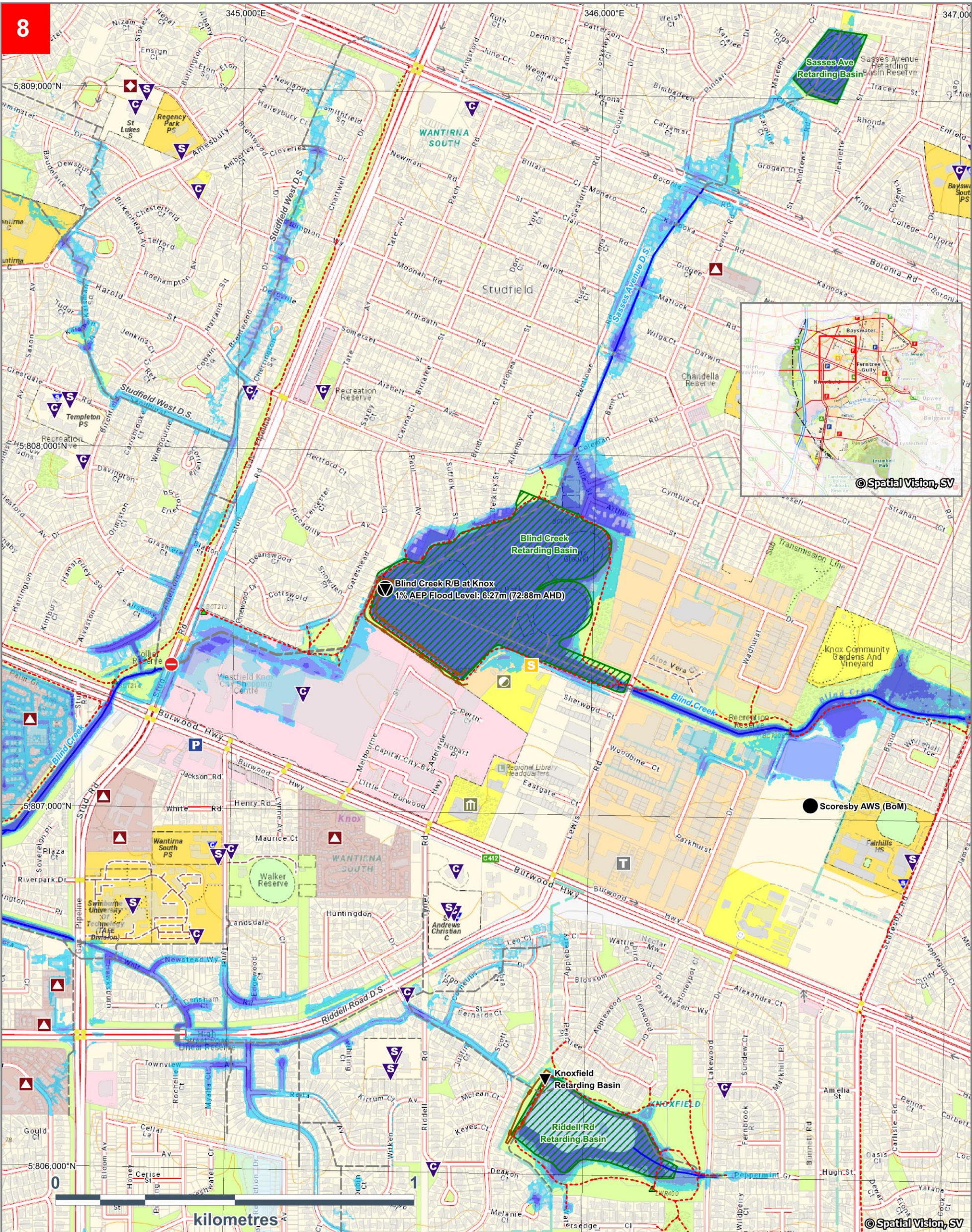
- |                                 |                                  |                      |                    |
|---------------------------------|----------------------------------|----------------------|--------------------|
| Building                        | Aged Care / Retirement Village   | Community Centre     | Aged Care Facility |
| Waterbody                       | Melbourne Water Stormwater Drain | Fire Station         | Place Of Worship   |
| Greater than 60cm               | Waterway                         | Telephone Exchange   |                    |
| Between 30cm and 60cm           | Bicycle / Walking Trail          | Retail Water Storage |                    |
| Between 5cm and 30cm            | School / College                 |                      |                    |
| Melbourne Water Retarding Basin | Child Care / Kindergarten        |                      |                    |

LAND USE	
	Residential
	Commercial and Business
	Industrial
	Public Parks / Cemeteries / Recreation
	Utilities and Local Government Facilities
	Education



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Blind Creek (Middle) flood modelling completed by GHD, June 2021. Blind Creek (Lower) flood modelling completed by Cardno, September 2020. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
1% AEP (100yr ARI) Flooding  
**8. Blind Creek (Knoxfield)**

**1% AEP Flood Depth**

- Greater than 60cm
- Between 30cm and 60cm
- Between 5cm and 30cm
- Aged Care / Retirement Village
- Melbourne Water Retarding Basin

- Melbourne Water Underground Drain
- Bicycle / Walking Trail
- Waterway
- Embankment
- Aged Care / Retirement Village
- Road Closure Likely during Event
- Education Facility
- Child Care / Kindergarten

- State Emergency Service
- Municipal Offices
- Municipal Depot
- Police Station
- Place of Worship
- Stream Level Gauge & 1% AEP Flood Level
- Rain Gauge
- Telephone Exchange

**LAND USE**

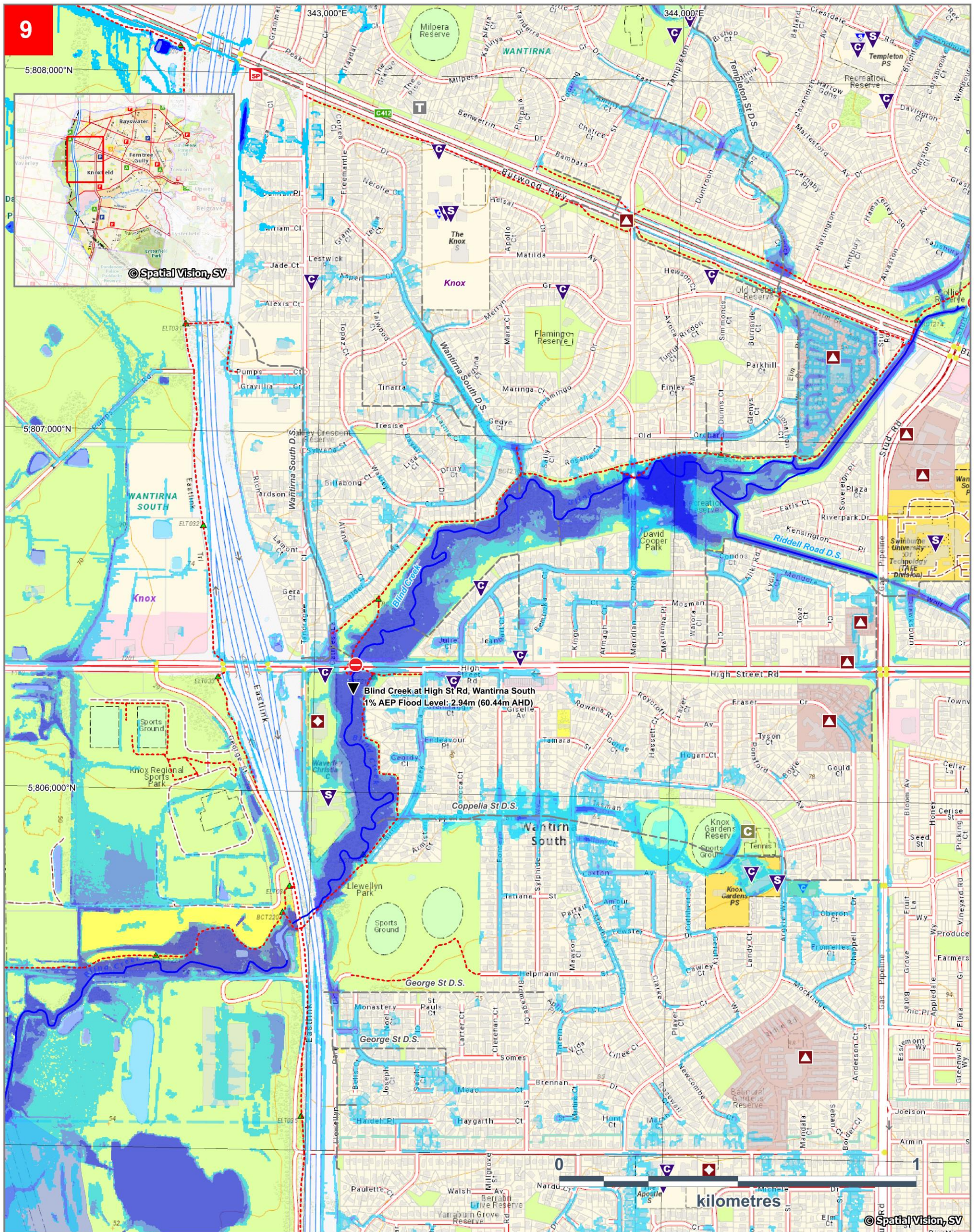
- Residential
- Commercial and Business
- Industrial
- Public Parks / Cemeteries / Recreation
- Utilities and Local Government Facilities
- Education

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**Melbourne Water**

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Blind Creek (Middle) flood modelling completed by GHD, June 2021. Blind Creek (Lower) flood modelling completed by Cardno, September 2020. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
1% AEP (100yr ARI) Flooding  
**9. Blind Creek**  
**(Wantirna South)**

**1% AEP Flood Depth**

- Greater than 60cm
- Between 30cm and 60cm
- Between 5cm and 30cm
- Aged Care / Retirement Village

**LAND USE**

- Residential
- Commercial and Business
- Industrial
- Public Parks / Cemeteries / Recreation
- Utilities and Local Government Facilities
- Education

**Other Symbols:**

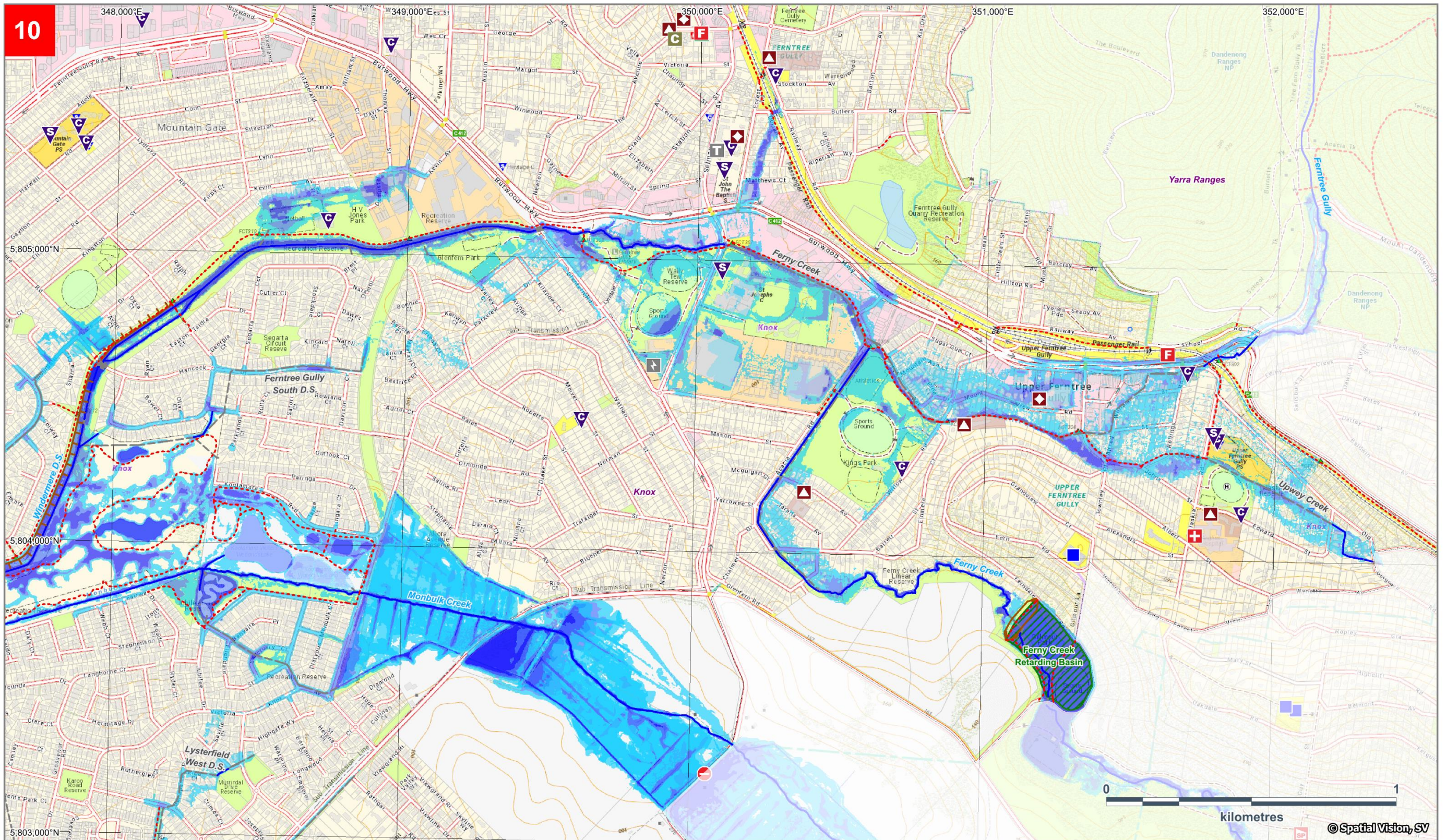
- Building
- Waterbody
- Melbourne Water Underground Drain
- Bicycle / Walking Trail
- Waterway
- Embankment
- Aged Care / Retirement Village
- Road Closure Likely during Event
- Education Facility
- Child Care / Kindergarten
- Place of Worship
- Stream Level Gauge & 1% AEP Flood Level
- Telephone Exchange
- Community Centre
- Sewer Pumping Station

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State Emergency Service

**Melbourne Water**

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Ferntree Gully flood modelling completed by DVA, March 2011. Monbulk Creek flood modelling completed by GHD, September 2020. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
 1% AEP (100yr ARI) Flooding  
**10. Ferny Creek**  
**(Upper Ferntree Gully)**

- |                                 |                                  |                               |                        |
|---------------------------------|----------------------------------|-------------------------------|------------------------|
| Building                        | Aged Care / Retirement Village   | Community Centre              | Aged Care Facility     |
| Waterbody                       | Melbourne Water Stormwater Drain | Fire Station                  | Place Of Worship       |
| 1% AEP Flood Depth              | Waterway                         | Telephone Exchange            | Embankment             |
| Greater than 60cm               | Bicycle / Walking Trail          | Retail Water Storage          | Power Terminal Station |
| Between 30cm and 60cm           | School / College                 | Road Likely requiring closure |                        |
| Between 5cm and 30cm            | Child Care / Kindergarten        |                               |                        |
| Melbourne Water Retarding Basin |                                  |                               |                        |

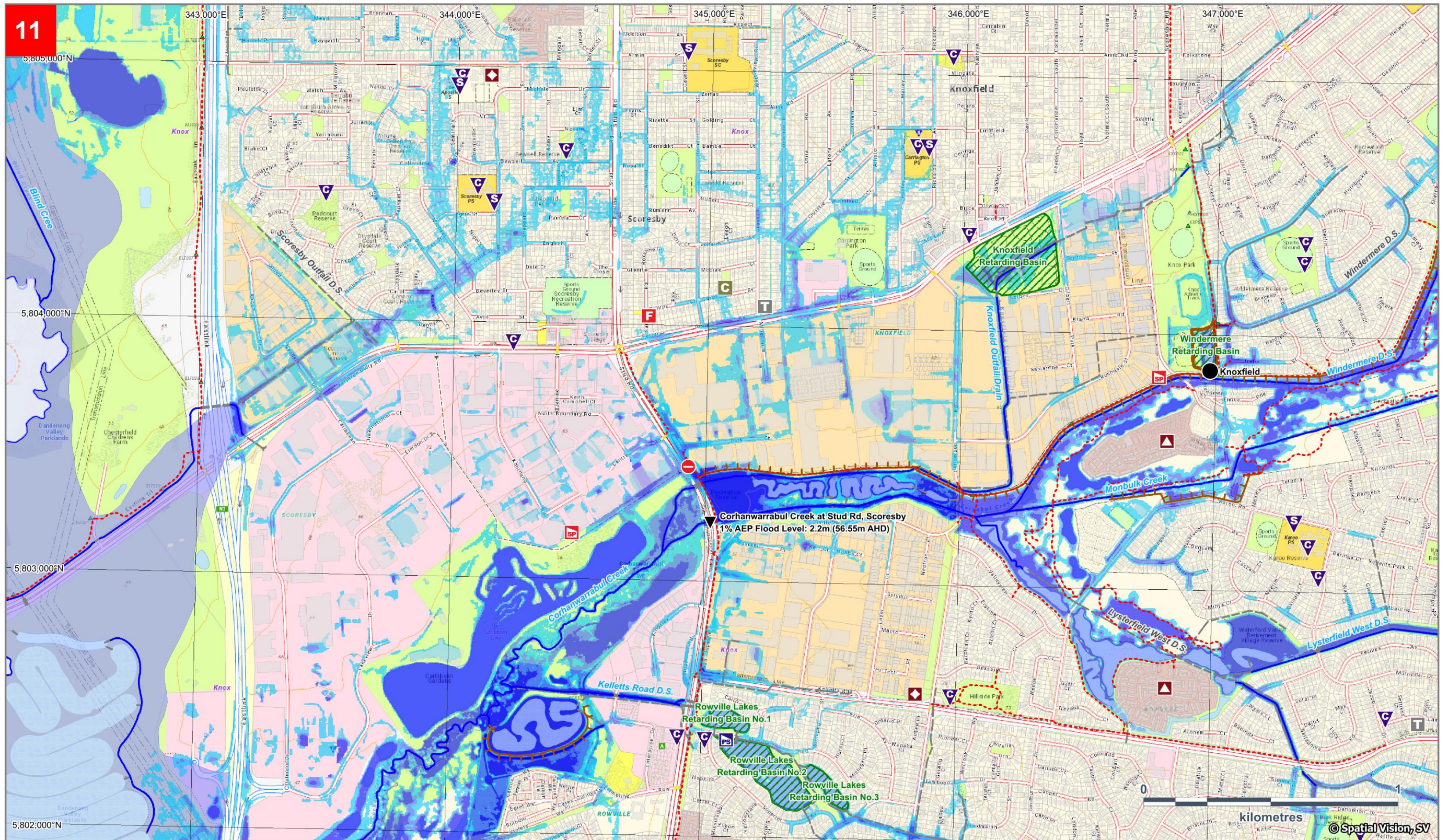
LAND USE	
	Residential
	Commercial and Business
	Industrial
	Public Parks / Cemeteries / Recreation
	Utilities and Local Government Facilities
	Education



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Rowville flood modelling completed by Cardno, November 2020. Lysterfield Main Drain flood modelling completed by GHD, September 2020. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
 1% AEP (100yr ARI) Flooding  
**11. Corhanwarrabul Creek (Scoresby)**

- |  |                                  |                               |   |
|--|----------------------------------|-------------------------------|---|
| Building   | Aged Care / Retirement Village   | Community Centre              | Aged Care Facility                      |
| Waterbody  | Melbourne Water Stormwater Drain | Fire Station                  | Place Of Worship                        |
| <b>1% AEP Flood Depth</b>                        | Waterway                         | Telephone Exchange            | Embankment                              |
| Greater than 60cm                                | Bicycle / Walking Trail          | Sewer Pumping Station         | Stream Level Gauge & 1% AEP Flood Level |
| Between 30cm and 60cm                            | School / College                 | Road Likely requiring closure | Rain Gauge                              |
| Between 5cm and 30cm                             | Child Care / Kindergarten        |                               |   |
| Melbourne Water Retarding Basin                  |                                  |                               |   |
| 1% AEP Riverine Flood Extent (Depth Unavailable) |                                  |                               |   |

**LAND USE**

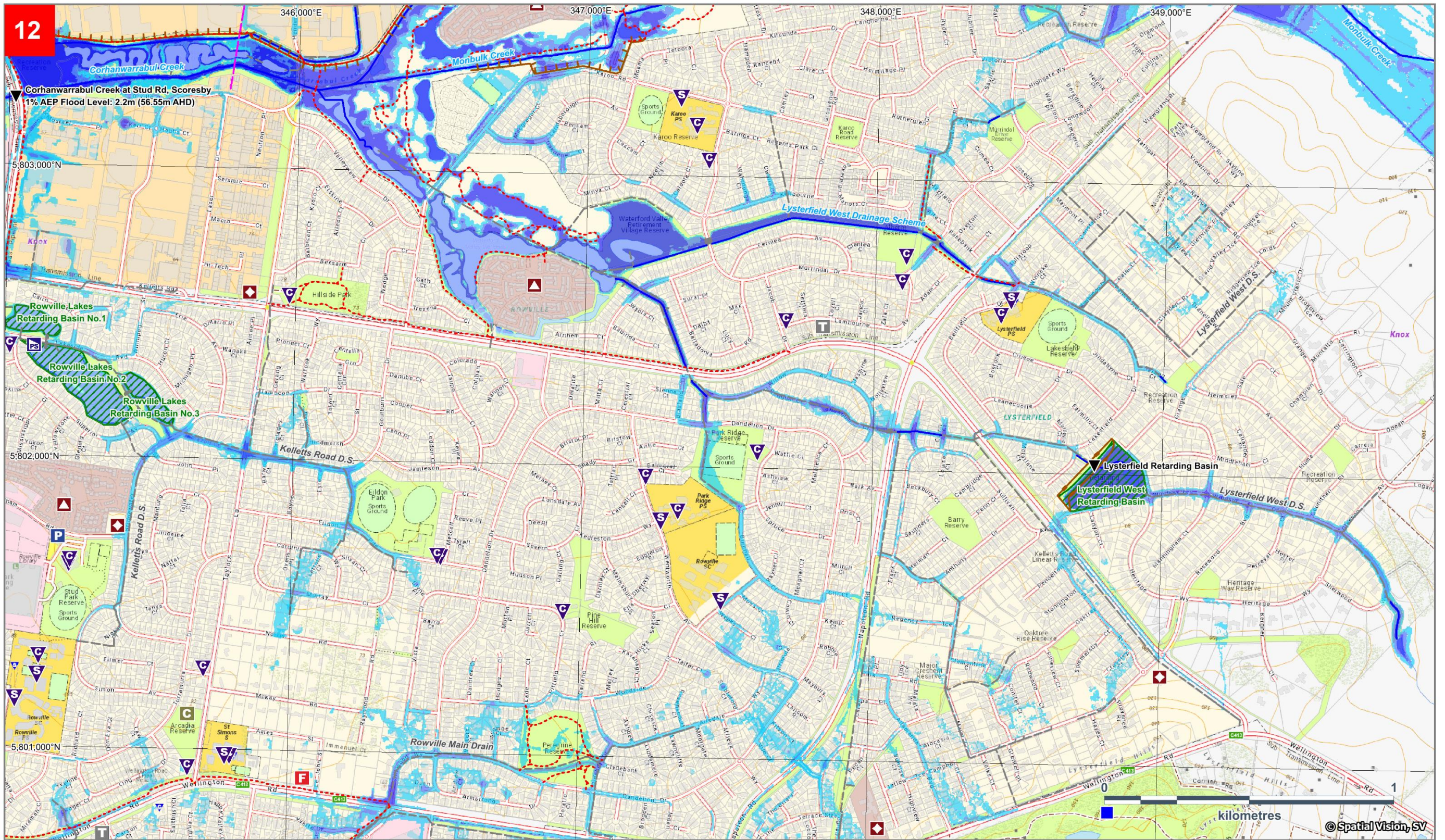
	Residential
	Commercial and Business
	Industrial
	Public Parks / Cemeteries / Recreation
	Utilities and Local Government Facilities
	Education



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Rowville flood modelling completed by Cardno, November 2020. Lysterfield Main Drain flood modelling completed by GHD, September 2020. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
 1% AEP (100yr ARI) Flooding  
**12. Lysterfield West Drainage Scheme**  
 (Lysterfield)

- |                                 |                                  |                      |   |
|---------------------------------|----------------------------------|----------------------|---|
| Building                        | Aged Care / Retirement Village   | Community Centre     | Aged Care Facility                      |
| Waterbody                       | Melbourne Water Stormwater Drain | Fire Station         | Place Of Worship                        |
| Greater than 60cm               | Waterway                         | Telephone Exchange   | Drainage Pumping Station                |
| Between 30cm and 60cm           | Bicycle / Walking Trail          | Police Station       | Stream Level Gauge & 1% AEP Flood Level |
| Between 5cm and 30cm            | School / College                 | Retail Water Storage |   |
| Melbourne Water Retarding Basin | Child Care / Kindergarten        |                      |   |
|                                 | Embankment                       |                      |   |

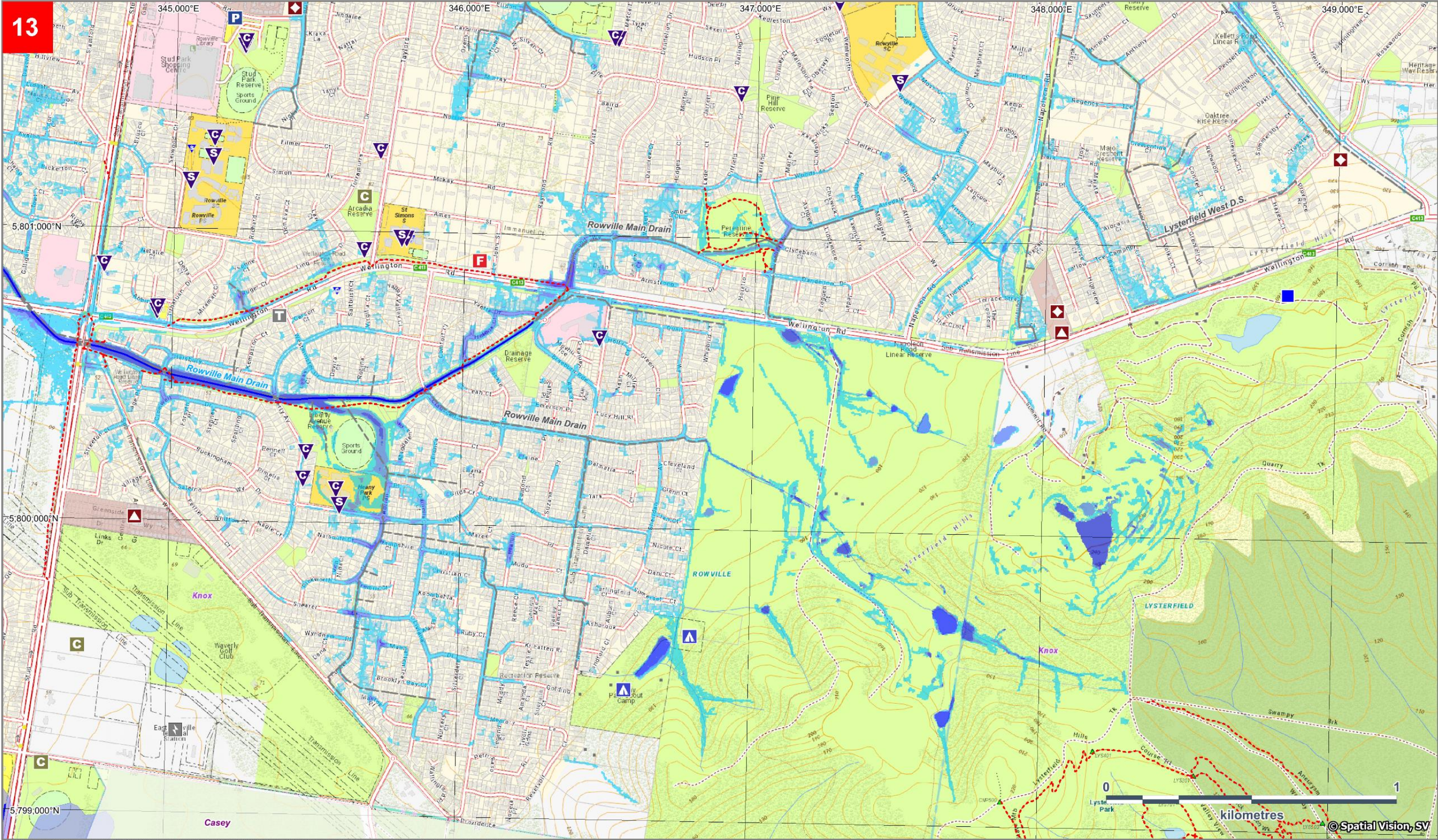
- LAND USE**
- Residential
  - Commercial and Business
  - Industrial
  - Public Parks / Cemeteries / Recreation
  - Utilities and Local Government Facilities
  - Education



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Rowville flood modelling completed by Cardno, November 2020. Lysterfield Main Drain flood modelling completed by GHD, September 2020. Map Produced by VICSES October 2021.

**CITY OF KNOX**  
 1% AEP (100yr ARI) Flooding  
**13. Rowville Main Drain (Rowville)**

- |                           |                                  |                      |                        |
|---------------------------|----------------------------------|----------------------|------------------------|
| Building                  | Aged Care / Retirement Village   | Community Centre     | Aged Care Facility     |
| Waterbody                 | Melbourne Water Stormwater Drain | Fire Station         | Place Of Worship       |
| <b>1% AEP Flood Depth</b> | Waterway                         | Telephone Exchange   | Power Terminal Station |
| Greater than 60cm         | Bicycle / Walking Trail          | Camp Ground          |                        |
| Between 30cm and 60cm     | School / College                 | Police Station       |                        |
| Between 5cm and 30cm      | Child Care / Kindergarten        | Retail Water Storage |                        |

LAND USE	
	Residential
	Commercial and Business
	Industrial
	Public Parks / Cemeteries / Recreation
	Utilities and Local Government Facilities
	Education



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# Dandenong Creek Catchment Schematic

Version 9 - October 2021

## YARRA RANGES MSFEP

Emerald, Lilydale, Healesville & Upper Yarra Units  
**Mount Dandenong**  
 - Station No. 586090  
 - Location: GTV9 Tower, Mount Dandenong



**Bungulook Creek at Fussell Rd Retarding Basin**  
 - Station No. 228369A  
 - Location: Fussell Road, Montrose (Melway 51K11)  
 - Historical Flood Level: 7.23m (18th September 1984)  
 - Historical Flood Level: 6.19m (30th July 1996)  
 - Spillway Level: 8.15m  
 - Embankment Level: 8.4m  
 - 1% AEP Flood Level: 8.39m

## YARRA RANGES MSFEP

Emerald, Lilydale, Healesville & Upper Yarra Units



**Dandenong Creek at Liverpool Rd Retarding Basin**  
 - Station No. 228373A  
 - Location: Liverpool Road, The Basin (Melway 65F4)  
 - Historical Flood Level: 6.43m (22nd January 1994)  
 - Spillway Level: 5.4m  
 - Full Supply Level: 6.0m  
 - Embankment Level: 6.6m

Flow Direction ↓

## MAROONDAH MSFEP

Maroondah Unit



**Dandenong Creek at Heathmont**  
 - Station No. 228357A  
 - Location: Wantirna Road, Wantirna  
 - Travel Time to Rowville: Between 1-14 hours  
 - Historical Flood Level: 2.78m (5th February 2011)  
 - Historical Flood Level: 2.73m (3rd February 2005)  
 - Significant Level: 2.5m (Spillway at Police Rd Retarding Basin will start operating)  
 - 1% AEP Flood Level: 4.9m

## KNOX MSFEP

Knox Unit



**Blind Creek at Blind Creek Retarding Basin**  
 - Station No. 228366A  
 - Location: Rear of Knox City Shopping Centre  
 - Travel Time to Wantirna South: Between 1min - 3hrs  
 - Historical Flood Level: 5.14m (3rd February 2005)  
 - Spillway Level: 5.59m  
 - Embankment Level: 6.29m  
 - 1% AEP Flood Level: 6.35m

## WHITEHORSE MSFEP

Whitehorse Unit



**Blind Creek at Wantirna South**  
 - Station No. 228351B  
 - Location: High Street Rd, Wantirna South (Melway 72E1)  
 - Travel Time to Rowville: Between 1-13 hours  
 - Historical Flood Level: 3.65m (13th December 1993)  
 - Historical Flood Level: 2.8m (3rd December 2003)

## MONASH MSFEP

Monash Unit

**Glen Waverley**  
 Station No. 586197 -  
 Location: Mt View Reservoir, -  
 Waverley Rd, Glen Waverley

**UPPER FERNTREE GULLY**  
 - Burwood Hwy near Mount Dandenong Tourist Rd at risk of flooding a 5% AEP event

## GREATER DANDENONG MSFEP

Greater Dandenong Unit

**WHEELERS HILL**  
 - 51 properties at risk of flooding in a 1% AEP event  
 - Ferntree Gully Rd flooded at 5.0m on the Police Rd Gauge  
 - Wellington Rd flooded at 5.5m on the Police Rd Gauge



**Corhanwarrabul Creek at Scoresby**  
 - Station No. 228393A  
 - Location: Stud Road, Scoresby (Melway 72J9)  
 - Travel Time to Rowville: Between 2-12 hours  
 - Historical Flood Level: 2.67m (3rd February 2005)  
 - Historical Flood Level: 2.36m (5th February 2011)

**Monbulk Creek at Lysterfield**  
 - Station No. 228229B  
 - Location: Monbulk Creek Retarding Basin, Lysterfield (Melway 83J2)  
 - Historical Flood Level: 8.56m (5th February 2011)  
 - Spillway Level: 9.33m  
 - Full Supply Level: 10.83m  
 - Embankment Level: 11.33m

## Dandenong Creek at Police Rd Retarding Basin



- Station No. 228368A  
 - Location: Police Road, Rowville (Melway 81E6)  
 - Minor: 4.6m; Moderate: 5.0m; Major: 5.5m  
 - Travel Time to Dandenong: Between 2-9 hours  
 - Travel Time to Patterson Lakes: Between 2-17 hours  
 - Historical Flood Level: 5.69m (18th September 1984)  
 - Historical Flood Level: 5.56m (3rd February 2005)  
 - Historical Flood Level: 5.45m (5th February 2011)  
 - Spillway Level: 4.28m  
 - Levee Height (Crest) at Heatherton Rd: 5.25m  
 - 1% AEP Flood Level: 5.5m



**Dandenong Creek at Dandenong**  
 - Station No. 228204C  
 - Location: Hammond Road, Dandenong (Melway 90C9)  
 - Travel Time to Keysborough: Between 0-2 hours  
 - Historical Flood Level: 4.84m (3rd February 2005)  
 - Historical Flood Level: 4.76m (19th September 1984)  
 - Bank Level: 6.6m (Channel Capacity at Dandenong)  
 - 1% AEP Flood Level: 5.87m

### LEGEND

- Stream & Rain Gauge
- Rain Gauge
- Stream Gauge
- TOWN / SUBURB
- URBAN AREA
- Creek / River
- Stormwater Drain
- 20km Distance between Gauges or to River / Creek End
- Highway

Schematic Not To Scale

## KINGSTON MSFEP

Chelsea & Moorabbin Units

## Dandenong Creek at Keysborough

- Station No. 228356B  
 - Location: Eastlink Crossing, Keysborough (Melway 94H5)  
 - Historical Flood Level: 3.50m (5th February 2011)  
 - Levee Height: 5.2m  
 - 1% AEP Flood Level: 4.5m



## GREATER DANDENONG MSFEP

Greater Dandenong Unit

**BANGHOLME**  
 - 6 properties at risk of flooding a 1% AEP event  
 - Pillers, Perry & Bangholme Rds flooded in a 1% AEP event

## Patterson River at Patterson Lakes

- Station No. 228383A  
 - Location: Outside Tidal Gates, Patterson Lakes (Melway 97F6)  
 - Minor: 0.75m  
 - Historical Flood Level: 1.26m (3rd February 2005)  
 - Historical Flood Level: 1.26m (5th February 2011)  
 - Tidal Gate Closure Level: 0.73mh  
 - 1% AEP Flood Level: 1.60m



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## APPENDIX G – SEVERE WEATHER (STORM) EVENTS

### Overview

The Knox municipality is susceptible to severe weather events because of a combination of its hilly terrain; the high number of mature trees located within the municipality and its proximity to the Dandenong ranges. Storm events in the Knox municipality may include windstorms, dust storms, hailstorms, heavy rain leading to flash flooding and thunderstorms (including lightning activity). This Appendix uses Request for Assistance (RFA) data from VICSES to display areas at risk from severe weather events.

Older homes may be more susceptible to damage, as can properties undergoing development and renovation. Blocked drains and pits, or drainage systems that may be insufficiently sized for the level of development in the Knox municipality also contribute to the effects of storm activity. New estates and/or developments under construction can be particularly vulnerable as construction works can interfere with natural drainage pathways, while excavations may impact on stability of existing trees.

Severe storm activity could result in injuries and increase in road accidents. Damaging wind events will tend to lead to trees down, with damage to the built and natural environment. Obstructions across roads could disrupt services, affect community functioning and have great potential for road traffic delays. Infrastructure near waterways such as pedestrian bridges may become damaged either directly, or from debris that has been washed into the current.

### VICSES Requests for Assistance

VICSES records Requests for Assistance (RFAs) made by the public during severe weather events. This Appendix uses RFAs data from VICSES to display areas at risk from severe weather events.

Table 1 below is a breakdown of requests by suburb and damage type during the period June 2010 to June 2021.

VICSES Request for Assistance (June 2010 to June 2021)					
Suburb	Building Damage	Flooding	Tree Down	Tree Down Traffic Hazard	Other*
Bayswater	210	38	288	113	2
Boronia	426	122	830	351	10
Ferntree Gully	480	101	793	339	14
Knoxfield	198	23	176	68	2
Lysterfield	147	22	56	47	2
Rowville	452	105	332	229	11
Sassafras	0	0	2	28	0
Scoresby	172	31	109	57	3
The Basin	118	22	387	348	5
Tremont	0	0	0	2	0
Upper Ferntree Gully	75	22	149	107	4
Wantirna	165	38	222	126	6
Wantirna South	279	43	240	108	8

Table G1 – Breakdown of severe weather RFAs received by VICSES Knox Unit by suburb in The Knox municipality

\*Assist Agency, Fence Down, Landslide, Loose Debris/Objects, Rescue Persons Trapped, Rescue Structure Collapse, Rescue Vehicle into Structure and Sandbag Request

Table 2 is a breakdown of RFAs by Date (Month) and damage type. High figures during March 2010 are the result of the Hailstorm that moved across the state from the northwest.

VICSES Request for Assistance (July 2009 – June 2021)					
Date	Building Damage	Flooding	Tree Down	Tree Down Traffic Hazard	Other*
July 2009	4	0	2	0	0
August 2009	128	0	199	67	0
September 2009	8	6	28	9	0
October 2009	5	3	5	1	0
November 2009	13	7	17	13	0
December 2009	5	0	9	4	0
January 2010	4	0	15	6	0
February 2010	7	1	14	7	0
<b>March 2010</b>	<b>627</b>	<b>52</b>	<b>22</b>	<b>4</b>	<b>0</b>
April 2010	42	2	4	4	0
May 2010	18	2	3	4	0
June 2010	74	1	52	19	0
July 2010	9	0	4	5	0
August 2010	17	1	19	15	0
September 2010	15	0	28	25	0
October 2010	36	11	20	9	0
November 2010	20	1	26	20	2
December 2010	40	11	39	18	0
January 2011	24	11	37	15	0
February 2011	91	180	41	34	2
March 2011	6	1	8	1	0
April 2011	9	2	6	4	0
May 2011	4	3	4	6	0
June 2011	9	1	19	10	0
July 2011	4	0	9	12	0
August 2011	3	0	7	6	0
September 2011	18	4	30	12	0
October 2011	2	1	9	5	0
November 2011	20	15	33	9	2
December 2011	11	0	24	7	0
January 2012	20	0	69	36	0
February 2012	47	4	104	26	0
March 2012	20	0	85	26	0
April 2012	17	8	18	8	0
May 2012	10	2	7	4	0
June 2012	16	0	17	8	0
July 2012	4	0	15	5	0
August 2012	4	0	18	10	0
September 2012	62	1	124	70	0
October 2012	2	0	11	6	0
November 2012	9	0	6	8	0
December 2012	3	0	19	10	0
January 2013	7	0	14	7	0
February 2013	7	3	6	6	0
March 2013	16	0	40	31	0
April 2013	1	0	3	3	0
May 2013	4	1	3	3	0
June 2013	14	3	3	7	0
July 2013	8	1	9	7	0
August 2013	18	0	48	26	0
September 2013	16	0	50	16	0
October 2013	45	0	99	39	0
November 2013	3	0	17	6	0
December 2013	5	2	9	13	0

VICSES Request for Assistance (July 2009 – June 2021)					
Date	Building Damage	Flooding	Tree Down	Tree Down Traffic Hazard	Other*
January 2014	15	0	40	20	0
February 2014	4	0	18	6	0
March 2014	2	3	14	9	0
April 2014	6	0	8	5	0
May 2014	5	0	3	5	0
June 2014	14	2	39	13	0
July 2014	33	0	48	20	0
August 2014	6	0	16	2	0
September 2014	104	12	26	22	0
October 2014	5	1	12	5	0
November 2014	6	0	6	1	0
December 2014	7	0	17	14	0
January 2015	61	3	97	37	0
February 2015	9	5	23	36	0
March 2015	17	0	62	29	0
April 2015	3	0	5	3	0
May 2015	7	0	7	3	0
June 2015	2	0	3	1	0
July 2015	7	0	8	12	0
August 2015	4	1	1	3	0
September 2015	4	0	5	2	0
October 2015	8	0	11	8	0
November 2015	12	0	31	16	0
December 2015	11	1	13	14	0
January 2016	13	0	32	9	0
February 2016	1	0	3	6	0
March 2016	13	0	33	34	0
April 2016	5	0	5	1	0
May 2016	33	0	52	36	0
June 2016	7	2	8	4	0
July 2016	13	1	30	27	0
August 2016	5	2	7	9	0
September 2016	6	0	6	1	0
October 2016	80	1	131	77	0
November 2016	3	0	11	5	0
December 2016	43	38	23	12	0
January 2017	5	0	10	4	0
February 2017	13	7	7	12	0
March 2017	8	0	14	7	0
April 2017	3	2	4	8	0
May 2017	3	1	4	2	0
June 2017	0	0	2	3	0
July 2017	8	0	3	3	0
August 2017	4	1	1	1	0
September 2017	6	1	5	8	0
October 2017	3	0	8	1	0
November 2017	8	1	6	4	0
December 2017	110	39	19	15	0
January 2018	8	0	9	8	0
February 2018	17	0	69	41	0
March 2018	4	0	21	8	0
April 2018	6	1	10	5	0
May 2018	9	1	2	4	0
June 2018	3	1	2	3	0
July 2018	11	0	21	6	0
August 2018	8	0	12	4	0
September 2018	7	0	3	3	0

VICSES Request for Assistance (July 2009 – June 2021)					
Date	Building Damage	Flooding	Tree Down	Tree Down Traffic Hazard	Other*
October 2018	4	0	3	3	0
November 2018	15	7	23	19	1
December 2018	2	1	6	12	0
January 2019	7	1	17	10	0
February 2019	2	2	6	7	0
March 2019	9	6	13	14	1
April 2019	4	0	8	6	0
May 2019	2	3	2	4	0
June 2019	8	3	4	10	1
July 2019	6	2	18	18	0
August 2019	5	1	10	19	0
September 2019	11	1	9	15	0
October 2019	4	2	8	4	0
November 2019	16	1	36	23	3
December 2019	5	1	39	12	4
January 2020	7	7	39	28	4
February 2020	21	18	41	21	0
March 2020	5	2	15	13	2
April 2020	12	10	31	12	3
May 2020	9	6	19	19	0
June 2020	7	4	6	4	1
July 2020	3	1	12	12	0
August 2020	21	4	165	86	3
September 2020	11	2	69	15	0
October 2020	9	1	116	43	5
November 2020	10	4	16	6	4
December 2020	4	2	30	11	0
January 2021	7	9	24	10	2
February 2021	3	0	8	6	0
March 2021	7	1	8	3	0
April 2021	3	1	11	6	1
May 2021	3	4	14	2	0
June 2021	31	3	146	63	15

Table G2 – Breakdown of severe weather RFAs received by VICSES Knox Unit by month

\*Assist Agency, Dam Incident, Fence Down, Landslide, Loose Debris/Objects, Rescue Persons Trapped, Rescue Structure Collapse, Rescue Vehicle into Structure and Sandbag Request



# VICSES Severe Weather (Storm or Flood) Requests for Assistance Mapping

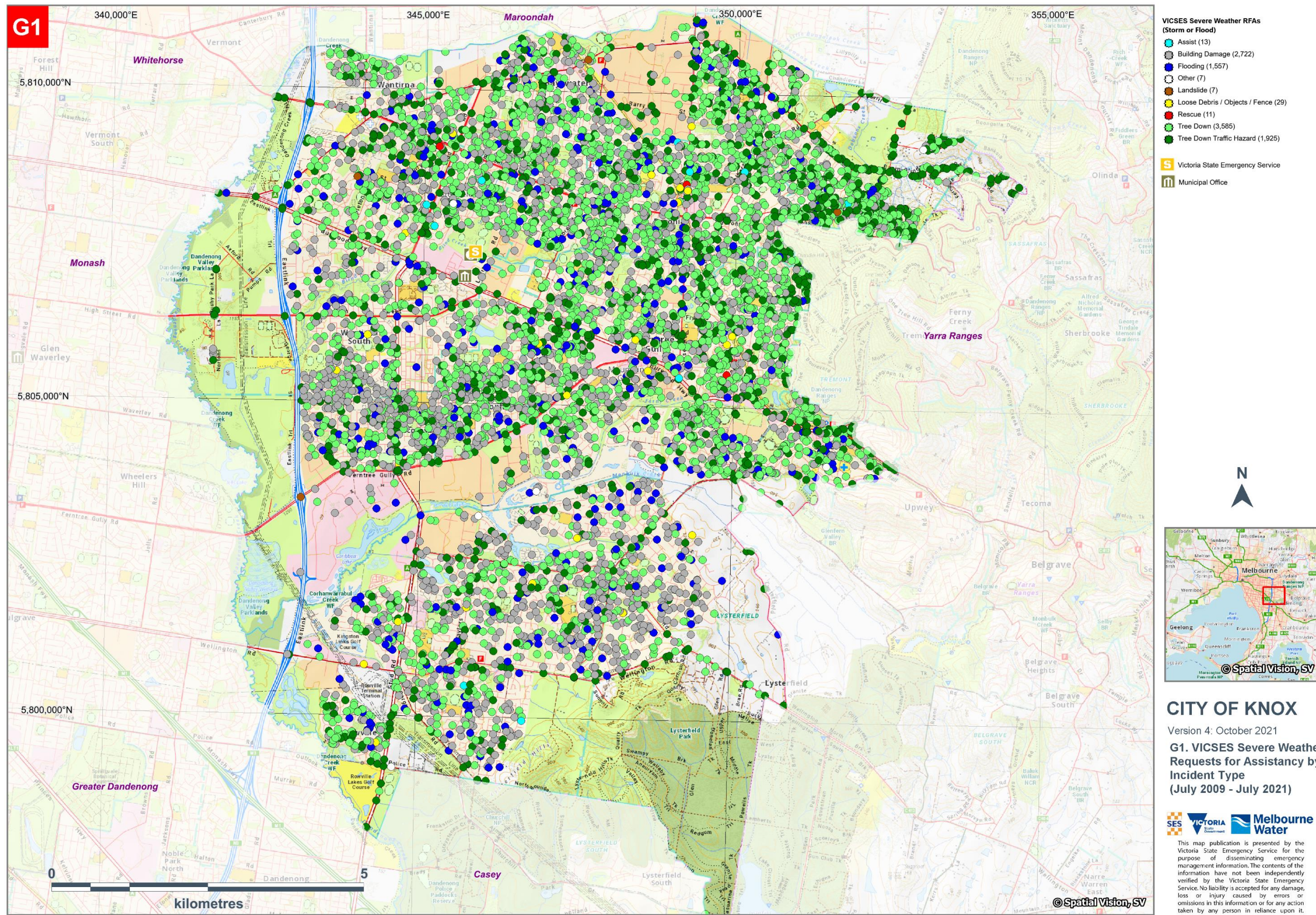
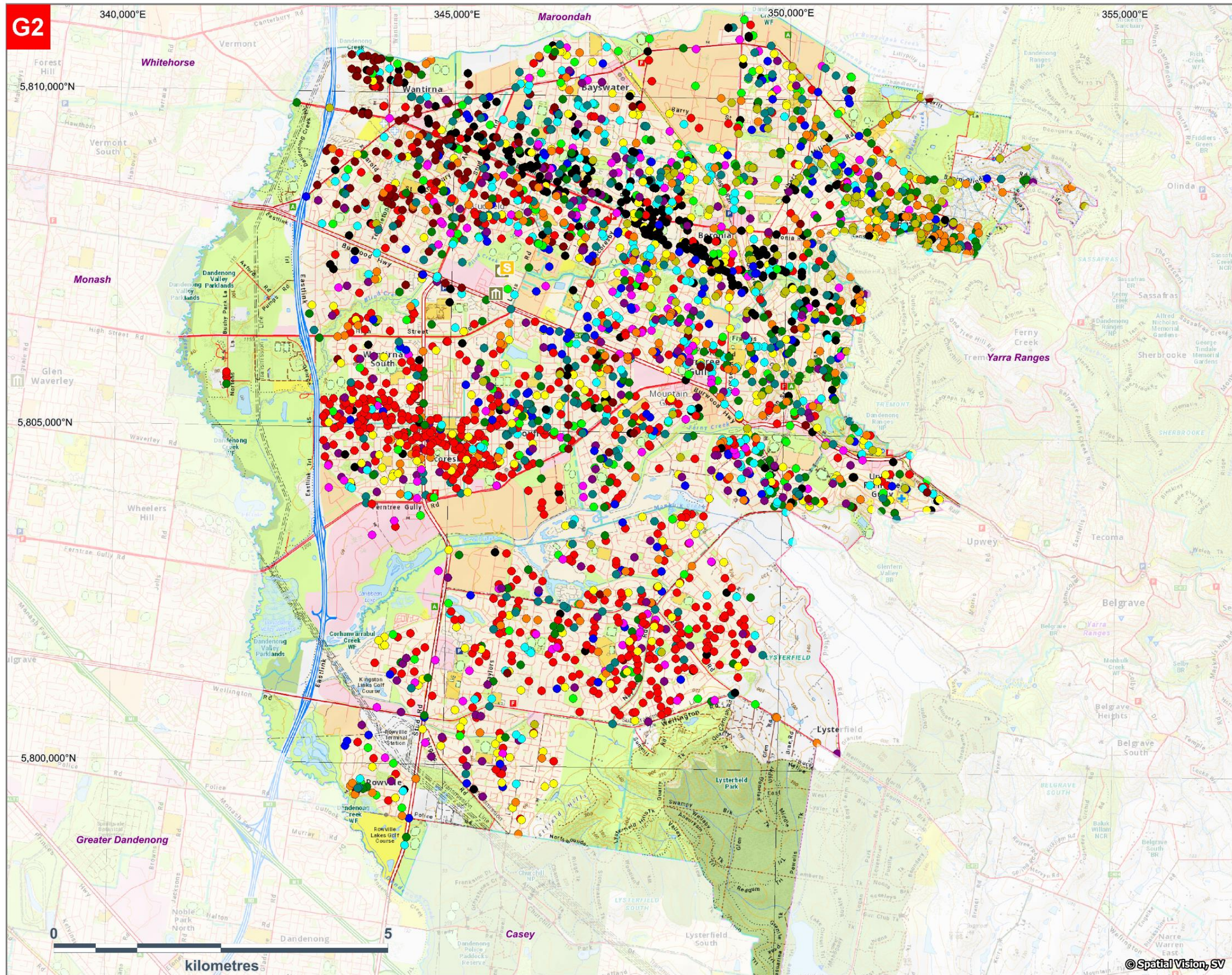


Figure 1 – breakdown of severe weather RFAs received by VICSES Knox Unit by request type

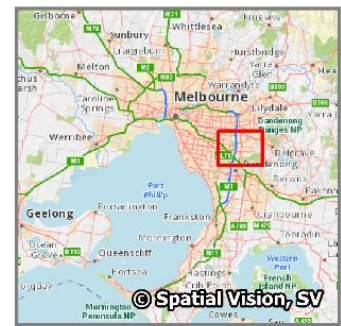




**VICSES Severe Weather RFAs**  
(Storm or Flood) > 150 Requests Received

● August 2009	(394)
● March 2010	(705)
● February 2011	(348)
● February 2012	(181)
● September 2012	(257)
● October 2013	(183)
● September 2014	(164)
● January 2015	(198)
● October 2016	(289)
● December 2017	(183)
● August 2020	(279)
● October 2020	(174)
● June 2021	(258)

- Victoria State Emergency Service
- Municipal Office



**CITY OF KNOX**  
Version 4: October 2021  
**G2. VICSES Severe Weather Requests for Assistance by Significant Month (July 2009 - July 2021)**



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Map Produced by VICSES October 2021.

Figure 2 – breakdown of severe weather RFAs received by VICSES Knox Unit by date