

Epsom Huntly Drainage and Flooding Webinar

Monday 11 May 2026

Welcome

Welcome and Acknowledgement

Independent facilitators: Martina and Maree

One hour session:

- Clarity
- Follow-through
- Direction answers to questions

Submit questions via Q & 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 Epsom Huntly

- ☐ Maintenance (culverts, channels, gutters, levees); Action and Visibility.
- ☐ Communication (lack of empathy, lack of information).
- ☐ Development.
- ☐ Road access (vulnerable people, emergency services, traffic issues).
- ☐ Lack of clarity for who is responsible.
- ☐ Issues with engineering. Lack of follow-up.
- ☐ Unreasonable expectations being put onto residents.

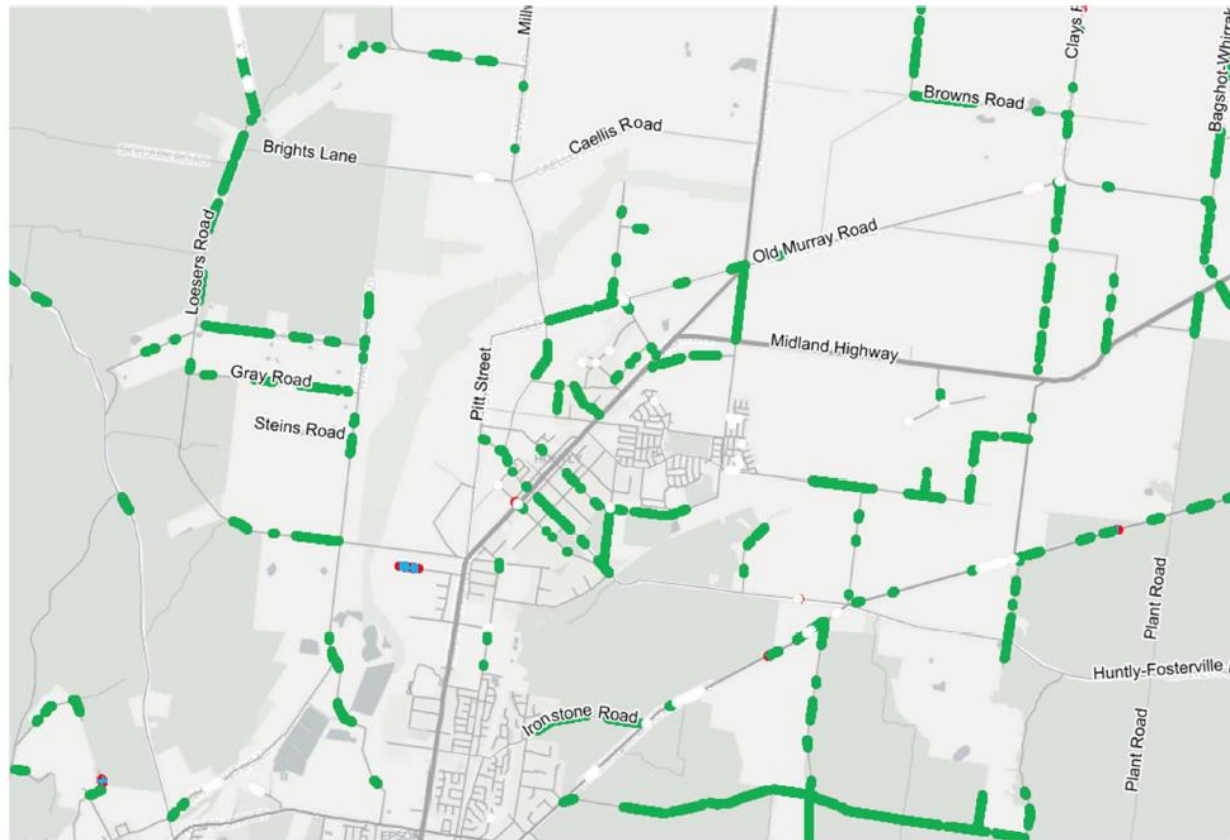
Workshop 2 ‘top three’ challenges:

- ☐ Infrastructure (culverts etc).
- ☐ Development.
- ☐ Maintenance.

Post 2022-2024 Floods Update

- Rectification of impacted essential public infrastructure (i.e. roads, paths, bridges, culverts etc.) - NDRRA funding agreement

Epsom Huntly flood rectification works



Key: Completed In Progress Not Started

For Huntly / Huntly North:

- 223 works identified
- 98% 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



Epsom, Ascot Huntly report card

Completed	To be completed	Not commenced
• Defects – 98% of 223 defects have been rectified. See map on the previous page • Gungurru Road – Pit lid alteration completed • Strickland Street / Sullivan Street – Pipe realignment completed • Goldleaf Wetland Feasibility Study – The Study found that the wetland is unviable to use as a retention basin • Back Creek debris clearance – At Airey Street completed • Epsom Huntly Waterways Ecological Study – Completed to inform the Waterways Flood Mitigation Action Plan	• Wakeman Road causeway – Sandy Creek / Inglis Road culvert and causeway upgrade. In design. To be completed 2026/2027 • Epsom Huntly Waterways Flood Mitigation Action Plan – In development for Racecourse Creek, Back Creek and parts of Bendigo Creek. See further detail on the next page • Bendigo Urban Flood Study – “Spine model update” resulting in updated flood maps to account for climate change rainfall forecasts. Completion 2026/2027 • Huntly Drainage Strategy – Updated flood modelling underway to inform the Huntly Structure Plan. • Huntly Structure Plan – See following page. • Pasley St / Rennie St intersection – Culvert upgrade on north side of Pasley Street to be completed 2026/2027 • Midland Highway culvert upgrade – At Bendigo-Tennyson Road intersection. Design underway. To be completed in 2026/2027 • Willis Road – culvert upgrade. Design underway. To be completed in 2026/2027 • Racecourse Creek and Bendigo Creek Levees – External funding applications unsuccessful. Design and feasibility to be progressed 2026/2027	• Sandy Creek Levee – Requires further evaluation based on the findings of the Huntly Drainage Strategy • Viola Road – Creek crossing upgrade. Design and construction scheduled for 2026/2027



Items of community interest

- Flood event vs rainfall context
 - More recent high intensity / duration rainfall events than historically experienced
 - Contemporary events show much higher short-duration intensities, even when daily totals are similar
 - Increased impervious areas in Bendigo and its growth corridors
 - Australian Rainfall and Runoff (ARR) Guidelines are periodically updated
 - Intensity of rainfall for various Annual Exceedance Probability (AEP) events has gradually increased

Bendigo - Total Design Rainfall Depths (ARR2016)

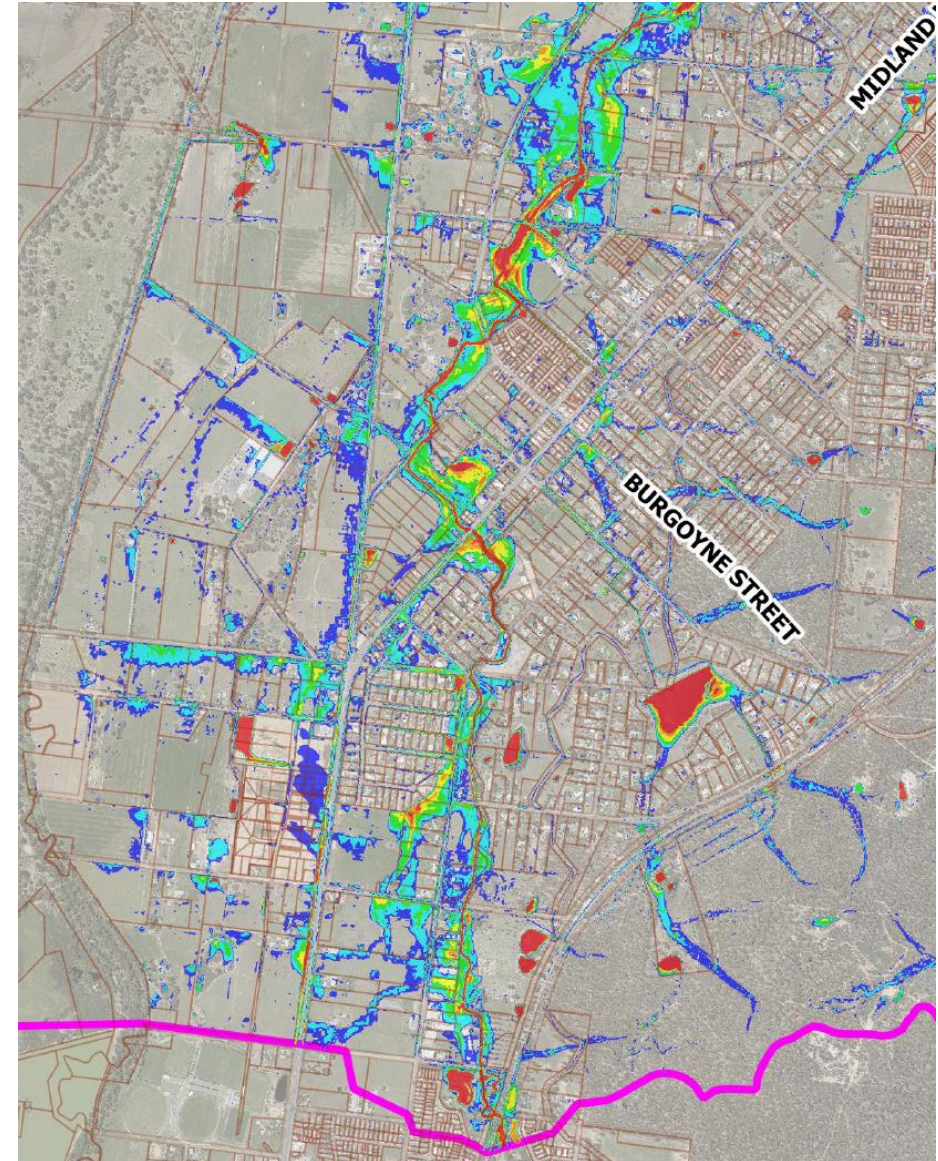
Units: Millimetres (mm)

Duration	50% AEP	20% AEP	10% AEP	5% AEP	1% AEP
30 min	12.5	18.5	23	28	41
1 hour	16	24	30	36	53
3 hours	23	34	41	50	72
6 hours	29	42	51	61	85
12 hours	38	53	63	73	98
24 hours	48	65	77	89	115



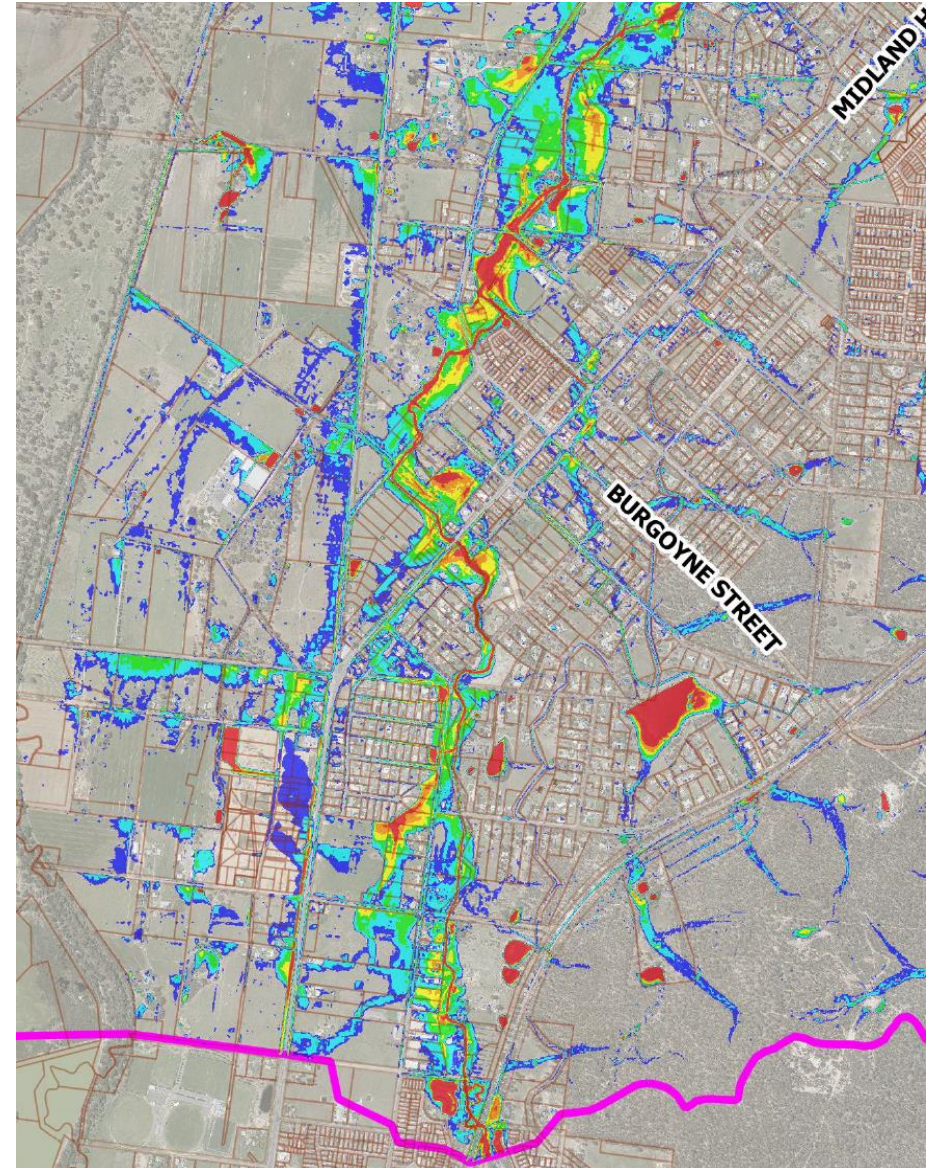
Expected observations for various AEP events based upon current modelling

- 20% AEP
 - Breakout from Back Creek engaged along Station St corridor and west of Midland Hwy
 - Sections of Station street inundation approx. 100mm e.g. near Airey St
 - Pasley Street largely contained within swales drains but overland flow engaged between Rennie and Burgoyne St
 - Highway generally unaffected but water in table drains
 - Upstream pooling and breakout at Back Creek and Midland Highway crossing near Lions Park
 - Water over roads along Wooleen Court, Oakridge drive and Ligar Street
 - Homestead estate detention basins up to 500mm depth



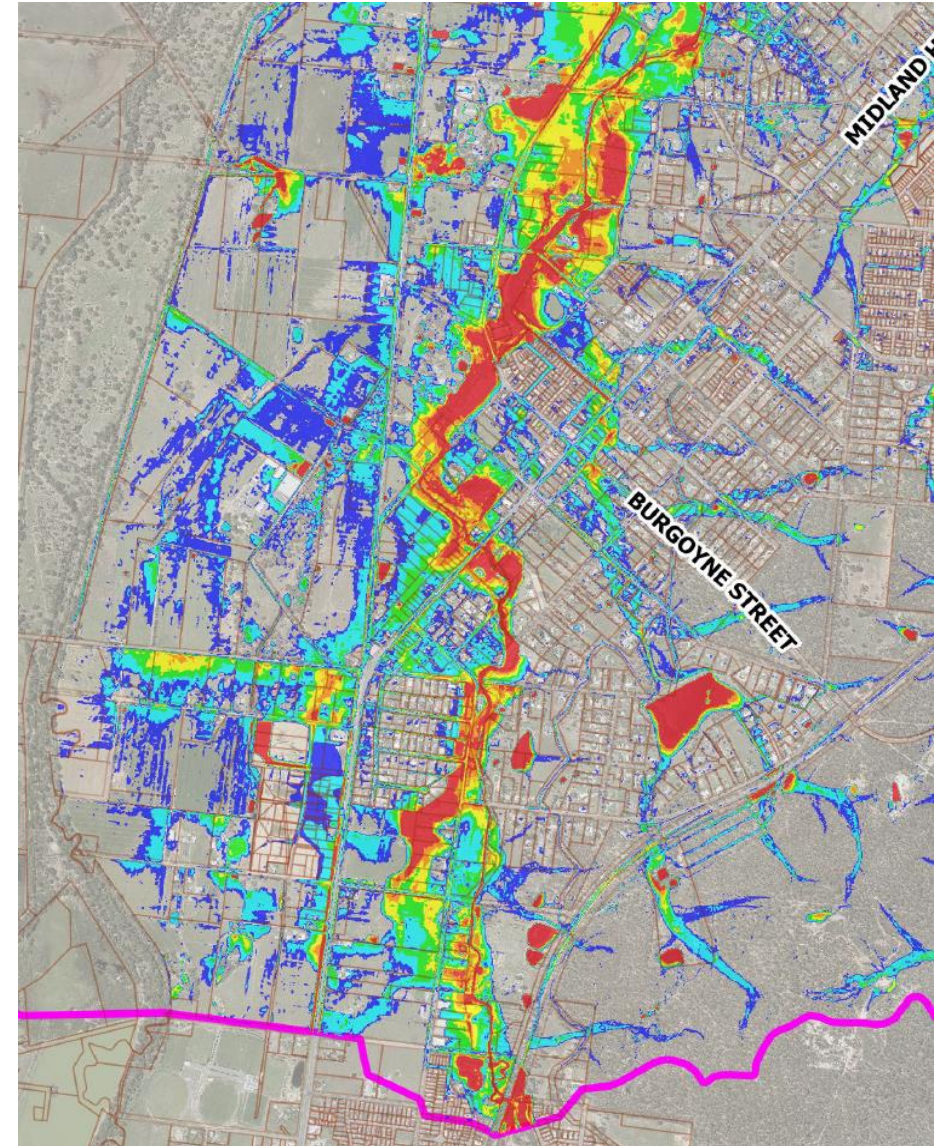
Expected observations for various AEP events based upon current modelling

- 10% AEP
 - Station Street inundation increasing to between 200mm to 300mm
 - Flooding extent and depth increasing broadly along creek corridor
 - 100mm to 200mm depth over highway near Lions park
 - Some shallow water over road along parts of Pasley Street
 - Ponding upstream of NCCMA office but minimal over highway
 - Up to 200mm over Midland Highway near Willis Road



Expected observations for various AEP events based upon current modelling

- 1% AEP
 - 400mm to 600mm inundation along Station Street – between Osullivans and Airey St
 - Highway near Lions park between 400mm to 500mm – closed
 - Up to 300mm over highway near NCCMA Offices
 - Broad flooding along Creek corridors and overland flow paths / through properties



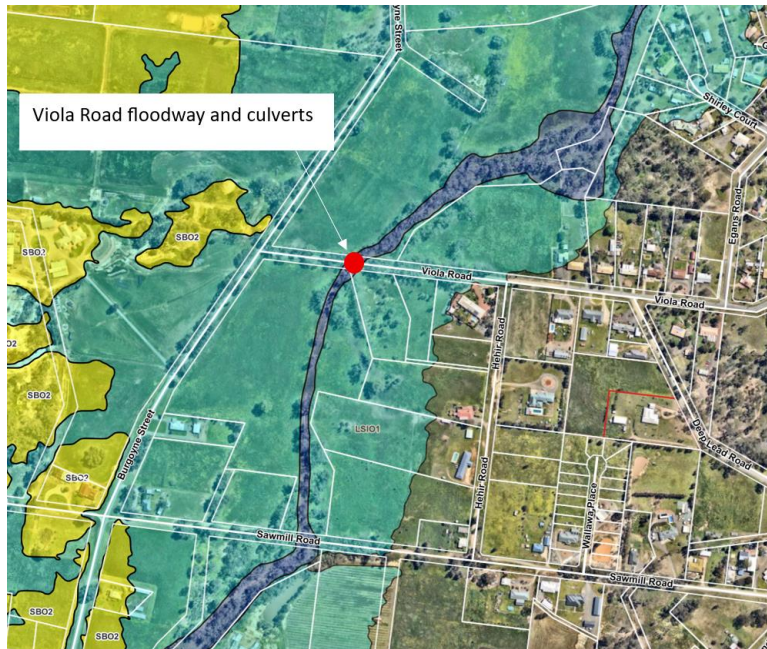
Items of community interest

- Drainage system design
 - Minor and major drainage system components
 - Minor – Pipes, culverts, pits, table drains (20% AEP)
 - Major – Overland flow paths through private properties, roads, large swales, detention basins, reserves, parks etc. (10% to 1% AEP)
 - Larger rainfall events will result in overflow of drains and culverts where water moves along/across roads and private property as breakout flows from creeks
- Road crossing design
 - Arterial roads (e.g. Midland Highway) managed by DTP
 - Design standards per Australian Rainfall and Runoff (ARR) and Austroads Guidelines
 - Local Roads – usually designed to 20% to 10% AEP
 - Major Arterials usually designed to 10% AEP
 - Design level is risk and road classification based (e.g. Depth of Water x velocity of water + road function/criticality)



Items of community interest

- Viola Road / Back Creek Crossing
 - Understood that refurbishment of crossing occurred around 2017
 - Request for re-modelling and assessment of impact to upstream and downstream catchment area
 - Consideration of further modification (e.g. lowering of road, larger culverts, concrete/sealed deck)
 - Design will assess upstream and downstream flood height change impacts



Viola Road Crossing location – 2016 Aerial Photo



Viola Road Crossing location – 2011 Pre works



Viola Road Crossing location – 2017 Post works

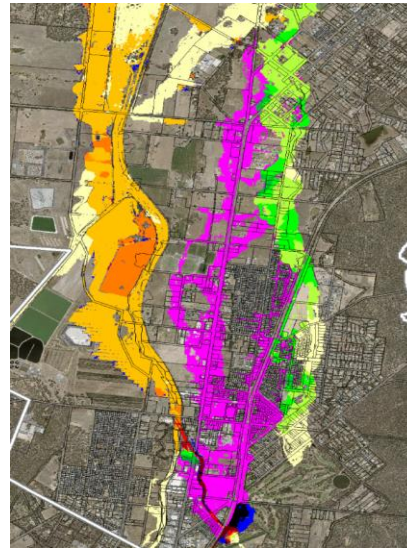


Items of community interest

- Priority Flood Study Actions
 - Racecourse Creek levee (Epsom, Ascot, Huntly Floodplain Management Strategy)
 - Prevent floodwaters from breaking out of Racecourse Creek and inundating residential areas to the north
 - **Strong performance in the 1% AEP (100-year) flood and other design events**
 - Delivers one of the largest reductions in Average Annual Damage (AAD) of all options assessed

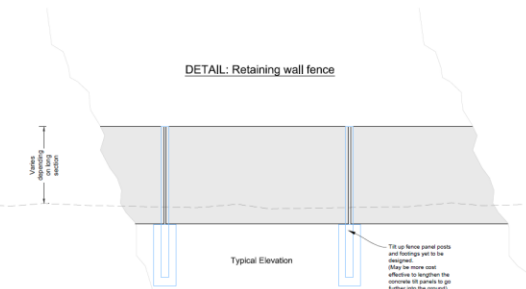
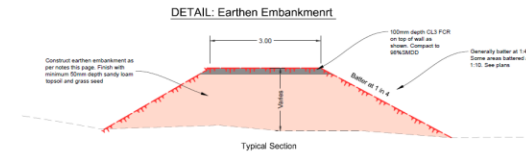


PROJECT EXTENTS



DAM WALL / EARTHEN EMBANKMENT NOTES

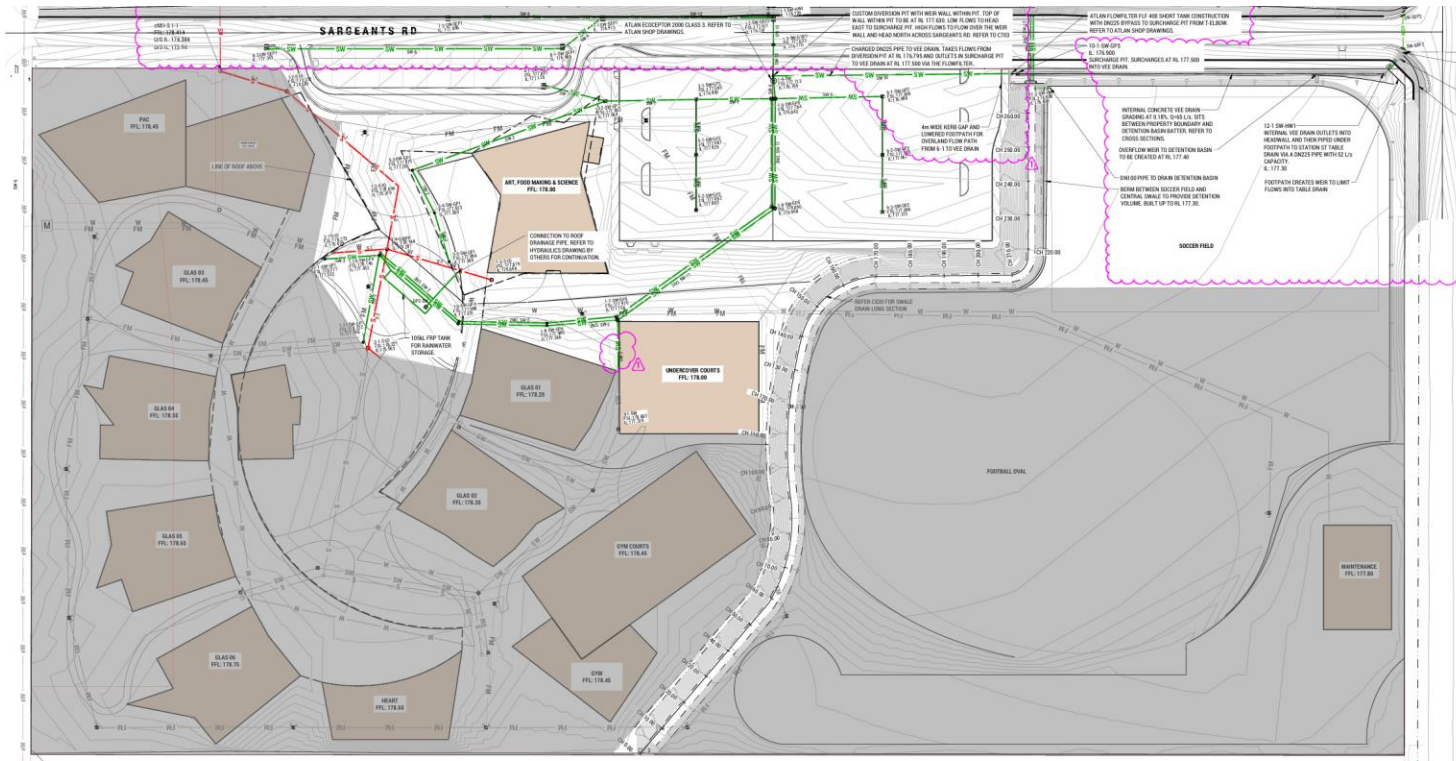
1. The existing surface under the wall structure shall be excavated to a depth of 100mm prior to construction. Unless noted otherwise, the spoil shall be stored onsite, and spread evenly over the finished wall construction.
2. Fill to be used in construction of the wall shall be approved by the superintendent representative prior to importing to site, and shall have the following properties:
 - A consistent mix of sand, gravel and clay
 - 100% clay content
 - Moisture to be non-dispersive
 - Free of any organic material or contaminants
3. Unless noted otherwise, the wall construction shall be undertaken as follows:
 - Fill material shall be within 1% to 10% of Optimum Moisture Content during compaction
 - Fill shall be placed and compacted to 200mm layers to 90% Standard Maximum Dry Density
 - Unless approved otherwise by the Superintendent representative, a vibrating pad foot roller shall be used to undertake compaction and testing between 50 layers
 - In the testing of the wall construction and moisture content shall be undertaken as outlined for Type C material in Victoria earthworks Specification 2004 section 204.14 (c) and table 204.14(c)
4. The Contractor is responsible for ensuring that all imported fill material, including topsoil, satisfies the description for class B1 material in 80% bucket publication for 400 Day B1 and subsequent revisions. The Contractor shall provide verification including test certificates to the Superintendent's Representative.
5. Any pipe intrusions through the wall are to be rubber ring jointed



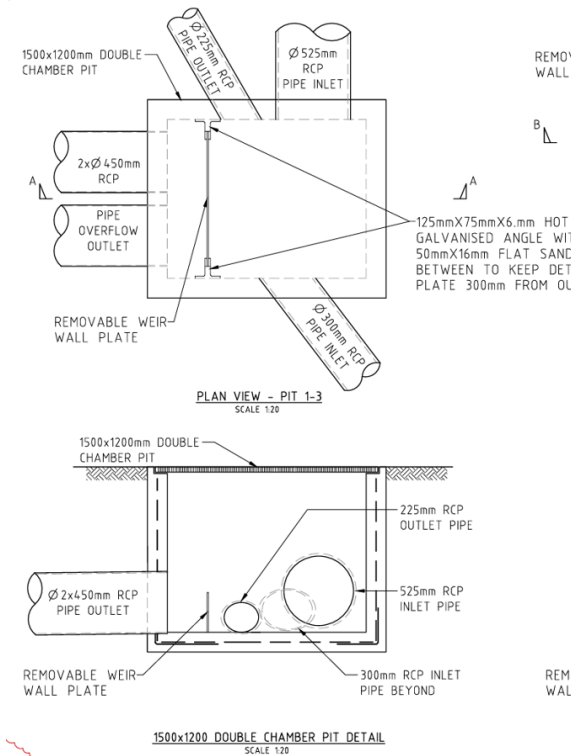
- Detention facilities (e.g. Midland Highway corridor - Tobin Crescent and Ironstone Road)



- Victory College – Sergeants Road
 - Application called in and approved by Minster (not the City) but permit did require drainage plans to be approved by the City
 - Cut and fill requirement for 1:1.3 Ratio (i.e. 30% more cut than any fill– net increase in storage on site)
 - Detention achieved using playing surfaces on eastern side of site
 - Predevelopment flow regulated to 1% AEP rate via culverts



- St Thomas Aquanias Catholic School - Pasley Street
 - Discharge at western boundary connecting to Back Creek (minimal to Pasley Street)
 - Underground pipe system to cater for 20% AEP then overland flows
 - Underground detention within pipes



Items of community interest

- Huntly Drainage Strategy and Structure Plan and Spine Model update
 - Required to inform the Huntly Structure Plan – led by City's Strategic Planning unit
 - Updated modelling including climate change scenario
 - Further mitigation assessments
 - Back Creek, Goldleaf Wetland, Pasley Street, Willis Road/Midland Highway, Sandy Creek
 - Report to be released and further community engagement on Draft Huntly Structure Plan later this year
 - Spine model update expected to be completed by August 2026



Items of community interest

- Current responsibility for Bendigo Creek and levees
 - City is responsible land manager for Bendigo Creek from Crusoe Reservoir through to Howard Street however also accept quasi responsibility for levee only between Howard and Leans Road.
 - DEECA responsible crown land manager for section between Howard and Leans Road however majority of this section of creek levee is on private freehold land
 - Management of Creek infrastructure including walls, floor and levees within this section of creek only
 - City does not inspect, maintain, renew or undertake any works on Bendigo Creek or associated levees beyond Leans Road
 - Parks Victoria responsible crown land manager for Bendigo Creek Streamside Reserve (i.e. beyond Leans Road to Bendigo Tennyson Road
 - DEECA and Parks Victoria do not inspect or maintain flood levees or consider any obligation to provide flood protection
 - Any flood levee beyond Leans Road is currently an unmanaged asset (e.g. Millwood Road levee)



Items of community interest

- Responsibility for Back Creek
 - No one agency responsible for the creek
 - Land tenure is a mix of:
 - Direct managed crown land (e.g. DEECA / Parks Victoria)
 - Reserves (City)
 - Private freehold (land owners)
 - Shared responsibility for managing and maintaining the creek based upon who controls the land
 - Crown land generally managed to a lower standard in context of flooding (not a primary consideration of the state)
 - City is has no tenure or rights to access most of the creek



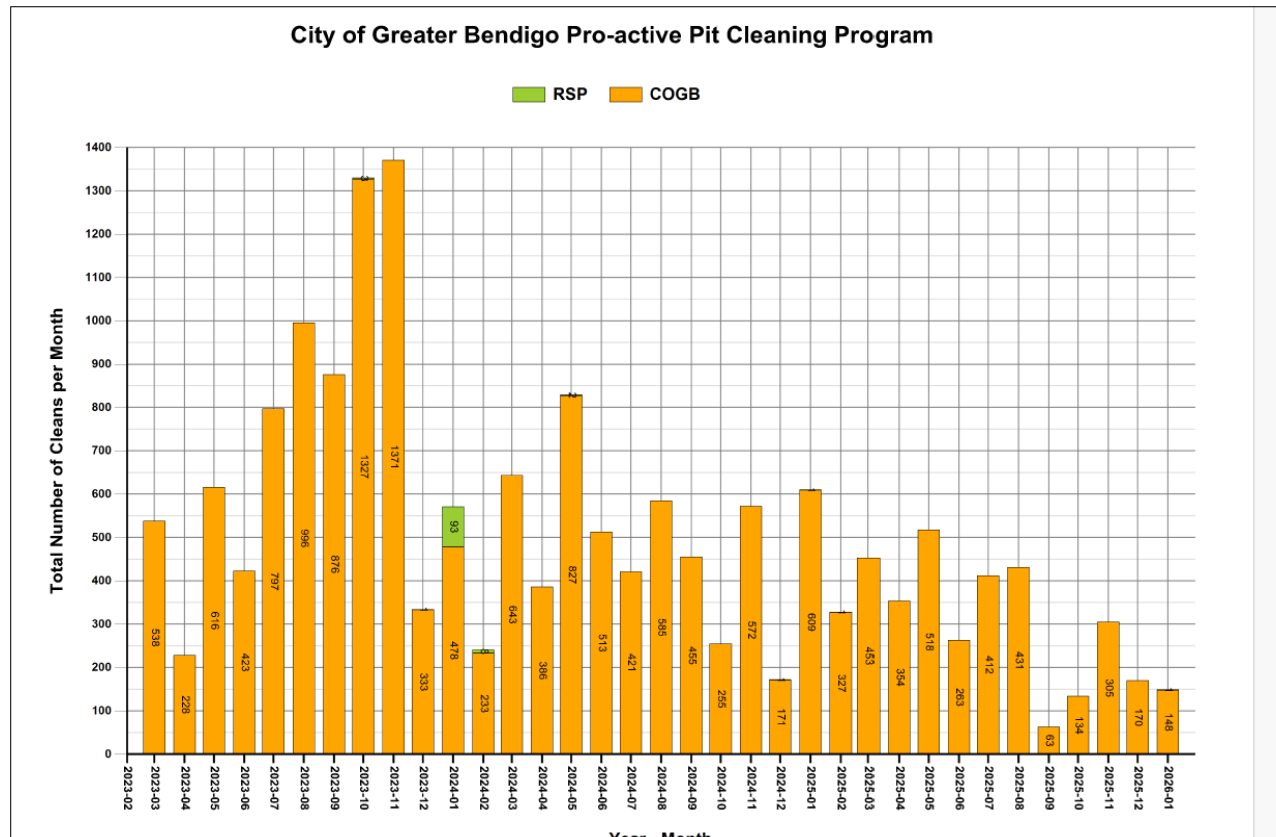
Other items

- Driveway culverts – landowner responsibility for maintenance and upgrade
 - Typically recommend minimum 375mm where silting and blockages may be an issue (300mm absolute min)
 - Landowners can undertake minor maintenance of driveway culverts and naturestrips (e.g. debris removal, blockage clearance, mowing, weed removal etc.)
- City drainage system maintenance
 - Over **52,000** pits across the City (would take approx. 13 years to clean all pits in one cycle)
 - City undertakes its periodic pit clearing on a planned **3 year cycle** focusing on approx. 30% of the pits
 - Proactive focus on on-road and high priority pits only due to resource constraints
 - All other pits inspected and cleared on reactive / request basis
 - Concerns regarding pit and drain maintenance can be reported – inspections and programming as required/resources permit
 - Similarly, roadside table drains are cleaned out reactively/proactively as resources permit
 - Roadside drain clearing usually identified during road inspections (varies depending on road classification) or via community requests.
 - Leaf litter and debris during events is common due to landscape across semi-rural / forest catchment



Other items

- Drainage system maintenance – historical pit cleaning
 - Surge resources following Oct 2022 and Jan 2024 floods
 - Typically average of 328 pits inspected and cleaned per month (16 pits per day)
 - Proactive program impacted by reactive requests

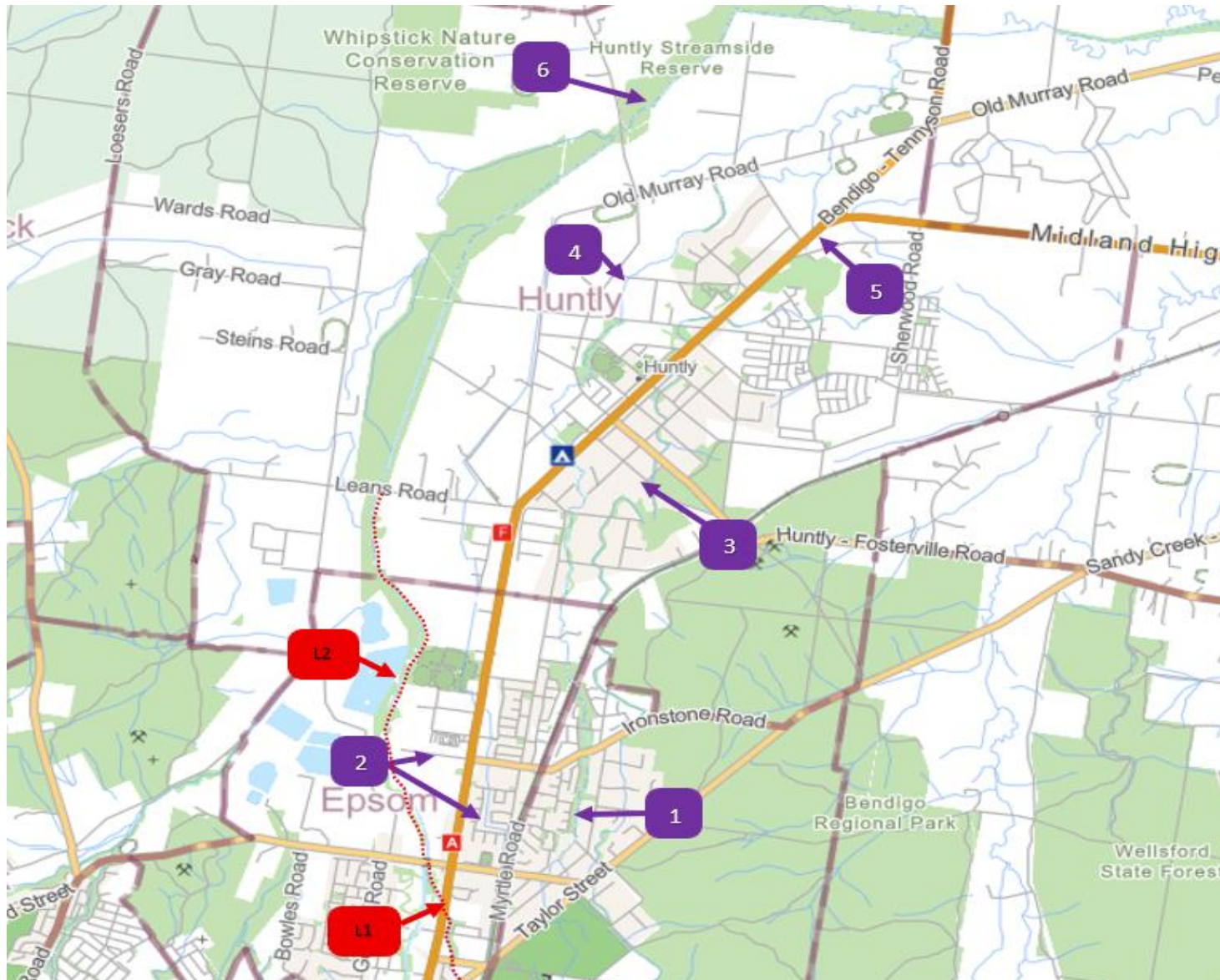


Current flood mitigation and investigation focus

- Current focus in context of levees and flood mitigation
 - L1 Design and construction of Racecourse Creek levee per action from Bendigo Urban Flood Study
 - L2 Assessment and design of levee between Howard Street and Leans Road including review/resolution of land tenure
- Other flood and drainage improvement projects in context of Epsom, Ascot & Huntly
 1. Back Creek obstructions (Howard Street to Railway Line) - being assessed
 2. Tobin Crescent basin finalisation / Ironstone Road Basin planning
 3. Pasley Street drainage scheme (assessment and design of potential pipe and pit system)
 4. Viola Road floodway analysis and design (subject to modelling findings)
 5. Midland Highway / Willis Road culvert upgrades – under design
 6. Millwood Road levee risk assessment (Banksia Road precinct – subject to modelling findings)
 7. Huntly Drainage Strategy and Structure Plan – underway



Current flood mitigation and investigation focus



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.

If you'd like a response in writing, please include your email address with your question.

Email addresses will not be visible or shared during the Webinar.

Questions will be grouped into themes by the moderator.

Next steps

- **Community Resilience Planning**
Ongoing Community Resilience Officer

Huntly Emergency Action Plan, supported by **Huntly Community Action Group**

Contact the City at resilienceandrecovery@Bendigo.vic.gov.au or

Huntly Community Action Group - huntlycommunityactiongroup@gmail.com

Enquiries

- **Infrastructure, drainage and planning:** flooding@bendigo.vic.gov.au
- **Emergency management and resilience:** resilienceandrecovery@bendigo.vic.gov.au
- **General enquiries:** [1300 002 642](tel:1300002642) | requests@bendigo.vic.gov.au
- **Huntly Community Action Group** huntlycommunityactiongroup@gmail.com

Resources

Vic Emergency App for warnings or online:

<https://emergency.vic.gov.au/respond/>

BoM App for weather and warnings or online:

<https://www.bom.gov.au/>

Current waterways and flood studies on Let's Talk:

<https://letstalkgreaterbendigo.com.au/flood-and-waterways-studies>

Epsom & Huntly Waterway Flood Mitigation Action Plan -

<https://letstalkgreaterbendigo.com.au/flood-and-waterways-studies/epsom-huntly-waterways-study>

Thank you