Heathcote Drainage and Flooding Webinar

Wednesday 29 April 2026

CITY OF GREATER BENDIGO

Welcome

Welcome and Acknowledgement of Country

Independent facilitators: Martina and Maree

One hour session:

- Clarity
- Follow-through
- Direction answers to questions

Submit questions via Q and A

Introductions

Michelle Wyatt: Manager, Climate Change and Environment

The purpose of tonight:

- Provide clear updates
- Respond to questions
- Report on commitments made in Workshop 2
- Improve how we communicate with you

Ian McLauchlan: Manager Flood Recovery and Resilience

Context

The floods were huge events in the lives of our residents.

We understand you have lots of unanswered queries and requests.

We have heard your feedback.

We are sorry.

Report card. Webinar.

We are open to suggestions on how we can improve our communication.

Themes in Heathcote

Workshop 1:

- Debris in the creek – flood and bushfire risk
- Lack of information from agencies – no “closing the loop”
- Uncertainty about whether the community can work on the creek.
- A need for a proactive conversation with Bendigo Council, Coliban Water and other relevant agencies.

Workshop 2 ‘top three’ challenges:

1. Clogged creek
2. Drainage – including in development
3. Maintenance of drainage and responsibility for a sewage pit.

Action items from last workshop

- NCCMA meeting regarding creek maintenance
  - City seeking funding for some minor vegetation maintenance/removal
- Removal of temporary silt traps (Parebin Drive) - Completed 2 weeks ago
- Enquiry regarding climate change impact of infrastructure and modelling
  - Infrastructure Design Manual references the most up to date Australian Rainfall and Run-off guidelines
  - Addendum to guidelines in 2024 to address climate change
- Sight distance concerns (height of the pedestrian bridge?) Chauncey and Caldwell Street intersection – referred to Traffic Engineer for assessment.

Items of community Interest

- New subdivisions and development
  - Most intensive development, particularly broadacre (20-30 block subdivisions), required to incorporate detention and water quality systems (e.g. 60 Caldwell Street, 63 Ebden, Station Street).
  - Generally runoff to be controlled to pre-development levels.
  - Discretionary exemptions for some infill, low density and rural residential development sites, in consideration and context of relativity/contribution within broader catchment and downstream flow paths and infrastructure.
  - The developer submits plans to the City of Greater of Bendigo (must comply with 20% of 10% of detention). For example: underground storage and pipes; tanks on site; detention basins.

- RV Dump Point
  - Managed by the City and was installed in approx. 2007 via partnership between local Tourism Board and Caravan Park and City.
  - Now reverted to full City control.
  - Active review of usage, cost and options to retain, relocate or decommission.
  - City responsible for any maintenance, blockages, spill cleanup.
  - If surcharging during floods, this is due to sewer inundation elsewhere which requires relief point.

2016 Flood Study

- Modelled several rainfall events (i.e. which vary in intensity and duration)
  - 0.5%, 1%, 2%, 5%, 10% and 20% Annual Exceedance Probability (AEP) events

Heathctoe Township - Total Design Rainfall Depths (ARR87)
Units: Millimetres (mm)

Duration	50% AEP	20% AEP	10% AEP	1% AEP	0.5% AEP
30 min	16.1	21.2	24.4	39	42.9
1 hour	21.7	28.3	32.4	52	57.2
3 hours	31.2	39.6	45	69.3	76.2
6 hours	38.8	48.7	54.6	82.8	91.1
12 hours	48.4	59.8	66.6	98.6	108.5
24 hours	59	74.4	83.8	127.4	140.2

Heathctoe Township - Total Design Rainfall Depths (ARR2024 - SSP3-7.0)
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Duration	50% AEP	20% AEP	10% AEP	1% AEP	0.5% AEP
30 min	19.3	25.4	29.3	46.8	51.5
1 hour	26	34	38.9	62.4	68.6
3 hours	36.5	46.3	52.7	81.1	89.2
6 hours	45.4	57	63.9	96.9	106.6
12 hours	55.7	68.8	76.6	113.4	124.7
24 hours	67.9	85.6	96.4	146.5	161.2

Flood Recovery Report Card – Heathcote

April 2026

Status update

Completed	To be completed	Not commenced
• **Defects** – Rectification of 100% of 683 identified defects (see map on previous page) • **Scully's Lane pipe and culvert** – Additional culvert opposite 5 Scully's Lane installed • **McIvor Creek Ecological Assessment** – Completed to inform the Waterways Flood Mitigation Action Plan • **Information on clearing the creek** – An information sheet will be available on the City's website in the coming weeks about the process for undertaking works within McIvor Creek • **Funding applications submitted** – Two grant applications submitted for drainage improvements, which were not successful	• **Midland Highway drainage upgrade (2021 Flood Study Rec)** – Major upgrade across Midland Highway down Barrack Street from Hospital Street to McIvor Creek to be completed 2026/2027. • **Caravan Park dump point –** Rectifying the surcharging that occurs during flood events (under investigation with Coliban Water) or potential relocation / decommissioning • **Waterways Flood Mitigation Action Plan** – A plan for McIvor Creek is in progress (see project description on next page)	• **Debris removal in McIvor Creek** – Management responsibility to be clarified as part of the Waterway Plan. A funding application to the Regional Flood Risk Reduction program will be submitted in late April for woody weed and flood debris removal • **McIvor Creek Trail re-instatement** – Management responsibility to be clarified • **Deadhorse Gully Trunk drain along Shakespeare Street (2021 Flood Study Rec) –** The City's external funding applications for upgrades to this drain were not successful • **Herriot Street retention basin (2021 Flood Study Rec.)** – The area identified in the study has been turned into a dog park • **Exotic tree removal (2021 Flood Study Rec)** –Possum Gully, Caledonia Gully. This work will be included in a funding application to the Regional Flood Risk Reduction Program to be submitted in late April.

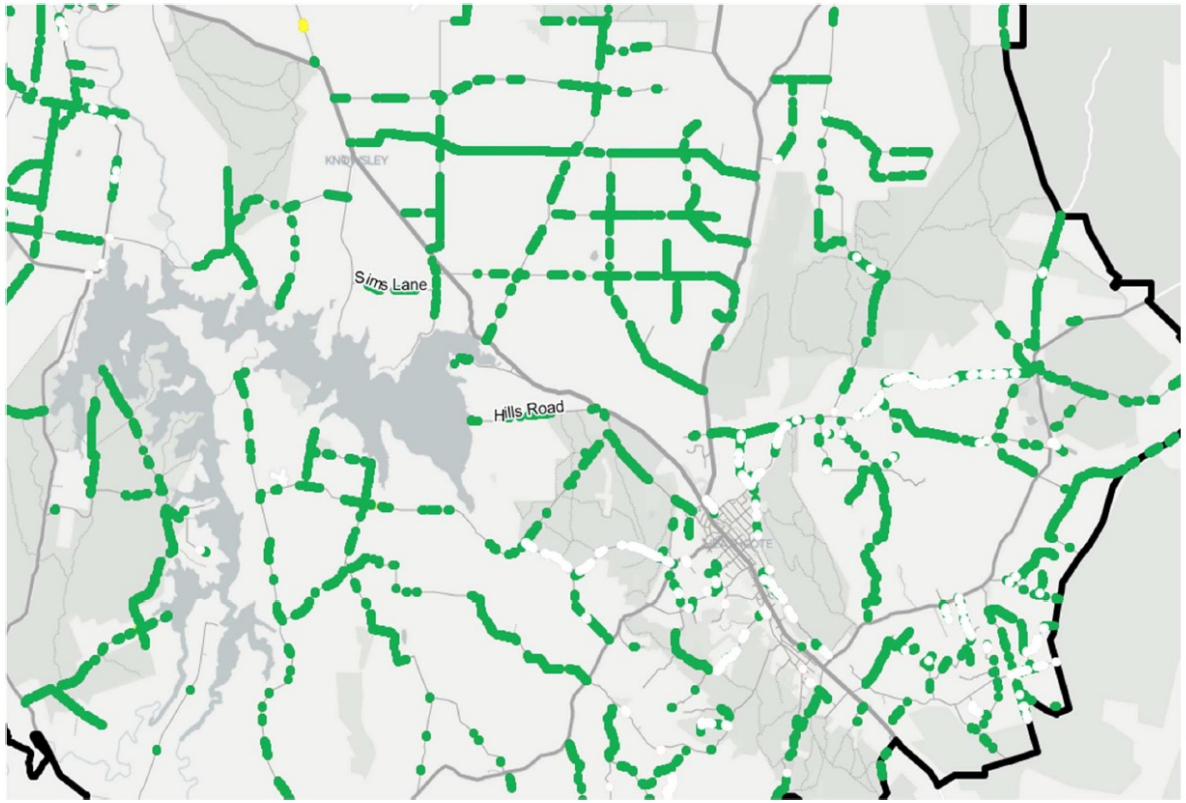
Post 2022-2024 Floods

- Disaster Ready Fund (DRF) grant application – Shakespeare Street design and delivery (unsuccessful).
- Barrack Street drainage design finalisation – delivery this year.
- Waterway Flood Mitigation Action Plan (management framework development: successful DRF grant application).
- Community engagement sessions.

Post 2022-2024 Floods

- Rectification of impacted essential public infrastructure (i.e., roads, paths, bridges, culverts etc.) – Natural Disaster Relief and Recovery Arrangements funding agreement.

Heathcote and district flood rectification works as at April 2026



Key: **Completed**

For **Heathcote**:

- 683 works identified
- 100% of works completed

These works included:

- Excavation or removal of debris
- Road and shoulder grading
- Gravel re-sheeting
- Drainage structure reconstruction
- Pothole and road repairs
- Replacing signage and guidance posts

Items of community interest

- Management of McIvor Creek
  - NCCMA has offered to support community members to apply for permits to clear the creek of debris that has been proven to impact flooding.
  - Victorian Floodplain Management Strategy outlines accountabilities and obligations for LGA's and communities wanting to manage waterway for flood mitigation purposes and what arrangements need to be put in place i.e. establishment of Water Management Scheme
  - City of Greater Bendigo, NCCMA and DEECA has sought funding for a project to work collaboratively with Heathcote community groups on improving the health of McIvor Creek ("Healthy Waterway, Safer Heathcote")

- Requests for culvert upgrades or kerb and channel construction
  - Scullys Lane – completed (Near No. 5)
  - Scullys Lane and Shakespeare Street intersection (north side) – pending
  - For other 'culverts of concern' – please email flooding@bendigo.vic.gov.au to request us to have look and consider an upgrade. We will provide a "no wrong door" to work with other agencies to work out who owns the culvert.

- Impact of Shakespeare Street / Dead-horse gully precinct flooding
  - Requires detailed design and investigation
  - Previous grant for design and construction funding unsuccessful

2021 Stormwater Investigation - Actions

Option	Description	Status	Priority / expected benefit	Cost
1. Possum Gully and Caledonian Gully	Exotic vegetation removal	Incomplete (pending grant application). October.	Low	< 60k
2. Golden Gully detention basin	Conversion of dog park to detention basin	Incomplete (requires new concept design).	Low	$1.5 M +
3. Barrack Street	Construct new trunk drain	Design and approvals completed - delivery in August 2026.	Low	Approx. $500k
4. Shakespeare Drive / Dead Horse Gully	Potential levee and drainage system upgrades	Incomplete (Applied for funding to Risk and Resilience 2024. DRF grant in 2025. Both unsuccessful).	Med	$2.0 M +

Other items

- Driveway culverts – landowner responsibility for maintenance and upgrade
  - Works within road reserve permit requirement.
  - Typically recommend minimum 375mm where silting and blockages may be an issue (300mm absolute min).

- Urban drainage systems
  - To be designed in accordance with Australian Rainfall and Runoff Guidelines (current 2019) *(Sec 16.2 IDM)*.
  - Minor residential networks generally designed to accommodate 20% AEP events (minor network) *(Sec 16.6 IDM)*.
  - Major network represented by overland flow paths (e.g. roads, reserves) up to 1% AEP event *(Sec 16.17 IDM)*.
  - Designed to the standard of the day.
  - Usually only upgraded at end of life i.e., when due for replacement (80+ year life) or where significant localised flood risk identified (e.g., above floor flooding).

- Drainage system maintenance
  - City undertakes periodic pit clearing (3 year cycle).
  - Concerns regarding drain maintenance can be reported – inspections and programming as required/resources permit.

2016 Flood Study

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Revisit of Heathcote flood studies

- Flood Study – 2016
  - First official flood study for township although historical flood mapping available
  - Comparison with historical data and observations (e.g. 1987 flood – assessed as equivalent to 3% AEP)
  - Extensive community engagement and calibration with historical information
  - Produced models for various flood events
  - Recommendations for introduction/amendment of planning and development controls
  - Flood emergency planning
  - High level consideration of mitigation options

- Stormwater Investigation Report - 2021
  - Investigate potential structural/infrastructure mitigation projects
  - Develop concept designs or project scopes
  - Evaluate benefit vs cost

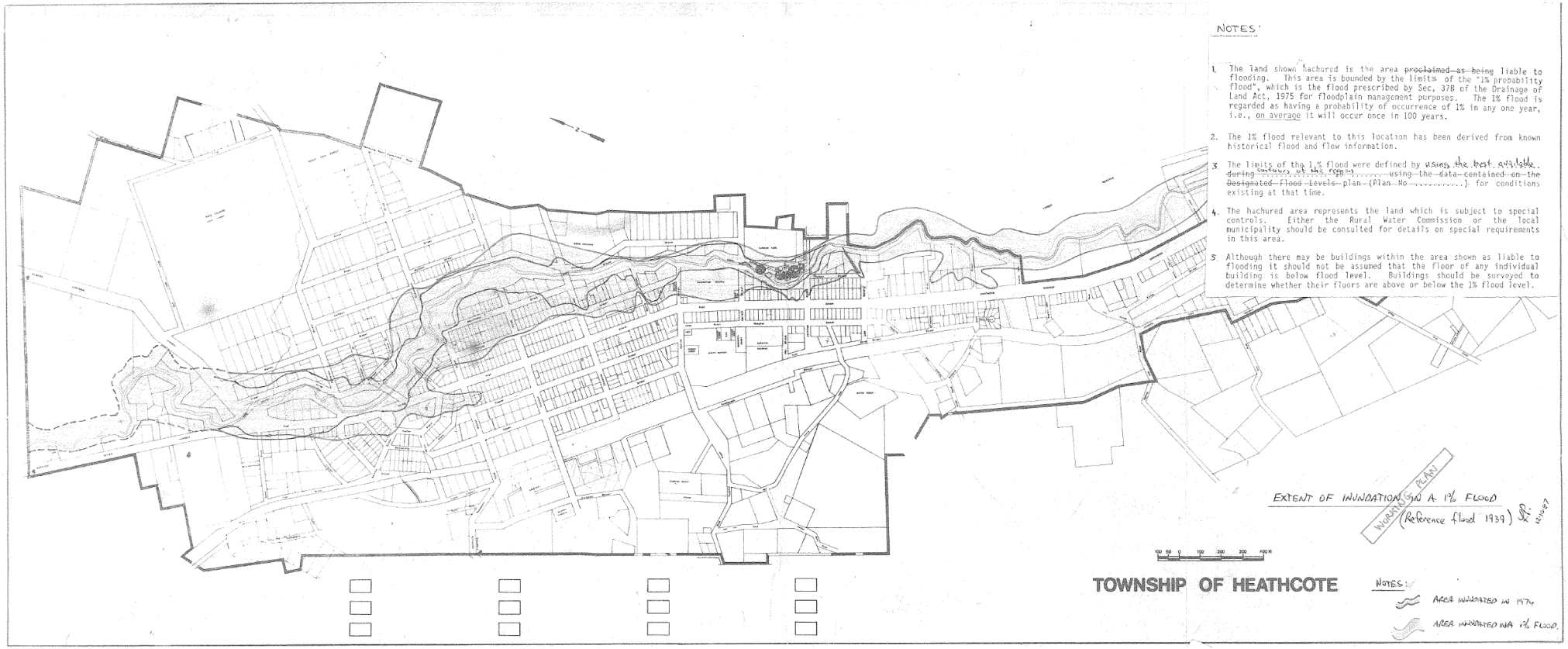
2016 Flood Study - Modelling

- Findings of modelling
  - Flooding is extensive through township however generally shallow
  - Through property flow velocities generally low, increasing in main flow paths and creek
  - Low risk away from these primary flow paths

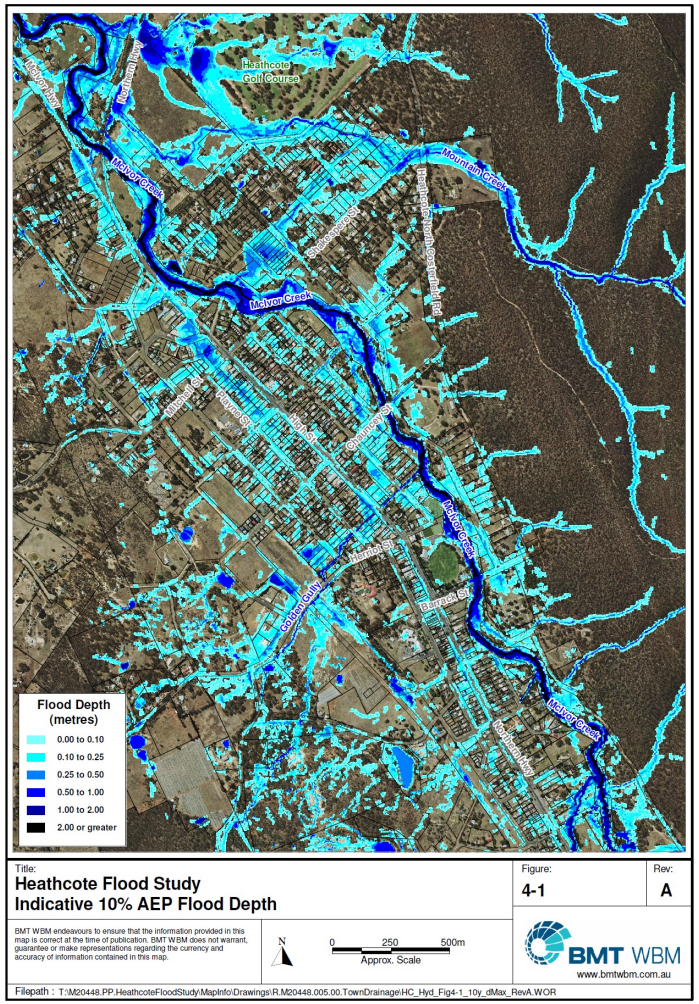
- Key points of when flooding starts to impact
  - 20% AEP event (e.g. 74mm rain in 24 hours)
    - Northern highway depth about 250mm near Clouston Court
  - 10% AEP event (e.g. 83mm rain in 24 hours)
    - Highway flooding depth increases (e.g. >300mm) and likely needs to be closed
    - Up to 14 houses at risk
    - Parts of caravan park flooded
    - Up to 730 properties with inundation
  - 1% AEP event (e.g. 127mm rain in 24 hours)
    - Up to 41 houses at risk along with SES depot, tennis courts etc.
    - Up to 942 properties with inundation

2016 Flood Study - Modelling

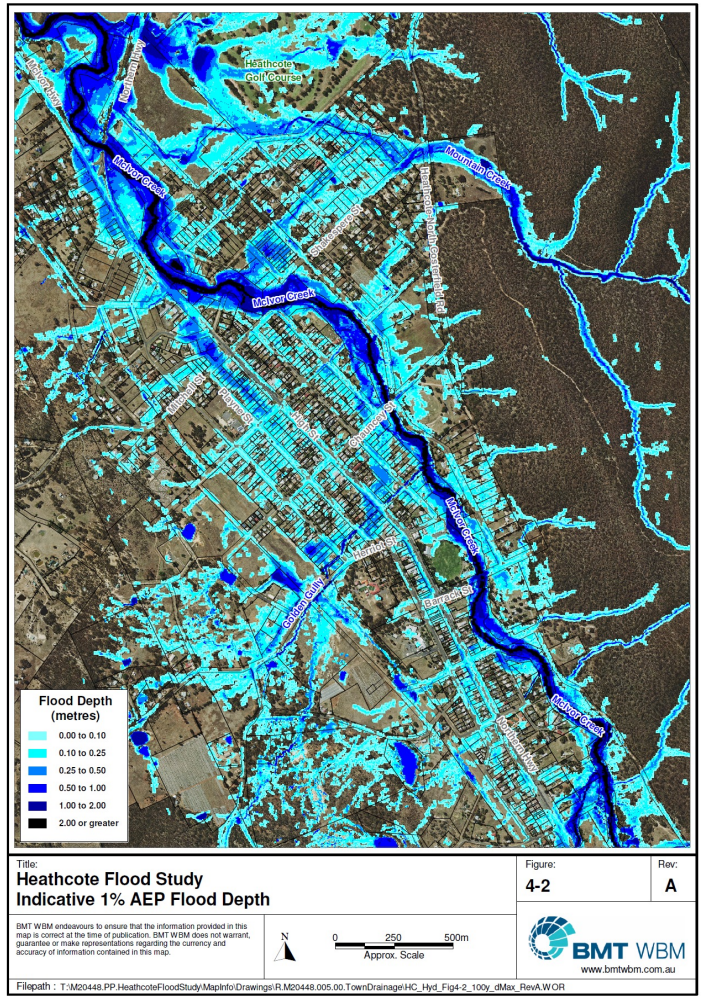
- Update from previous 1987 plan



2016 Flood Study - Modelling

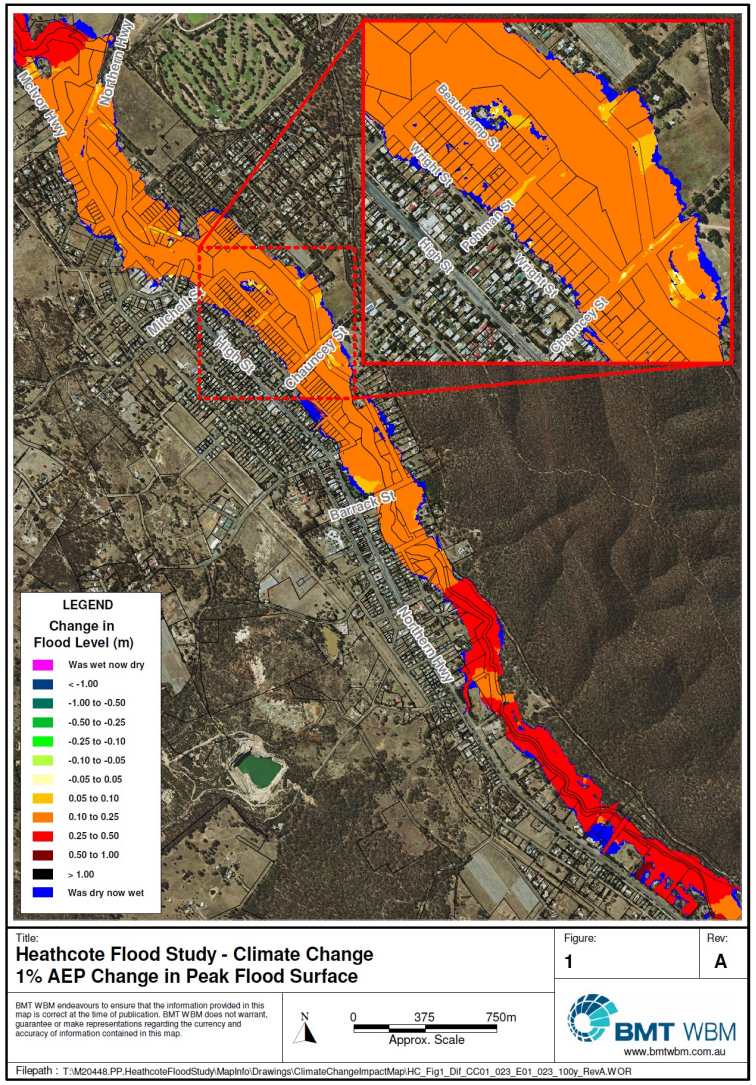


10% AEP Model

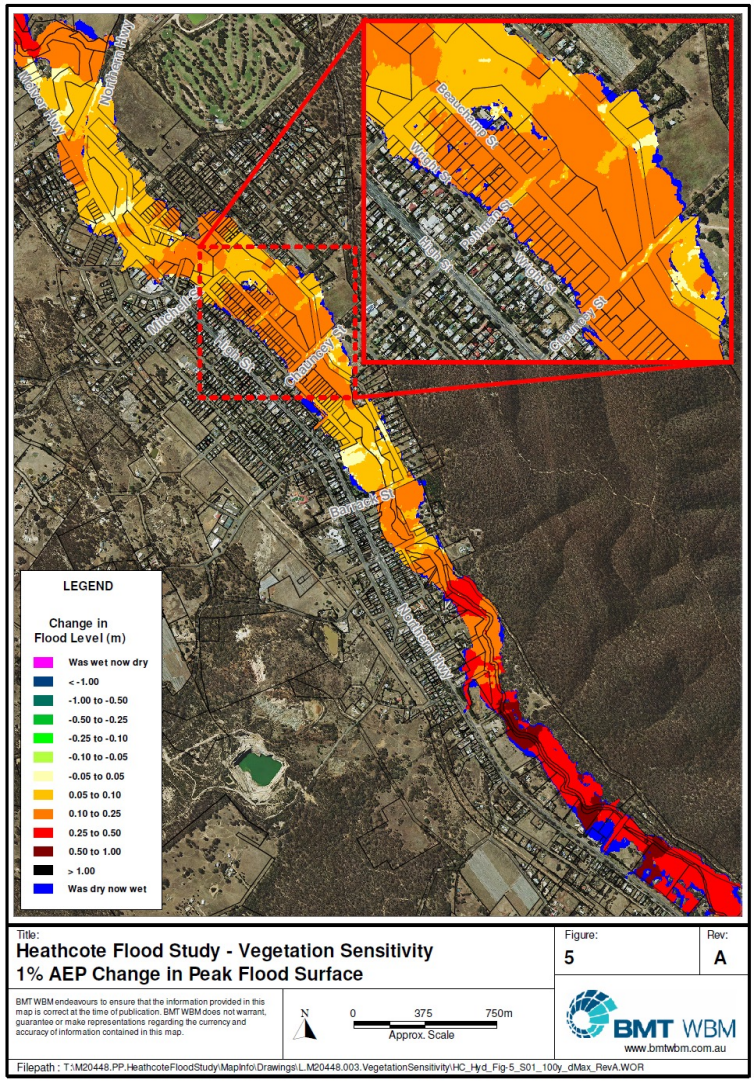


1% AEP Model

2016 Flood Study - Climate and Vegetation sensitivity models



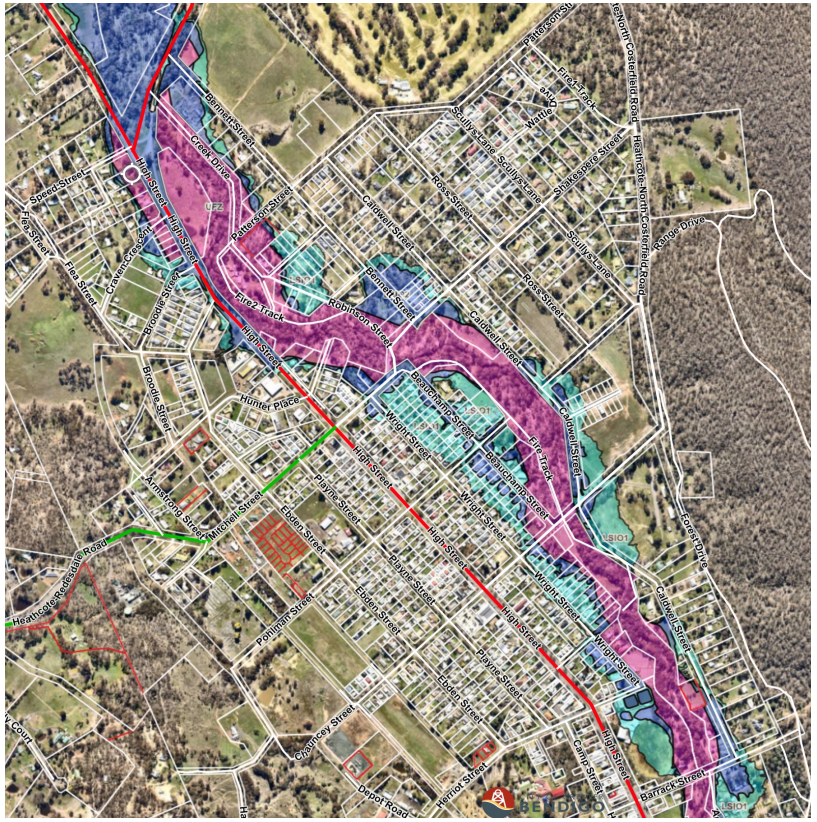
Climate Model
(20% increase in Rainfall intensity)

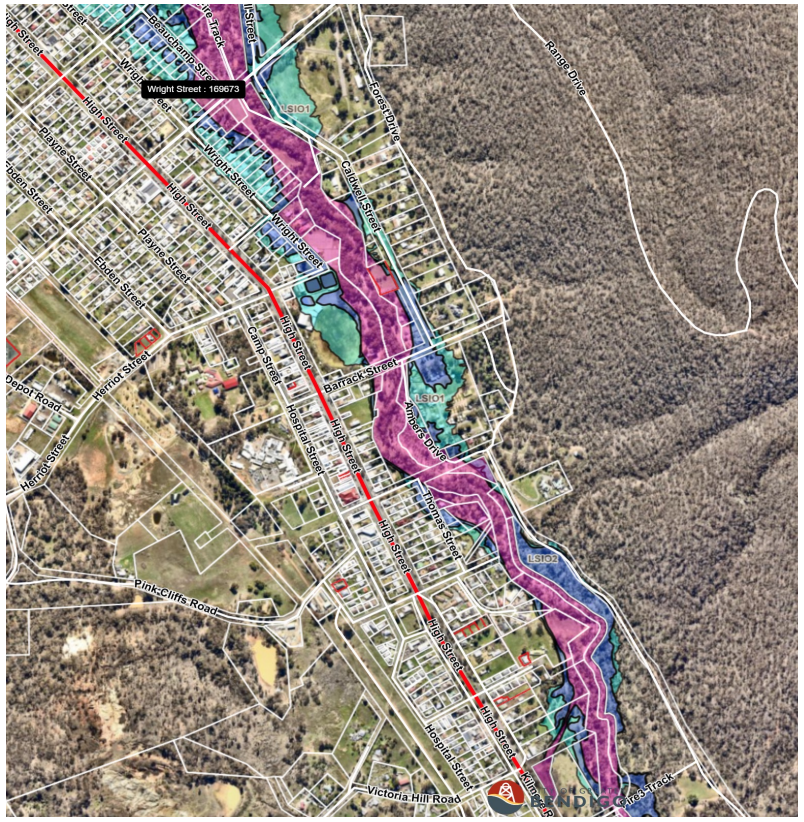


Vegetation Model
(30% equivalent blockage)

2016 Flood Study – Planning Overlays

- 1% AEP flood overlays adopted within COGB planning scheme





2016 Flood Study - Outcomes

- Recognise and accept flooding will occur throughout township
- Opportunities to reduce the risk of flooding at Heathcote through the implementation of structural measures are limited
- Focus mitigation efforts towards community resilience and awareness
- Control land use and risk via planning scheme amendment C243gben
  - Adopted in 2021
  - Amendment of planning overlays and development controls based upon modelling (existing conditions)
    - LSIO1, LSIO2, UFZ
- Consider implementing limited Total Flood Warning System (TWFS) based upon cost benefit results
  - Resourcing and planning with community required
  - Community based system (no mass alerting)
- Develop flood response plan

Time for questions

All questions raised will be captured.

Responses will be provided after tonight's session if we don't get to your question tonight.

Questions will be grouped into themes by the moderator.

Next steps

- **Workshop 3: Community action planning**
  Heathcote Bowls Club
  Thursday 7 May 2026
  Supper 5.30pm, Workshop 6pm – 8pm

- **McIvor Creek Flood Mitigation Action Plan**
  Draft released for public comment around September

- **Community Emergency and Resilience Planning**
  Community Emergency Action Plan on community website and Emergency Dashboard in coming months – led by Heathcote Safer Town Working Group.
  Ongoing community resilience function

Enquiries

Infrastructure, drainage and planning:
flooding@bendigo.vic.gov.au

Emergency management and resilience: resilienceandrecovery@bendigo.vic.gov.au

General enquiries:
1300 002 642 | requests@bendigo.vic.gov.au

Heathcote Community House – about Community Emergency Plan:
heathcotecommunityhouse3@gmail.com

Resources

Emergency Dashboard - https://www.bendigo.vic.gov.au/emergency

Snap Send Solve - https://www.snapsendsolve.com/

Vic Emergency App for warnings - https://emergency.vic.gov.au/respond/

Bureau of Meteorology (BoM) - https://www.bom.gov.au/

McIvor Creek Waterway Flood Mitigation Action Plan - https://letstalkgreaterbendigo.com.au/flood-and-waterways-studies/heathcote-waterways-study

Thank you