

Case Study: Merri-bek City Council Stormwater Mapping Program

This case study has been developed to share key insights and lessons from Merri-bek City Council's experience in running a stormwater mapping project within their community. By providing this information, the aim is to assist and support other councils considering similar initiatives. Through this document, councils can gain valuable knowledge on best practices, challenges, and approaches, helping them make informed decisions when planning their own flood mapping programs.

Project summary

Merri-bek City Council (Merri-bek) recognised the need to update stormwater mapping and policies to improve planning controls around stormwater management, following observation of weather changes and more frequent, large storms.

This case study provides an overview of the project to update the stormwater map and to place it under the *Building Regulations 2018*. It also includes an overview of the communications and engagement program that supported the project. Merri-bek delivered a two-pronged technical project (mapping and drainage network improvements) over more than 6 years alongside a two-phase community engagement approach.

In recognition of this, in 2018 Merri-bek started a project to prepare a new stormwater map and include a final map in the Merri-bek Planning Scheme, through a Special Building Overlay Schedule 2 (SBO2). This SBO2 is for the city's local drainage areas, where council is the drainage authority. Specialist drainage engineers were recruited by Merri-bek to prepare the map, which affected about 12,000 properties.

An initial map was prepared in 2021 and shared with affected landowners. The map was prepared using drainage information, images, rainfall data and the latest technology to replicate a 1-in-100 year storm. Put simply, this map showed where stormwater is expected to flow during large but infrequent storm events. The map was developed to help ensure new buildings and structures address stormwater flow hazards on land.

Following public feedback, the drainage engineers and Merri-bek refined the map. After data validation work was done, an updated map was prepared and shared again with landowners in 2023.

A communications and engagement program was developed and delivered to support the release of stormwater maps to landowners. This was critical to help the community understand the map's purpose, why changes were made, how they could give feedback and ask questions.

From late 2021, the initial stormwater map has been used to inform building permits. This was possible because Merri-bek designated the map under the *Building Regulations 2018*. This means the map is being used by people who want to build on land affected by the new 1-in-100 year stormwater flows mapping.

In mid-2025, Merri-bek worked towards putting the final map into their Planning Scheme, to inform planning permits, through a Planning Scheme Amendment (PSA) process. Exhibition of the map was open from mid-2024 to early 2025 and received 94 submissions. In May 2025, an independent government-appointed planning panel advised that four submissions requested to speak at the hearing.

Merri-bek's efforts have included a map review process, giving an opportunity for landowners to provide information and enabling the specialist drainage engineers to review land conditions before recommending any further map changes.

IN August 2025, the planning authority decision was that the map is adopted.

Timeline

When	What
Pre Stormwater map project	
Pre 2016	Melbourne Water enables a PSAs to include LSIO and SBO1 maps in the Planning Scheme for main drainage catchments.
2016	Merri-bek starts work on a Drainage Improvement Plan and associated stormwater maps to identify 'hot spot' locations for drainage works in local drainage catchments.
Stormwater map project	
2018	Work program began to prepare an initial stormwater map for the local drainage catchments. <i>Note: Covid-19 pandemic impacted timing of next stage</i>
2020-21	Merri-bek released an interim stormwater map for land development. Initial landowner engagement and Building Regulations designation complete. 'Report and Consent' process for building permits began. Local catchment models given to Melbourne Water.

When	What
2021-22	Drainage Improvement Plan begins to inform Merri-bek's annual capital works program for works at 'hot spot' locations. Merri-bek updated drainage maintenance service at 'hot spot' locations. Merri-bek established a Climate Change Strategy & Action Plan to reinforce the importance of 1-in-100 year stormwater mapping.
2023	Melbourne Water's 2023 'whole of catchments' modelling completed and used to inform the Merri-bek's updated stormwater map. Landowner engagement for the updated map completed. Updated map further refined from engagement feedback. Building Regulations redesignation complete. Merri-bek endorses map and seeks Vic Gov authorisation for SBO2 proposal.
2024 - 25	Planning Scheme Amendment (PSA) public exhibition process open from mid-2024 to early 2025, enabling another map review process for landowners. A planning panel hearing occurred 12 and 13 June 2025
2024-25	Planning authority decision was adopted on 13 August 2025

Project governance

Merri-bek established a structured governance framework to deliver the project, guiding the project from technical decision-making through to community engagement.

Project Control Group

Senior Managers and Directors
Used Terms of Reference and met at key project milestones

Project team

Lead by a Project Manager
Support with staff and line managers

Working Group

Officers from: Engineering, Statutory Planning,
Open Space, Maintenance, Communications &
Engagement

The project and communications and engagement teams worked closely together to:

- review the project plan drafted by planning team, using a template.
- provide feedback on website collateral created by the project team.
- facilitate working-group process to create an engagement website, the group included; GIS specialist, strategic planner, drainage engineer and a website designer.

Merri-bek's approach was aided by having a strategic planner with experience in similar SBO engagements at other councils and at Melbourne Water. This is less likely for other councils.

Internal briefings to the Project Control Group:

- Enabled up-the-line communication. When no major update was needed, a pre-recorded AV update was used to share progress.
- Saw the Planning Department director and manager acting as cross-organisational champions.
- Met after Working Group meetings. This was the forum for technical discussions and sometimes involved specialist engineers who prepared the map.

An MS Teams channel was also setup for managing day to day remote communications between team members. This channel was helpful to provide daily updates to the team working across various locations and ensured a coordinated approach to managing customer interactions.

Communications and engagement approach

Merri-bek recognised the need for focused communications and engagement to support the project and developed a plan at the beginning of the project's planning stage. Early

planning and focused efforts on communications and engagement, meant there was sufficient time dedicated to understanding the project, aims, nuances and how to best support the community by considering activities, channels and timing.

The overall approach to communications and engagement for Merri-bek's Stormwater Map Program was to:

- Have the map created from a sound, accepted and tested technical process by experts.
- Ensure all affected landowners were made aware and had an opportunity to get involved.
- Determine and prepare response for community's key interest topics.
- Imagine this isn't just about a map. It's about anything the map could be associated with.
- Avoid using 'flood', instead used 'stormwater overland flow'. Only use flood when conversations turn to rivers and creeks.

Recognising that affected landowners would have a range of emotional responses to the stormwater map was a significant step in the engagement process. In the first phase of engagement, Merri-bek learnt anger and denial were commonly felt among affected landowners and were mindful that respectful, and sensitive conversations were needed.

Merri-bek used the Kubler-Ross change curve as a useful tool to help communicate the benefits of a stormwater map with landowners.

The communications and engagement strategy was structured in two key phases to ensure ongoing community involvement and feedback. This two-phased approach allowed Merri-bek to build awareness early, gather critical insights and refine and review the engagement approach as the project progressed.

Staff involved in discussions with landowners also received in-house training, role-playing for different customer scenarios.

Phase 1: Engagement for initial map

2 months, mid 2021

- Initial mailouts to affected landowners, explaining the project and potential impacts.
- Information sessions and meetings with landowners to gather preliminary feedback.
- Online engagement tools providing interactive maps and FAQs.
- Discussions with landowners in different suburbs, to ensure voices from diverse community areas were heard.

- Engagement feedback discussions with some landowners, to help review and refine the engagement approach.

Following phase 1, Merri-bek took around 6 months to build and test a final website, including various types of collateral (posters, videos, fact sheets). Merri-bek applied learnings from phase 1 to improve phase 2.

Phase 2: Engagement for updated map

3 months, late 2023

- A series of mail-outs reinforcing key messages and inviting participation for affected landowners.
- Face-to-face engagements, including doorknocking and site visits for face-to-face landowner interaction.
- Site visits that involved the specialist drainage engineers who prepared the map.
- Many telephone conversations, emails and meetings with landowners.
- Translation services and culturally appropriate communication strategies to reach CALD communities.
- Additional information sessions and awareness efforts targeting affected landowners.

Phase 3: Exhibition of a planning scheme map

6 months, mid 2024

- A series of mail-outs reinforcing key messages and inviting participation for affected landowners.
- Face-to-face engagements, including doorknocking and site visits for face-to-face landowner interaction.
- Site visits that involved the specialist drainage engineers who prepared the map.
- Translation services and culturally appropriate communication strategies to reach CALD communities.
- Many phone conversations, emails and meetings with landowners.

Community engagement tactics

Merri-bek developed a range of collateral and tools for affected landowners, enabling two-way communication across various mediums for landowners to engage and ask questions.

Engagement webpage

The team built a dedicated project website on the Merri-bek City Council online engagement platform. The project had a home page and three sub-pages which had:

1. **Project overview** including an online map where the community could view the stormwater map, input their address to find out if their property was affected and easily access information, ensuring the language used on the map was plain English.
2. **Question and Answer (Q&A) library.** The Q&As were developed from what Merri-bek heard from people during the first phase of consultation. These Q&As are structured under six themes for: Understanding Stormwater; Stormwater Maps; Planning Scheme; Land Development; Stormwater Infrastructure; Other Questions.
3. **Information session booking.** This is where residents could book face-to-face information sessions when they were open.

Collateral

A range of collateral was used, including generic letters to impacted landowners, audio visual assets such as video, photos, posters and fact sheets. These were available in hard copy and online.

Information sessions (face-to-face)

Merri-bek held five sessions over a range of morning and evening slots in 2021 and again in 2023. Affected landowners were able to book an appointment during any of these sessions, when they could meet Merri-bek staff and the specialist engineers who prepared the map. All enquiries and responses were logged in a project spreadsheet.

Direct contact points

Community members could email directly, call, attend council and have ad hoc meetings where necessary if they could not attend any of the information sessions. These contact points were promoted through all collateral and was online.

When they received enquiries, the Merri-bek responded in the same format that they received the enquiry. For example, if someone had called with an enquiry, they called back as that person was indicating through their action that they prefer verbal communication. If a resident wrote an email. They responded back with a written response. Where they met people face-to-face, they brought along visual tools to help explain information.

Key messages for the community

Merri-bek recognised the need to develop key external messages to help inform consistent communication with affected landowners. Recognising that the project was technical, they developed key messages such as the below to keep it as simple as possible for community members to understand. At a high level, these were:

- This is about a stormwater map. It's used when you want to develop your land.
- If you're not developing your land, the map sits on a shelf in a rule book. It only gets activated when you want to develop your land.
- Other councils have already done this. We're picking up on work that many have done before us.
- We'll answer your questions. If you've got other questions that come up for you later, come back to us and we'll answer those as well.
- We're here to help and listen to you if you have concerns.

Key messages about the map

- The map is not about riverine flooding
- The map does not stop development
- Experts prepared the map
- Land values not affected
- Insurance for storm damage and flood damage are different matters. Check your policy and talk to your provider
- The maps need to be in the Planning Scheme
- Merri-bek's capital works program goes to priority locations to reduce stormwater hazards at these places.

The key messages were then expanded on based on community feedback and questions. For landowners who focused on separate topics, Merri-bek developed secondary key messages which at a high level were:

Infrastructure: Merri-bek has an infrastructure upgrade program, and we go to priority locations to do upgrades. These locations are in a plan. The plan is available from our website.

Maintenance: If you see a drainage maintenance problem, take a photo and send it to us so we can organise a maintenance team to do the work.

Repairs: If you see a drainage repair problem, take a photo and send it to us so we can consider the need for repair works.

Upgrades: Merri-bek's design standard for the local road and local drainage network is the 5yr storm event. We've known where we have some hotspots, so we go to these locations to upgrade to a 10yr standard where we can. The 100yr standard is a planning/enviro standard that (for established-suburb councils like Merri-bek) is used for creating maps to prompt good land development outcomes.

Insurance: Check your policy and see what it says about 'storm damage', talk to your provider. The ICA tells us that generally, insurance cover for 'flooding' and 'storms' is treated differently.

Property value: There's no evidence that such maps affect property value. Another council has looked at this issue and had a land economist/valuer offer feedback. They say, 'no evidence', and land value is determined by the interplay between various other factors.

Culturally and Linguistically Diverse (CALD) communications

The communications and engagement plan included tactics to communicate with local CALD audiences through:

- Talking to local CALD champions (community connectors program for council-led projects)
- Key messages translated into 10 languages (brochures)
- Website able to change for selectable language preference (engagement website and corporate website)
- Access to council staff who speak different languages, in-case needed for over-the-counter enquiries
- Telephone language translation service if no face-to-face option is available

- Smartphone language translator (useful for site visits)
- If ever a customer appeared to have limited English vocabulary, asking if they wanted someone to help (i.e. friend, relative).

Influence of community feedback on the final map

When the map was initially released in 2021, Merri-bek received a variety of feedback, ranging from specific questions (i.e. how the map was developed and specifications around their property) to feedback that was outside the scope of the project (i.e. about council assets) which were directed to the appropriate area of the council.

Affected landowners sometimes gave detailed feedback about their property and local knowledge about how stormwater flows on land. For example, the map may have assumed their property is impacted by a 1-in-100 year storm event based on modelling; however, the owner could show that may not be case – due to prior property development or recent changes to land levels.

Each item of feedback was considered, and amendments were made to the stormwater map were valid. Information was validated by an independent consultant who checked the supplied information against observations from property visits. In some cases, the validation could be done while the property owner wasn't present (with permission provided) and in other cases, the property owner wanted to be present. In these cases, the council team attending ensured they understood the property owner's points of interest and could adequately prepare prior to the visit.

Merri-bek had community feedback independently reviewed by the external technical expert. They had two survey field teams to do this work; one team of technical experts to observe land levels whenever the landowner was not present. Another team of both technical experts and council officers to meet face-to-face with landowners to address concerns, whenever a landowner said they wanted to attend the site visit.

Merri-bek had anticipated that landowners would have questions and raise concerns outside the project's scope for creating the map. This was around things such as council asset management, local infrastructure issues and capital works. To tackle this challenge, the project team always ensured they brought the documents to the key project outcome – getting the map in the planning scheme. They did this as they recognised that if scope grew, the project aims would get lost.

Lessons learned and helpful tips

Project

Don't rush the planning

Engage with councils that have undertaken similar projects at the planning stages to help streamline processes and anticipate challenges.

Seek internal support

Having senior management and Councillors on board early helped to ensure smoother implementation.

Be flexible

Delays are inevitable, but maintaining focus on the long-term goal ensures continued progress. Similarly, despite having clear scope on the project, flood can be a complex topic for community so be prepared to deviate when responding to community queries – this helps build trust.

Contingency planning

Consider spending more time doing contingency planning for time and budget. Get this approved early and be ready to activate as soon as possible when needed. For contingency planning:

- Factor in a bigger map review process than expected.
- Consider what to do/say if a major storm event affects anywhere in metro-Melbourne during the project.
- Setup procurement so able to quickly activate contingency actions, when others involvement.

Collaboration

- It's not just about the Special Building Overlay planning control (SBO). You need to have a solution package (structural and non-structural) for infrastructure.
- Manage risks by achieving statutory status for the map as soon as (Building Regulations, Water Act).

Communications and engagement

Timing

It takes time for people to understand, so engage early before doing a planning scheme amendment, be mindful that people receive info in different ways – so have different types of collateral.

Landowner engagement

Early awareness helps build trust and give the community time to understand and query the project.

Implement a multi-channel approach for broader reach and accessibility. Digital, print, and face-to-face engagement methods across multiple touch points ensured broader reach and accessibility.

Consider use of language

Encourage technical work to be written in plain English, because technical documents were released (transparency).

Because this map was for council's local drainage network, not maps for waterways, a decision was made to avoid using the term 'flood' in external communications. This was done purposely knowing that the word 'flood' was all inclusive and can invoke particular emotions or assumptions when used.

Alternatively, the terms such as 'stormwater', 'inundation' and 'stormwater over land flow'. To support this, a video was created and a poster to differentiate the difference between the terms.

Merri-bek also created and used a non-technical way of explaining - '1% AEP'. Understanding that this term and '1-in-100 year flood' can be confusing and misunderstood. It was important to explain this in a clear way as the map was created on the basis of this.

Differentiation between flooding types

For example, riverine vs stormwater

External communication was aligned with the website's parent page, which has a question "What is stormwater overland flow and how is it different from waterway flooding?"

A poster and a short video were developed to help explain the difference between riverine flooding and stormwater overland flow

Adapting to audiences

Have an engagement approach that uncovers community members who have major concerns as early as possible, then spend time focusing on these people because they're most likely to stay with the project through to the end.

Customer service

For community members with major concerns, always offer to meet face-to-face.

Manage people via one-on-one communications where possible.

Respond quickly to emails and telephone messages (within 48hrs, same day is best)

Continuous update of key messages and Q&As

Keep key messages and Q&As up to date as enquiries continue to help with similar future questions. This will mean having consistent messages for similar questions asked by different community members which can be drawn upon as they come up.

Map

If you are releasing a dynamic online map, don't give a QR code because such maps can be difficult to use on a Smartphone. Instead encourage people to use a laptop/desktop to display/navigate the map.

Evaluation and success measures

Consider evaluation and success measures early for communication and engagement. Some used by Merri-bek were:

- Active use of the website by community
- Monitor metrics for emails and telephone calls and have only one comms log (spreadsheet) for all incoming and outgoing.
- Keep answering questions until the customer has no more to ask.
- Appoint someone to have comms oversight and up-the-line regular reporting.

Other reflections

Community pain points

- Community will likely come to you with pre-conceived ideas about the project. Taking the time to listen to their pain points, whether they are or aren't directly related to the stormwater mapping, ultimately lead to building a stronger, trusting relationship with community and stakeholders.

Budgeting

- Approximately one third of the project's total budget went towards community engagement efforts.

Insurance Council of Australia

- Merri-bek engaged with the Insurance Council throughout the project, who directed the council to their general online resources. Merri-bek weaved key messaging around education on how insurance organisations deal with the different types of flooding to their engagement communications.

Project resourcing

It was important that council staff were equipped and resourced to respond to enquiries from community. Merri-bek had three EFT Strategic Planners in 'customer response team', which was activated after letters sent to affected landowners:

- This team received training on how to answer questions and deal with challenging customers.
- Experienced Strategic Planner answered the more difficult questions
- Expert witness (consultant) was procured to participate in site visit and help answer technical questions.
- Two field teams were used. One for sites where landowner not present and the other for sites when landowner present

Internal project communications

- A project channel was setup on MS Teams to manage day to day communication between team members. This channel was helpful to give daily team updates and ensure a coordinated approach to managing team comms for Merri-bek staff working across various locations.

Resources

Learnings for enabling a Merri-bek's Stormwater Map

Stormwater Mapping Engagement: Staff Training

[Conversations – Stormwater map for land development](#)

[Department of Transport and Planning – proposed amendment process](#)

[Question and answer library](#)

[2021 Engagement Summary Report](#)

[2023 Engagement Summary Report](#)

This Case Study has been prepared in collaboration with Merri-bek City Council. Many thanks to Merri-bek staff, especially David Cox, for their cooperation and insights.

For further details or advice, contact Merri-bek's project team at dacox@merri-bek.vic.gov.au