



His Worship the Mayor
Councillors
City of Marion

Notice of Infrastructure Committee

Council Chamber, Council Administration Centre
245 Sturt Road, Sturt

Tuesday, 6 June 2023 at 6.30 pm

The CEO hereby gives Notice pursuant to the provisions under Section 83 of the *Local Government Act 1999* that an Infrastructure Committee will be held.

A copy of the Agenda for this meeting is attached in accordance with Section 83 of the Act.

Meetings of the Council are open to the public and interested members of this community are welcome to attend. Access to the Council Chamber is via the main entrance to the Administration Centre on Sturt Road, Sturt.

A handwritten signature in blue ink, appearing to read "Tony Harrison", is positioned above the printed name.

Tony Harrison
Chief Executive Officer

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1 Open Meeting

2 Kurna Acknowledgement

We acknowledge the Kurna people, the traditional custodians of this land and pay our respects to their elders past and present.

3 Elected Member Declaration of Interest (if any)

4 Confirmation of Minutes

4.1 Confirmation of Minutes of the Infrastructure Committee Meeting held on 4 April 2023

Report Reference	IC230606R4.1
Originating Officer	Business Support Officer – Governance and Council Support – Cassidy Mitchell
Corporate Manager	Manager Office of the Chief Executive – Kate McKenzie
General Manager	Chief Executive Officer – Tony Harrison

RECOMMENDATION

That the minutes of the Infrastructure Committee Meeting held on 4 April 2023 be taken as read and confirmed.

ATTACHMENTS

1. I C 230404 - Final Minutes [4.1.1 - 14 pages]



**Minutes of the Infrastructure Committee
held on Tuesday, 4 April 2023 at 6.30 pm
Council Chamber, Council Administration Centre
245 Sturt Road, Sturt**

**PRESENT**

Councillor Ian Crossland (Chair)
His Worship the Mayor Kris Hanna
Councillor Matt Taylor
Councillor Jana Mates
Councillor Amar Singh

In Attendance

Councillor Sarah Luscombe
Councillor Luke Naismith
Chief Executive Officer - Tony Harrison
General Manager Corporate Services – Angela Allison
Manager Office of the CEO - Kate McKenzie
Executive Officer to General Manager City Services - Colleen Madsen
Manager Community Connections - Merran Fyfe
Unit Manager Engineering - Carl Lundborg
Unit Manager Open Space Operations - Brett Jaggard
Open Space & Recreation Planner - Rebecca Deans
Water Resources Coordinator - Glynn Ricketts
Coordinator Biodiversity - Jacob Lemon

1 Open Meeting

The Chair opened the meeting at 6.33pm.

2 Kaurna Acknowledgement

We acknowledge the Kaurna people, the traditional custodians of this land and pay our respects to their elders past and present.

3 Elected Member Declaration of Interest (if any)

The Chair asked if any member wished to disclose an interest in relation to any item being considered at the meeting.

The following interests were disclosed:

- Nil



4 Confirmation of Minutes

4.1 Confirmation of Minutes of the Infrastructure Committee Meeting held on 7 February 2023

Report Reference IC230404R4.1

Moved Mayor Hanna

Seconded Councillor Taylor

That the minutes of the Infrastructure Committee Meeting held on 7 February 2023 be taken as read and confirmed.

Carried unanimously.

5 Business Arising

5.1 Business Arising Statement - Action Items

Report Reference IC230404R5.1

Moved Councillor Taylor

Seconded Mayor Hanna

That the Infrastructure Committee:

1. Notes the business arising statement, meeting schedule and upcoming items.

Carried unanimously.

6 Confidential Items - Nil

7 Reports for Discussion

7.1 Open Space / Irrigation Biodiversity

Report Reference IC230404R7.1

The Open Space & Recreation Planner, Water Resources Coordinator and Coordinator Biodiversity provided the Committee with an overview on the Open Space Plan, the Irrigation Management Plan and Biodiversity Plan.

Open Space Plan

- It is a holistic plan that captures all renewal in open space.
- Living document updated yearly, capturing state and federal funding etc.
- Captures hierarchy, primary classifications, recommended works and years current irrigation area and irrigation score.
- Incorporates natural landscaping.



Irrigation Management Plan

- The Plan was first presented to Council in 2014 and has gone through some iterations over the years. It is a Policy and Planning document and is underpinned by an Irrigation Decision Support Tool.
- Irrigation is done based on functional benefit.
- Scoring is a multiple criteria analysis.
- There is a Public Value Score, which allows Elected Members to bring a motion to the Chamber to score a reserve 4, which triggers irrigation on that reserve.
- Irrigation is triggered when the scores combined are 12 or above or a public value of 4.
- A listing of reserves being upgraded within the Open Space Plan was provided to the Committee, including options and costs on those reserves that score 11, 10, 9 and 8 (Table was updated and provided after the meeting due to a question taken on notice). That were not currently planned for upgrade via the Open Space Plan.

Biodiversity Plan

- Remnant Vegetation Plan endorsed by Council in 2018. (5-year plan)
- Currently up for renewal and will be taken to the Environment Committee for review and feedback later this year.
- There are opportunities to expand the sites, and some of those sites are now being funded and will move to the priority sites i.e., large sections of the coastal vegetation through Marino and Hallett Cove, Trott Park creek line linking up to the Field River and Glenthorne Park precincts, and the Heron Way foreshore.
- Creates better monitoring for our Flora and Fauna.

The Committee discussed the following:

Irrigation

- Technology enhancements with our irrigation capabilities, ageing infrastructure that requires updating. Smart meters are installed on our larger water demand sites i.e., ovals and larger reserves, connected via a modem, brought back to a central PC where staff can adjust the requirements as needed. Staff are investigating costs to bring more sites on with smart irrigation.
- Savings in water usage by using smart irrigation. It is difficult to measure the \$ savings, however it is maximising the efficiency of our irrigation teams. i.e., should a sprinkler be damaged overnight, the system will shut down that section, setting off an alarm that staff will attend to the next morning to investigate the damage, thus also saving on any water that may be gushing out of the broken sprinkler.
- A handout was provided to give the Committee an indication of how many additional reserves there are on top of the ones that are going to be improved in the Open Space Plan should they wish to consider lowering the score that triggers irrigation. The whole life cost for watering and capital/renewal was presented for Members to consider.



Question taken on notice.

We have costing for scores of 11, 10 and 9, could we have the Capex and ongoing cost for reducing the score to 8?

- A turf management assessment has been undertaken. Water alone does not improve the sites, it needs to be supplemented with scarifying, coring, topsoil etc. There is an additional cost to increase the water, but the additional maintenance, which also comes at a cost, needs to be considered.

ACTION

The mayor queried what the yellow line on the handout means.

Staff will check with the maintenance and open space operations team and circulate to the Committee an updated printout with additional information.

- The Committee queried over what period are the shaded ones coming on the system, and if we are considering an additional 13 sites, are we pushing it too far?
 - Staff advised that some dates are included in the table, but the irrigation upgrades have been included in the Open Space Plan, which goes to 2029.

Open Space Plan

- What is the staff recommendation on how a secondary and lower netball ring in Hugh Johnson Reserve could be obtained?
 - The Open Space & Recreation Planner advised there is a pool of money available each year to do minor reserve upgrades and they can be done via Ward Briefings. More expensive upgrades can be included in the mid-life review of the Plan, scheduled for mid-2024 or an endorsed motion with Council.

Biodiversity

- The Committee noted that the Field River Valley is not currently included in the Remnant Vegetation Plan, however it needs to be on our radar and should be included in the new Plan.
- Other sites are less used than the coast or Sturt River, such as Trott Park creek line and Waterfall Creek.
 - Staff are on a working group with the City of Onkaparinga, DEW and Green Adelaide for Field River, looking for a holistic approach on the Field River catchment. The new Plan will have a section on the Field River and how we can contribute and maximise that space.
 - Staff advised that although Waterfall Creek and the Trott Park creek line are not as utilised by the public as some other sites, they are important in connecting our wildlife. They are good sites/trails for increasing biodiversity and connecting the biodiversity sites.



- Ongoing weed control, why not give up on olives and Aleppo and let a monoculture establish on our reserves?
 - Staff responded that these are declared weed species and have a legal obligation to control them. Monocultures will choke out anything else that tries to grow and if we allow a single species to overtake the reserve it does not provide healthy biodiversity to attract wildlife and allow us to re-introduce threatened species into our reserves.
- The Committee discussed the possibility of having one of the Plans include reserves that are not irrigated to include a combination of some irrigated green grass with some biodiversity and natural landscaping around it, which Plan would that be aimed at?
 - Staff responded that natural landscaping currently sits on its own. As part on the renewal of this Plan we would like to capture natural landscaping into the Biodiversity Plan to enable a lens over the natural landscaping. There is opportunity in the Open Space Plan as it works heavily with biodiversity to capture all of those on one site.

Further comments and discussion by the Committee were:

- How is the ongoing maintenance of the reserves considered?
 - Staff advised that once reserves are upgraded the ongoing maintenance is passed onto the Open Space Operations. Upgrades that come through, staff maintain the current levels, however at times there is a need to contract out other parts of the sites. In the past it has been a struggle, however, there have been improvements in the recent upgrades. Once more sites are upgrades and we are using more contractors we will be able to determine whether it would be more cost-effective to bring it all in house.
- How do we ensure in the costing there is provision for the ongoing maintenance?
 - The CEO advised that a review with the 3 councils has been undertaken in the last 12 months to look at a balance in contractor engagement and internal staff. Over the last 6-8 years there may have been a push towards engagement of labour towards contractors and unfortunately did not have the contractor management in place to ensure we had the quality and return in what we were buying in the contracts. Looking at rebalancing by having additional staff internally where we have greater levels of agility to deploy them where the greatest need is. Hybrid models are still being weighted.
 - Tree maintenance is a burgeoning issue due to the number of trees that have been planted over the last few years and the number we intend to plant in the next 2-3 years. When the program for mature tree planting was established, resourcing was not considered. There is an ongoing issue to get the right resource capacity.
- Prefer to see us maintaining our current level of irrigation and get the maintenance and upkeep costs correct before we increase our irrigation.
- Irrigation - about 13 to come on stream in the next 6 years so would tend to leave it at that.
- Remnant Vegetation - we should focus on strength on the larger areas such as the Field River, Coast etc. and cost, and should have in our plan or policy not just the connectivity but how many people can walk and enjoy the native vegetation.



7

- With infill development there needs to be a big focus on our reserves, watering, and maintenance schedules. Noted it is hard to get the balance right. Residents take it for granted that the reserves will be green. How do we balance their needs and expectations? Will placing technology enhancements into those reserves without it assist? During winter, is there a switch to lessen water than in summer that may need to be monitored closely.
- Can we irrigate biodiversity sites?
 - Water Resources Coordinator advised that we irrigate biodiversity sites for establishment either by direct irrigation or water trucks. The first 2 years are important. We expect a 10% loss even with irrigation. We spend a lot of resources watering street trees using Oaklands Water.
- Open Space Plan – when it is up for review, can consideration be given around disability access, first nations consultation also keeping in mind Waterfall Creek etc. has significant first nation's history.
 - Noted by staff.

Moved Mayor Hanna**Seconded Councillor Mates**

That the Infrastructure Committee:

1. Notes the Open Space, Irrigation and Biodiversity Plans and the feedback given by Committee Members.

Carried unanimously.

7.2 Preliminary Draft Parking Management Guidelines

Report Reference

IC230404R7.2

Unit Manager Engineering introduced the Draft Management Guidelines and the journey undertaken on creating these guidelines.

Purpose of the Guidelines:

- Looking for a consistent approach across the network.
- Seeking guidance for staff, Elected Members and the community.
- Transparency around decision making.

To guide the content of the Guidelines, several questions were put to the Committee.

Question 1 Should road widths above 7.2m have no full-time parking restrictions (if no safety concern, or other major competing needs)?	
Committee response /question	Staff response
Yes, however there need to be some exceptions. For example, if next to a major activity such as shopping, or train stations etc. people may not wish to have no full-time restricted parking during peak times.	
Train stations, some have surrounding streets wider than 7.2m where residents may wish to ban parking on those roads, what are the staff views?	There may be other options available, user-based and /or time-based restrictions can be put into place during peak periods.
	Confirmed the Australian Road Rules state that 7.2m road can have cars parked either side without a need to restrict parking in those streets.
Do we know how many streets we have with parking restricted at that width?	We know the number of streets that meet the 7.2m criteria, however a city-wide exercise has not been undertaken to determine what parking restrictions we have on those streets. We won't be actively looking for those streets with restrictions - once the guidelines are endorsed, we would start from there adhering to those guidelines.
Noted a lot of people like a 2-way access on their roads.	



Question 2 Should road widths less 7.2m & greater than 5m have parking restrictions on one side (typically staggered)? If self-managing isn't working. This would allow for parking on one side of the road and still allow for a 3m carriageway to allow the service vehicles to move through.	
Committee response /question	Staff response
What would be the plan to manage the staggered approach?	Staff would look at each side of the street to work out the number of driveways and then work out what the best options to maximise the amount of car parks on street.
Do we implement this when residents complain about parking, or do we do random checks on roads/streets and make assumptions that we put restrictions on them?	When a parking request is made by a resident regarding an issue in the street - we try to educate first, i.e., letter drop and signage but if that doesn't work the self-management option is taken away. We will then apply for the safest way forward to allow service vehicles and garbage trucks and then consult with the street providing information on where the yellow lines will be in a staggered approach. If consultation rate is not higher than 60%, we cannot do anything.

Question 3 Should road widths less than 5m have parking restrictions on both sides?	
Committee response /question	Staff response
The initial answer is yes. Although not knowing the law is no excuse, there is value of putting yellow lines even though it's illegal to park there and not leave a 3m carriageway.	Staff clarified that even if there were no yellow lines on these streets, if you park and there is less than the 3m carriageway of passage, the Australian Road Rules state you can be fined.
The exception is if we said these streets will get yellow lines, but for example a primary school is nearby, the guidelines need to be flexible enough to say there may be an opportunity to put in a few indented parks. It is good to have a rule as a starting point but there do need to be exceptions/flexibility depending upon the surrounding traffic and parking demand.	



Question 4 Should on-street parking infrastructure only be applied in high priority areas with high parking demand?	
Committee response /question	Staff response
Some formula or guide to make it demand driven. It is noted that yellow lines are a relatively cheap way of managing, however once you start talking about indents and attractive footpaths, they are quite expensive treatments, so we need to get the right wording, right definition, right formula to say yes to this question.	
At what point do staff make that decision and when would it come back to Council, especially if there is a significant loss of trees?	Due to the major infrastructure needs, this would need to be worked quite closely with the Ward and Elected Members.

Question 5 When should we consult? Who should we consult with – Owner or the Occupier? Consultation rate greater than 50% or 60%	
Committee response /question	Staff response
If self-managing isn't working should staff be able to come in and decide?	<p>Staff would decide once all avenues are exhausted. If due diligence has been undertaken with community engagement and the situation is still not resolved, we should have the right to make the call for public safety.</p> <p>The decision would depend upon the complexity of the matter. If our engagement on the recommendations has been unsuccessful, we then have guidelines in place to support the recommendations. In the case of a new housing estate where there are several issues in that development, there would be greater involvement with Elected Members to be briefed.</p>



<p>If there is parking in front of a house with room for two cars to be parked and residents find others are parking in the middle of that space, can they have a split line so that two cars can park?</p> <p>Do we have to consult, or could we just mark out where the two spaces are?</p>	<p>The question would be raised, do you do the whole street or only this one instance? We would like to look for consistency.</p>
<p>How to deal with residents who want a yellow line outside their house when cars are being parked in front of their homes during peak times. This has been raised by a resident to a Committee Member.</p>	<p>Unit Manager Engineering has suggested to the Committee Member this can be discussed further off-line.</p>
<p>The Committee commented that it would be good to discuss in a Forum whether a yellow line can be painted at the kerb to indicate where cars can park.</p>	<p>This may create a maintenance issue.</p>
<p>A yellow vertical line or arrow could be placed where the kerb meets the driveway invert to ensure cars do not encroach across the driveway in problem areas. The encroachment would be a breach of the road rules.</p>	<p>We could potentially include this. We would need to be consistent with all roads.</p> <p>If there was something in the guidelines that states if a resident has persistent problems, it can be done. It can be reactive to those residents that would like it, does not need to be done on all roads.</p> <p>Should one resident request the yellow line, often others in the street will see it and place a request, therefore it would make sense to do the whole street at the time of the initial request.</p>
<p>Consultation should be undertaken when there is a significant impact on residents.</p>	<p>Take to a Ward Briefing first.</p>
<p>Consult the occupier rather than the owner.</p>	
<p>Consultation rate for a whole street should be 60%.</p>	
<p>Why does a whole street need to be consulted on if there is only one resident that wants a yellow line outside their home?</p>	



Would this be an operational decision and, in this scenario, inform residents but include please provide feedback on why they would not do it. Give staff the ability to take the commonsense approach.	
Page 133 table of community engagement needs to be reviewed and re-written.	
Pictures on pages 120 and 121- have not seen these types of roads in City of Marion. Possibly the word example is not right, and it should be component?	
Table of investigation requests, with over 600 per year, how many of those lead to changes on the street? If it's less than 10% then we need to look at how to do this differently.	This question can be answered via an email exchange with feedback to the Unit Manager Engineering, Carl Lundborg.

Question 6 Should we provide Business Permits to a business within the City of Marion (1 per business when parking within a timed zone)	
Committee response /question	Staff response
Permit system does assist businesses and should be an option for businesses to access.	

Moved Councillor Mates
Seconded Mayor Hanna

That the Infrastructure Committee:

1. Notes the report and provides feedback on the draft Parking Management Guidelines for the City of Marion (Attachment 1)
2. Supports the Revised Draft Parking Management Guidelines with additions to be presented at a Council Member Forum.

Carried unanimously.



7.3 Community Centres Utilisation and futures discussion

Report Reference

IC230404R7.3

The report was taken as read.

The Committee discussed the following:

- Encourage a view that we are trying to get people into all our council facilities and seen as part of one team to boost utilisation in spaces even if we don't have staff at all facilities. This should be inclusive of City of Marion run facilities as well as those operated by independent organisations (e.g., Marino Hall, Cosgrove, etc.)
- Trott Park NHC is not in the ideal place, - what is the progress about looking at alternative venues for a Southern Community Centre?
 - Staff advised that no significant work has been taken from an operational level to consider Trott Park relocation as a facility and acknowledge it is not on an arterial road.
- In terms of booking system, are we exploring if a single system can be utilised across all our assets?
 - Staff commented that the booking system is a key focus for 2023. Staff are currently looking at the possibility of an upgrade to the existing system and exploring new systems with a focus on customer journey. Many appointments with LG users in SA and interstate have taken place.
 - Staff are also aiming to include those sites not managed by CoM in the scope of this booking system project, however this is complicated by those groups having their own systems in place (resource, skills, financial, etc.) and are not currently bound through lease to come on board with a CoM system so this outcome in full is not guaranteed.
- Is the focus purely community use or can we broaden that to small businesses or is that a separate piece of work?
 - Staff advised that we can and do currently include business hire and there is a fee/charge for that. Confirmation that the Community Connections team is focussed on attracting user groups aligned to community services outcomes which align with NHC purpose, but do not exclude commercial businesses.

The Committee was encouraged to forward any further comments or questions via email to Ms Fyfe.

Moved Mayor Hanna

Seconded Councillor Taylor

That the Infrastructure Committee:

1. Provided feedback on the opportunities to increase utilisation of community centres.

Carried unanimously.

8 Reports for Noting - Nil

9 Workshop / Presentation Items - Nil

10 Other Business



11 Meeting Closure

The meeting shall conclude on or before 8.00pm unless there is a specific motion adopted at the meeting to continue beyond that time.

The meeting was declared closed at 8.02pm.

CONFIRMED THIS 6 DAY OF JUNE 2023

CHAIRPERSON

5 Business Arising

5.1 Business Arising Statement - Action Items

Report Reference	IC230606R5.1
Originating Officer	Executive Officer to the General Manager City Services – Colleen Madsen
Corporate Manager	N/A
General Manager	General Manager City Services – Ben Keen

REPORT OBJECTIVE

The purpose of this report is to review the business arising from previous meetings of the Infrastructure Committee meetings, the meeting schedule and upcoming items.

RECOMMENDATION

That the Infrastructure Committee:

1. **Notes the business arising statement, meeting schedule and upcoming items.**

ATTACHMENTS

1. IC230606 - Business Arising as at 06 June 2023 [**5.1.1** - 1 page]
2. IC230606 - Schedule of Upcoming Items 2023 [**5.1.2** - 2 pages]
3. IC230207 - Draft Topics [**5.1.3** - 1 page]

CITY OF MARION
BUSINESS ARISING INFRASTRUCTURE COMMITTEE MEETINGS

AS AT 06 June 2023



Meeting Date	Document	Item No.	Item	Action Required	Assignee/s	Action Taken	Status
2/8/2022	ASC220802 – Asset & Sustainability Committee 2 August 2022	7.2	Walking & Cycling Guidelines (2023-2028)	Update the two documents as required using track changes. <ul style="list-style-type: none"> Split the Guidelines and the Implementation Plan into two documents. Circulate the documents with tracked changes via email to the Committee requesting feedback from the Committee and bring it back to a future ASC meeting. Include an action in the Implementation Plan to 'Review Council controlled bike lane utilisation and times. Timeframe to be included in the Plan. 	Carl Lundborg	Walking & Cycling Guidelines and Action Plan are currently being developed. Draft being presented to a Forum in June 2023.	In progress
4/4/2023	IC230404 Infrastructure Committee 4 April 2023	7.1	Open Space / Irrigation Biodiversity	Question taken on notice: We have costing for scores of 11, 10 and 9, could we have the Capex and ongoing cost for reducing the score to 8?	Glynn Ricketts	Information emailed to the Committee on 20 April 2023.	Complete
4/4/2023	IC230404 Infrastructure Committee 4 April 2023	7.1	Open Space / Irrigation Biodiversity	The mayor queried what the yellow line on the handout means. Staff will check with the maintenance and open space operations teams and circulate to the Committee an updated printout with additional information.	Glynn Ricketts	Information emailed to the Committee on 20 April 2023.	Complete
4/4/2023	IC230404 Infrastructure Committee 4 April 2023	7.3	Parking Management Guidelines	Supports the Revised Draft Parking Management Guidelines with additions to be presented at a Council Member Forum.	Carl Lundborg	Report presented to a Forum on 16 May 2023.	Complete

* Completed items to be removed are shaded

Infrastructure Committee – 2023 Draft schedule of upcoming items

Infrastructure Committee		Date: Tuesday, 07 February	Time: 6.30pm – 8.00pm	Venue: Chamber	
Topic	Type of Report	Description	External Attendees	Staff Responsible	
Business Arising		Business arising from previous meetings, the meeting schedule, and upcoming items		C Madsen	
Workshop agenda 2023					

Infrastructure Committee		Date: Tuesday, 4 April	Time: 6.30pm – 8.00pm	Venue: Chamber	
Topic	Type of Report	Description	External Attendees	Staff Responsible	
Business Arising		Business arising from previous meetings, the meeting schedule, and upcoming items		C Madsen	
Parking controls in residential streets				C Lundborg	
Community Centres		Review of current utilisation, an opportunity for the Committee to raise questions for administration to report back at a future meeting		M Fyfe	
Open Space Matrix		Irrigation matrix, service levels, biodiversity, pocket parks etc.		R Deans G Ricketts	
Finalise the 2023 Schedule of Upcoming Items		Topics workshopped at the 7 February meeting to be provided		C Madsen	

Infrastructure Committee		Date: Tuesday, 6 June	Time: 6.30pm – 8.00pm	Venue: Chamber	
Topic	Type of Report	Description	External Attendees	Staff Responsible	
Business Arising		Business arising from previous meetings, the meeting schedule, and upcoming items		C Madsen	
Stormwater Management				A Dorn C Lundborg	

Infrastructure Committee – 2023 Draft schedule of upcoming items

Infrastructure Committee		Date: Tuesday, 5 September	Time: 6.30pm – 8.00pm	Venue: Chamber	
Topic	Type of Report	Description	External Attendees	Staff Responsible	
Business Arising		Business arising from previous meetings, the meeting schedule, and upcoming items		C Madsen	

Infrastructure Committee		Date: Tuesday, 07 November	Time: 6.30pm - 8:00pm	Venue: Chamber	
Topic	Type of Report	Description	External Attendees	Staff Responsible	
Business Arising		Business arising from previous meetings, the meeting schedule, and upcoming items		C Madsen	
EVs					

DRAFT TOPICS DISCUSSED AT INFRASTRUCTURE MEETING 7 FEBRUARY 2023

Yes/No	Topic	Meeting Date
√	Parking Controls Residents	April
√	EV Fleet Transition and Hydrogen	Nov
?	EV Public Charging Infrastructure	
√	City Wide Stormwater <ul style="list-style-type: none"> - WSUD - Rainwater Tanks - Stormwater to the Gulf - Stormwater treatment (Micro Plastics) 	June
√	Council Building Upgrades – what's the plan?	
?	Streetlight Smart Controls Streetlight Dimmer (shape/off etc.)	
√	Roads and Kerbs (recycling + innovation + embodied carbon)	
√	Open Space (irrigation matrix, biodiversity, 'other' Reserves, service levels)	April
√	Community Centres utilisation <ul style="list-style-type: none"> o What are the questions? o Response/findings 	April
	Impact of infill development on infrastructure	
	Footpaths and cycle paths	
	State Government projects and strategies (30-year plan)	
	Communications about what is achieved (completed projects)	

The table of suggested topics below is provided from the 7 February 2023 Environment Committee meeting from when they brainstormed ideas that more suited the Infrastructure Committee

Infrastructure Committee		
Electric vehicle charging stations. Roll out and strongly promote to show that we are actively pursuing this.	Can we hold water in the Sturt drain? And is there any point in us strategically holding water in the Sturt drain?	Permeable pavements.
Electric vehicles in fleet Fleet conversion to EV - keeping in mind pros and cons. Transition into EV's Fleet Transition report scheduled to Council June 2023	Sturt Gorge water possibility is likely being considered. Look at irrigation in the south - could be via Sturt Gorge or stormwater management – we have so much stormwater going into Lucretia Reserve.	More of the catchment tanks under roads where stormwater drains into them underground that trees can then use for water.
EVs covered in the above table of topics.	Continuing to make improvements with stormwater management (especially regarding Field River).	

6 Confidential Items - Nil

7 Reports for Discussion

7.1 Stormwater Management

Report Reference	IC230606R7.1
Originating Officer	Unit Manager Engineering – Carl Lundborg
Corporate Manager	Manager Engineering, Assets and Environment – Mathew Allen
General Manager	Acting Chief Executive Officer – Ben Keen

REPORT HISTORY

Report Reference	Report Title
ASC220705R7.1	Stormwater Management

REPORT OBJECTIVE

The purpose of this report is to provide the Infrastructure Committee with an overview of current stormwater management practises and other initiatives currently been undertaken at the City of Marion.

RECOMMENDATION

That the Infrastructure Committee:

1. Notes the presentation and report.

BACKGROUND

Stormwater Infrastructure & Operations

The City of Marion has over 270kms of pipes and over 7,000 pits within its stormwater network. The total replacement cost of these assets is \$235 million (2022 valuation) with the network increasing by approximately \$3 - \$5 million each year through the Capital Works program and gifted assets from developers.

Council's current operating budget is approximately \$1 million per year and involves street sweeping, pit cleaning, CCTV inspections and maintenance.

Many of the City of Marion's stormwater infrastructure was constructed in the 1960s and 70s. This infrastructure has an estimated useful life of 100 years before renewal is expected. Asset renewal will be identified in Council's Stormwater Asset Management Plan and Long-Term Financial Plan to ensure the timing of infrastructure renewals are fully funded.

Stormwater Management

The City of Marion has been divided into four separate stormwater catchment areas, shared mostly with adjacent Councils. These are:

- 1) Coastal Catchments Between Glenelg and Marino;

- 2) Hallett Cove;
- 3) Sturt River Urban Catchments; and
- 4) Field River.

Councils are required by law (Stormwater Management Act) to produce Stormwater Management Plans (SMPs). The requirement for development of SMPs essentially stems from the *'Agreement on Stormwater Management'* of 2013 between the State Government and the LGA. From the perspective of the SA Government's Stormwater Management Authority (SMA), the agreement ensures a collaborative approach between Local and State Governments in the development of an overall Stormwater Strategy for Greater Adelaide.

Key objectives of Council SMPs include:

- Mitigating flood risks;
- Identifying opportunities to improve water quality;
- Identifying opportunities to improve ecology and biodiversity; and
- Investigating the potential of stormwater harvesting and re-use.

Complementing these general objectives, the SMPs consider the existing and future scenarios influenced by variables such as climate change and urban infill. Significant infrastructure modelling must be undertaken to assess the council's existing infrastructure and determine not only the current levels of service but also how it will perform in meeting the future demand.

The City of Marion has two endorsed SMPs, namely the Hallett Cove Catchment and the Coastal Catchment shared with the City of Holdfast Bay. Most of the recommendations within these plans are in process or are completed.

The recommendations from the SMPs are populated into a Stormwater Matrix. These are prioritised based on several criteria and ranked. The top priority projects are selected for the annual business planning process. Currently it is estimated that there is approximately \$25 million worth of projects on the priority matrix.

A 3rd SMP with the Cities of Mitcham, Unley and West Torrens is nearing completion for the catchment East of the Sturt River. A Sturt River Flood Hazard Assessment is currently underway by the State Government to inform a Planning Code Amendment. These two processes are working in collaboration, and both are informing each other. It is expected that final flood hazard maps for the Sturt River will be available in late June 2023. The SMP can then be updated and presented to contributing Councils and the SMA. A final SMP is required for the Field River Catchment, led by the City of Onkaparinga (CoO). Staff will continue to discuss potential timeframes to initiate the SMP with CoO.

Stormwater Planning and Development

Stormwater Management in SA has evolved since the early 1960s, when the State Government and relevant catchment councils jointly contributed towards the construction of the South-West Drainage Scheme (SWDS), which resulted in the construction of the Sturt Channel and Sturt Dam, along with a number of tributary trunk drains that enabled the urbanisation of much of Marion Council.

In accordance with the Local Government Act, councils continued to remain responsible for the ongoing construction of minor drainage systems and overseeing the construction of drainage systems by land developers in accordance with the Planning Act (and subsequent evolutions).

However, the State Government committed to providing a 50% grant funding scheme for larger drainage systems, having catchments greater than 40ha.

In 2007, the Local Government Act was amended to create the Stormwater Management Authority, in response to significant flooding that occurred in 2005 along the Adelaide foothills catchments and in the Brownhill Creek catchment.

The Stormwater Management Authority was empowered to require individual and group councils to prepare Stormwater Management Plans, in accordance with their prepared Guidelines, which would allow access to 50% State subsidy.

Marion Council subsequently began a collaboration with Holdfast Bay to develop a joint SMP which delivered 1 in 100-year flood maps, prioritised drainage upgrades, and established a policy for retention systems for developments utilising plumbed-in rainwater retention tanks and rain gardens.

An amendment to Council's Development Plan was finalised which adopted these flood maps for the setting of Finished Floor Levels; along with the policy to retain on-site the first flush 15mm rainfall on all impervious areas.

Shortly after, the Development Act and Development Plan, including council's recent stormwater policy amendment, were replaced by the Planning, Development and Infrastructure Act and the Planning and Design Code, which now require on-site stormwater retention/detention systems, not dissimilar to Marion's previous Development Plan Principles and Deemed-to-Satisfy requirements.

Principles of stormwater management are:

- Reduce post-development peak flows to pre-development level - DETENTION
- Reduce discharge volumes - RETENTION
- Reuse rainwater for water conservation - PLUMBED RAINWATER TANKS
- Reduce water pollution – FIRST FLUSH RETENTION - EPA TARGETS
- Flood protection – FFL 300mm above 1 in 100-year flood level (or top of kerb where applicable).

DETENTION: the collection and storage of rainfall on impervious areas, and its slow release at a rate no greater than pre-development flow or the downstream stormwater system capacity.

RETENTION: the collection and storage of rainfall for on-site reuse for garden watering or plumbed into dwelling for non-potable water use, avoiding discharge to downstream stormwater system.

POST-DEVELOPMENT PEAK FLOWS: and volumes are significantly increased by higher density development that has been shown to increase existing urban impervious areas from 50% to 90% (Planning Study for Marion/Holdfast Bay Catchment Management Plan).

DISCUSSION

Water Sensitive Urban Design (WSUD) Treatments

Marion is a leading entity on construction and maintenance of Water Sensitive Urban Design (WSUD). We have been working in partnership with Water Sensitive SA to develop standard design drawings, technical specifications, performance criteria and a maintenance manual, enabling Council to understand whole of life costs and performance outcomes.

A presentation will be given to the Committee that provides more detail, especially on how staff are implementing the recommendations for maintenance.

Rainwater Tank Pilot Project

Council approved the Rainwater Tank Pilot project on 12 October 2021 for the Frederick Street Catchment in Glengowrie. A report on the trial's progress is expected to be provided to Council in March 2024.

A master's student from University of Adelaide has been engaged to assist in delivering the project. Monitoring equipment used in the project was upgraded and subsequent recalibration of the modelling was performed. A literature review was conducted to gather insights from similar schemes and identify lessons learned. A survey was conducted within the catchment area to gauge interest in the project. While some interest was generated, it was not sufficient to justify the investment in a rebate scheme. Further door knocking of properties is currently being undertaken to generate more interest. Interested residents are now offered a site audit by plumbers to assess the

feasibility and cost of installing and plumbing rainwater tanks for irrigation and toilet flushing. This stage of the project is ongoing.

To achieve a 20% reduction in run-off, approximately 70 new tanks need to be installed. Should the target of 70 new tanks be achieved, a rebate of approximately \$2,000 will be payable to each homeowner. However, homeowners will still need to contribute approximately \$2,000 (depending on complexity) on top of the rebate. Given the current economic environment, the required investment by homeowners may pose challenges. Once the required numbers, quotes and potential rebate amounts are determined, a hold point will be called to discuss the return on investment with our project partners.

If the trial ends up with 50 committed residents, then the volume reduction and ongoing scalability of the project across the Cities of Holdfast Bay and Marion will need to be reconsidered. This could involve redefining the research scope and renegotiation with the grant authority. Council will be advised of any change in scope.

Discussion on this topic is encouraged and time will be allocated for questions and answers following the presentation.

Microplastics in Stormwater

Microplastics are tiny plastic particles measuring less than 5 millimetres in size. Urban areas, particularly those with high population densities, tend to exhibit high levels of microplastic pollution. The particles can accumulate on road surfaces, footpaths, and other impervious surfaces, eventually being flushed into stormwater during rain events.

Microplastics are known to cause a range of impacts to the health of ecosystems. Marine organisms, including fish, shellfish, and seabirds, often ingest these tiny particles. These particles can cause immediate harm to wildlife as well accumulate toxic chemicals that can spread through food chains, further magnifying harmful effects.

Studies conducted across Australia have revealed the pervasive presence of microplastics in stormwater¹. This problem is known to exist locally with a recent study by Flinders University² identifying microplastics comprising textile fibres (72 per cent), fragments (17 per cent) and cosmetic beads (8 per cent) in samples from the seven major catchment areas in metropolitan Adelaide including Field River and Sturt River in the City of Marion.

To manage the impacts of microplastics, councils can reduce their generation of microplastics through careful asset management along with mitigating the environmental effects through stormwater quality improvement projects.

Stormwater treatments include wetlands and water sensitive urban design. A very recent undergraduate study at Flinders University confirmed that the Oaklands Wetland was an effective treatment at reducing microplastic content in stormwater³.

Some key areas where councils can support management of microplastics include:

1. Minimising sources of microplastics from council operations.
 - Ensure council assets that include plastic materials are demonstrated to have minimal shedding of microplastics and have plans for maintenance and disposal to minimise fugitive microplastics. Particularly for:

¹ Australian Microplastic Assessment Project (AUSMAP) www.ausmap.org

² Leterme, S.C.; Tuuri, E.M.; Drummond, W.J.; Jones, R.; and Gascooke, J.R. (2022). *Microplastics in urban freshwater streams in Adelaide, Australia: A source of plastic pollution in the Gulf St Vincent*. Science of The Total Environment Volume 856, Part 1, 15 January 2023, 158672.
www.sciencedirect.com/science/article/pii/S0048969722057710?via%3Dihub

³ Tilly-Scholes, G. H. (2022). *Spatial and Temporal Assessment of Microplastics in a Constructed Stormwater Treatment Wetland via Flow Cytometry*. Honours Thesis November 2022. Submitted to Flinders University of South Australia as part of the requirements for the degree of Bachelor of Science (Honours) (Environmental Science).

- Recycled plastic furniture, bollards and play equipment.
 - Plastic tree guards.
 - Granularised rubber matting.
 - Recycled plastic content in roads.
 - Avoiding use of material containing plastic microbeads.
 - Avoiding use of synthetic materials where possible and appropriately disposal of material at end of life.
2. Reduce sources of microplastic pollution in the community.
 - Provision of waste collection services that minimise entry of plastic waste into the environment.
 - Investigate options for soft plastic recycling services.
 - Responding to illegal dumping.
 3. Reduce microplastic pollution in stormwater.
 - Wetlands and WSUD are effective treatments for reducing microplastic pollution.

Update on the Sturt River Stormwater Management Plan

The Sturt River SMP is still in draft. Marion is a strategic partner, along with West Torrens and Unley, with Mitcham Council leading on the project. The project funding partner is the Stormwater Management Authority. The draft plan indicates with urban in-fill, driven by population growth and impact of climate change the Sturt River (drain) can expect 80% increase in stormwater runoff. Consequently, SA Water and State Planning Land-Use are producing new flood mapping and Hazard Assessment profiling.

The SMP is still at draft status pending the finalisation of this work and a comparative analysis currently being undertaken by the SMA. A meeting is expected to be held soon to try to finalise the draft SMP. Nevertheless, the draft SMP in 2019 forecasted over \$80M in stormwater upgrades in Marion alone, with escalation this is now over \$120M (estimated). Work currently underway for the North South Corridor project will also impact on future work planning and prioritisation.

Stormwater Quality

The Environmental Protection Authority (EPA) is soon to conduct a regional catchment stormwater quality audit to compare current stormwater quality with previous studies. The City of Marion is involved in the project via the water quality results collected during the operation of Oaklands Wetland. Consequently, we are a key stakeholder.

ATTACHMENTS

1. Stormwater Management Presentation - June 2023 [7.1.1]

INFRASTRUCTURE COMMITTEE MEETING

6 JUNE 2023

STORMWATER MANAGEMENT

IN THE CITY OF MARION



BERRIMA ROAD – STORMWATER PROJECT 2021/22



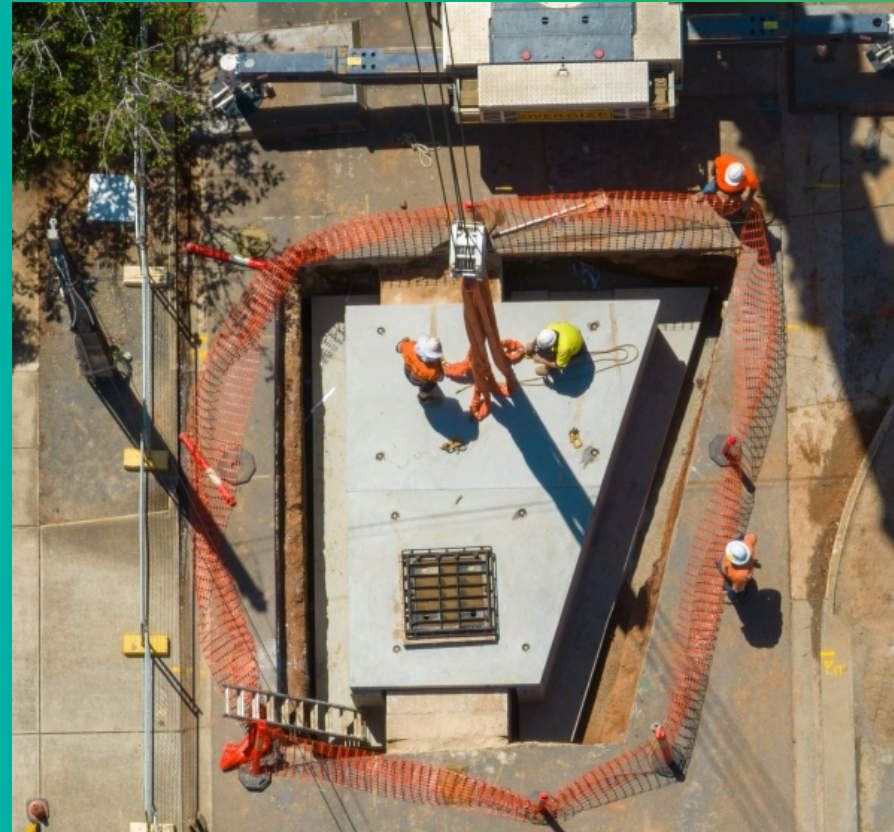
DALKEITH AVENUE – STORMWATER PROJECT 2022/23

AGENDA

- Stormwater Infrastructure Assets
- Stormwater Planning
- Water Sensitive Urban Design (WSUD)
- Infill impacts and competing objectives lead by Planning Code and Developers, via the DA process
- Rain Water Tank Trial Update

VIDEO

STORMWATER INFRASTRUCTURE



Stormwater Asset Management Plan 2020 - 2030



Pipes

266 km



Culverts &
Box Drains

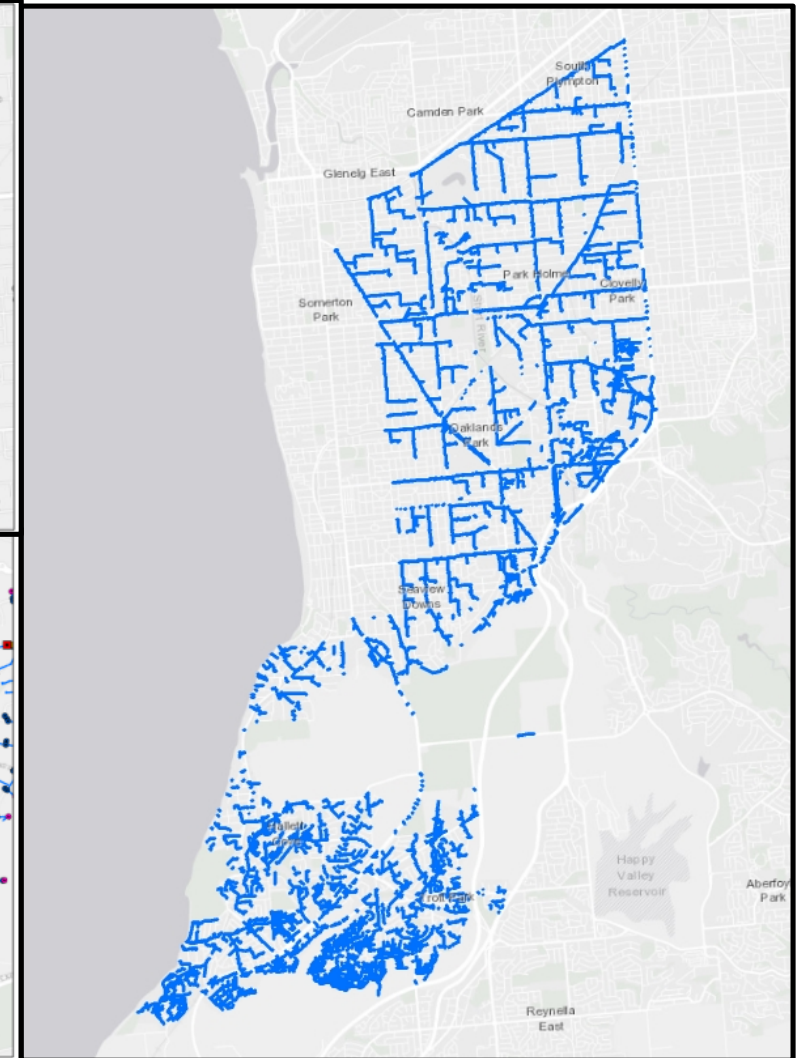
6.3 km



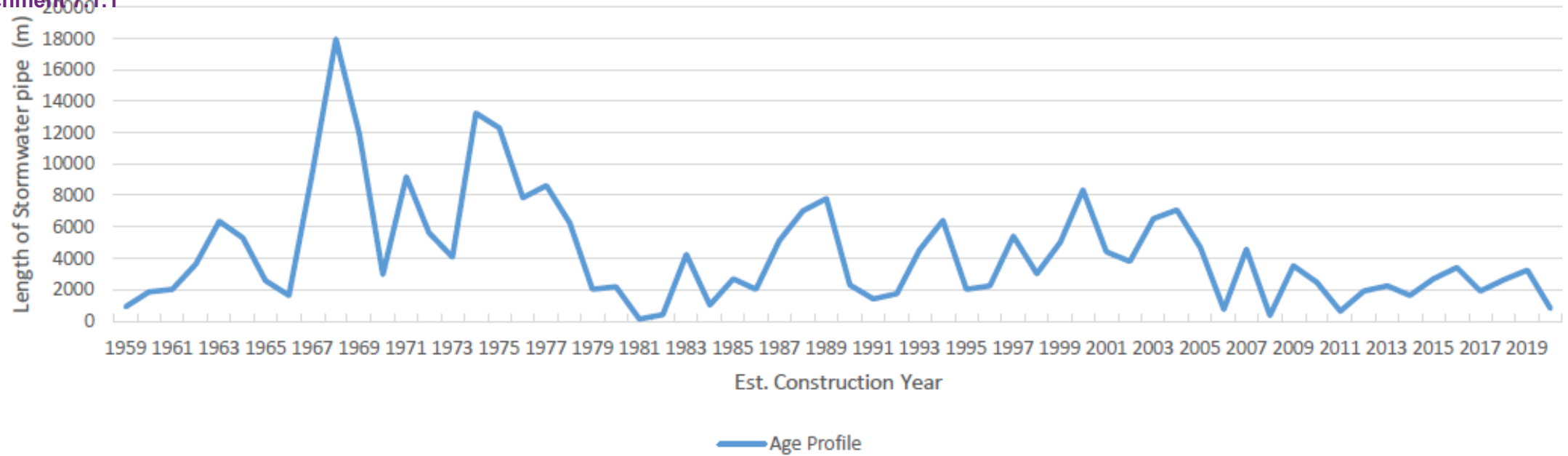
Pits &
Junction
Boxes

6933
assets

Total Replacement Cost **\$235 million**



Stormwater Infrastructure – Asset Inventory



Useful Life of a Pipe/Pit is 100 years

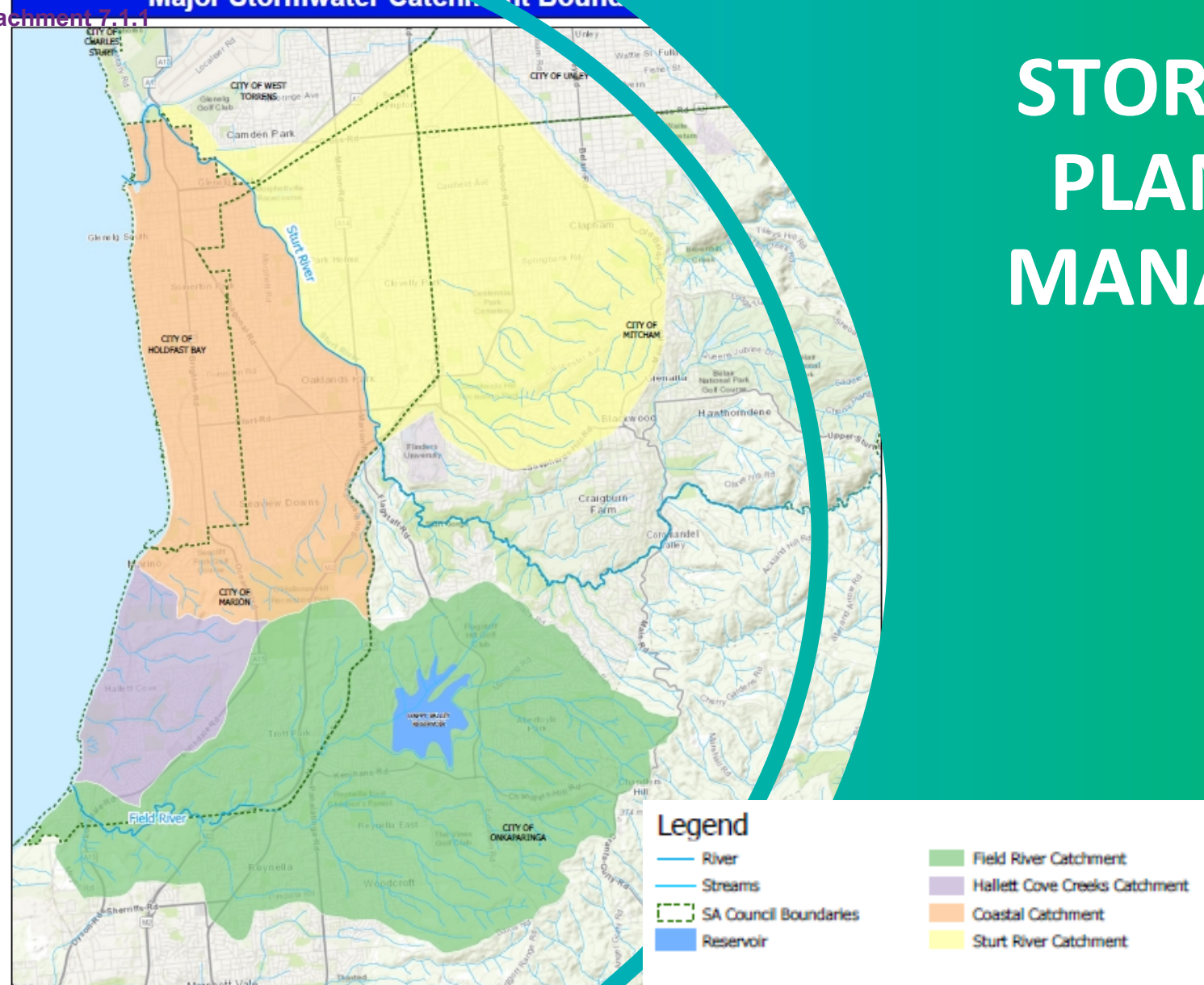
Condition	Description of Condition	Residual Useful Life (% of asset design life remaining)	Estimated Network Condition
1	Very Good: only planned maintenance required	60% to 100%	50%
2	Good: minor maintenance required plus planned maintenance	35% to 60%	50%
3	Fair: significant maintenance required	20% to 35%	0%
4	Poor: significant renewal/rehabilitation required	10% to 20%	0%
5	Very Poor: physically unsound and/or beyond rehabilitation	0% to 10%	0%

Stormwater Infrastructure – Condition

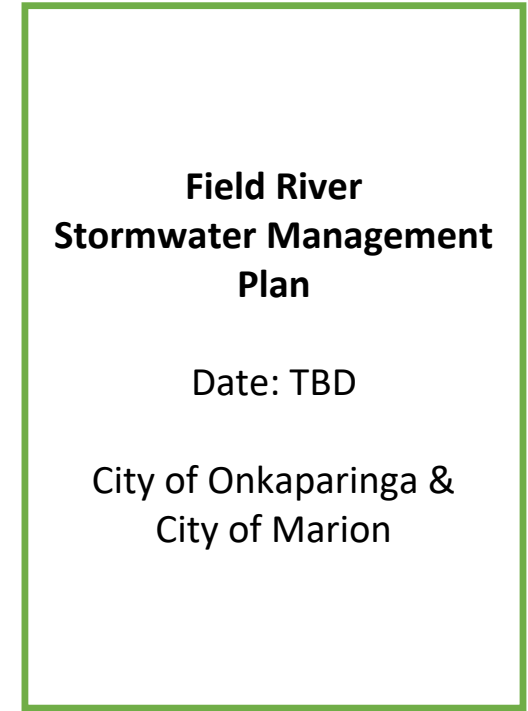
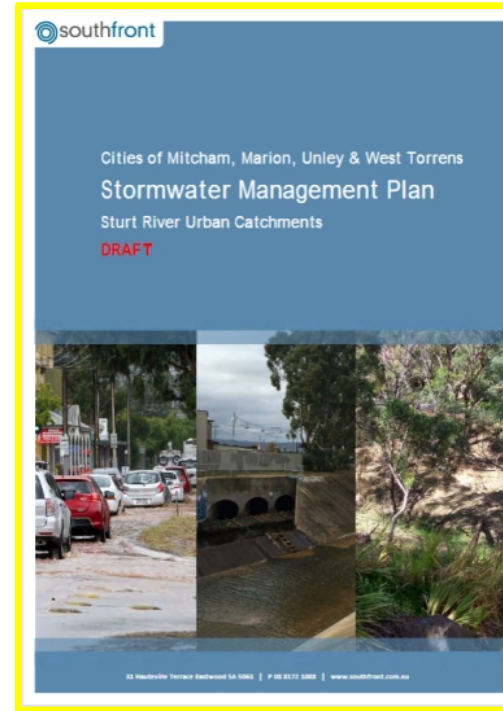
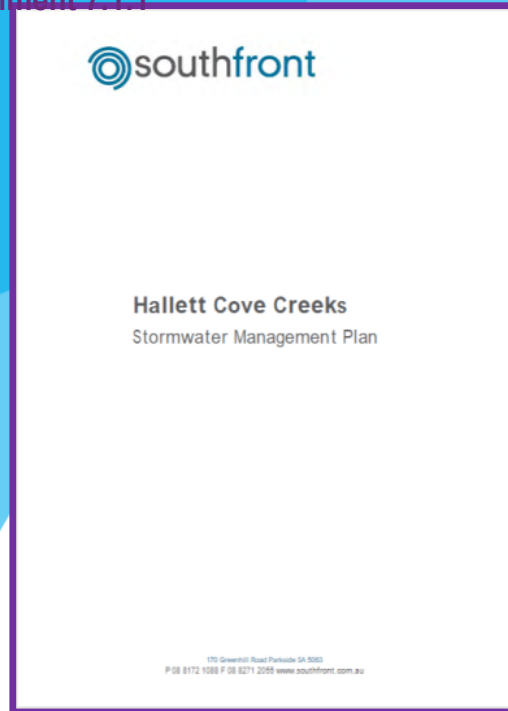
	Acquisition	Operation	Monitoring	Maintenance	Renewal	Disposal	Budget
Year	Creation	Operation	Monitoring	Maintenance	Renewal	Disposal	TOTAL
2022/23	\$2,900,000	\$620,000	\$30,000	\$350,000	\$0	\$0	\$3,900,000
2023/24	\$2,900,000	\$620,000	\$30,000	\$350,000	\$0	\$0	\$3,900,000
2024/25	\$2,900,000	\$620,000	\$30,000	\$350,000	\$0	\$0	\$3,900,000
2025/26	\$2,900,000	\$620,000	\$30,000	\$350,000	\$0	\$0	\$3,900,000
2026/27	\$2,900,000	\$620,000	\$30,000	\$350,000	\$0	\$0	\$3,900,000
2027/28	\$2,900,000	\$620,000	\$30,000	\$350,000	\$0	\$0	\$3,900,000
2028/29	\$2,900,000	\$620,000	\$30,000	\$350,000	\$0	\$0	\$3,900,000
2029/30	\$2,900,000	\$620,000	\$30,000	\$350,000	\$0	\$0	\$3,900,000
TOTAL	\$23,200,000	\$4,960,000	\$240,000	\$2,800,000	\$0	\$0	\$31,200,000



Stormwater Infrastructure – Operations

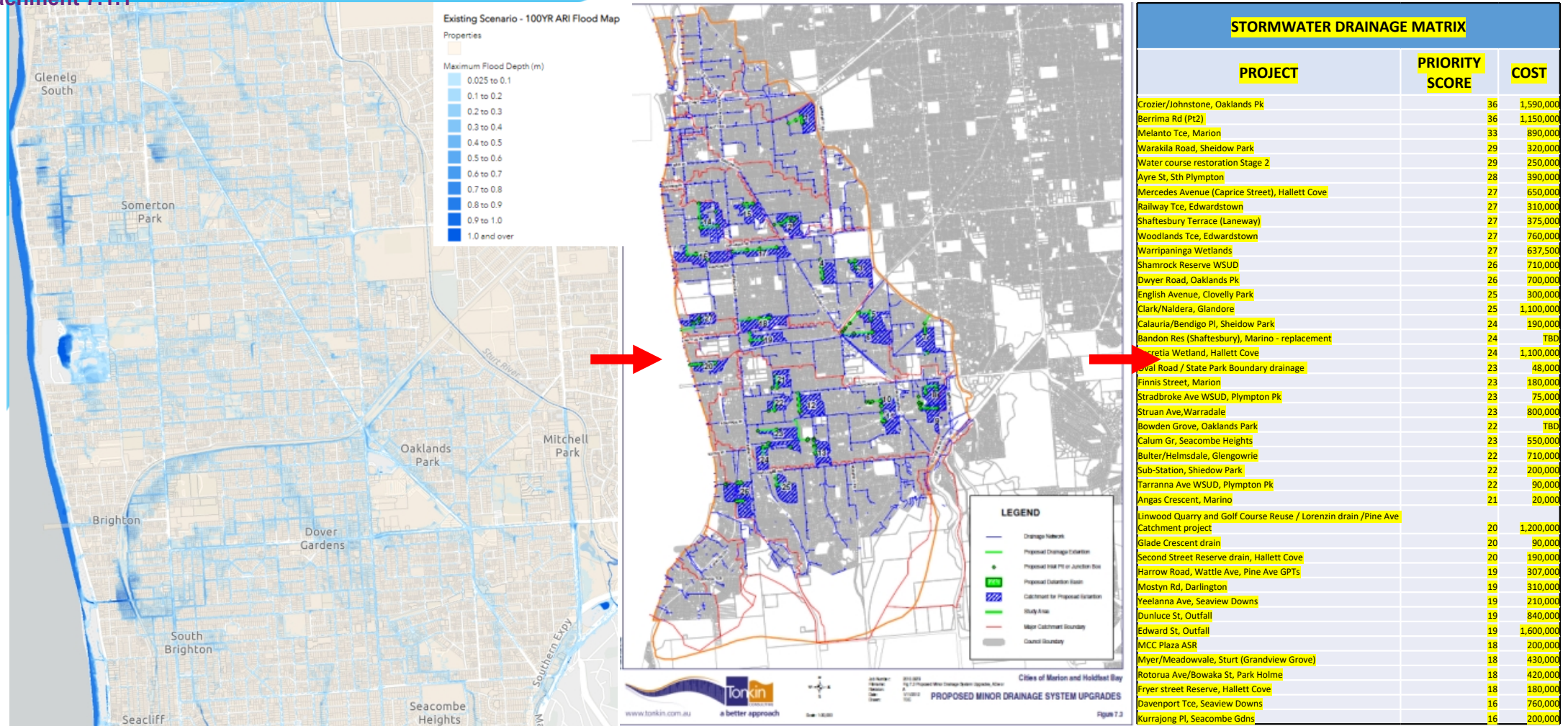


STORMWATER PLANNING & MANAGEMENT



Hallett Cove Creeks	Coastal Catchments	Sturt River	Field River
ENDORSED	ENDORSED	IN DRAFT	NOT STARTED
2015	2015	~ 2023/24	TBD
\$8.33 Million	CARL TO COLLECT	~\$120 million	TBD

Stormwater Planning – Management Plans



Stormwater Planning – Projects

WATER SENSITIVE URBAN DESIGN





CoM have installed over
Over 130 Rain Gardens



Rain Gardens

Cost = Up to \$50,000

Storage = N/A

- Rain Gardens require a design for specific locations.
Requires maintenance.

Stormwater WSUD Treatments – Rain Gardens

Unhealthy vegetation



Despite good intent WSUD failed

Water sensitive urban design (WSUD) assets

Inspection and maintenance guidelines

Biofilters

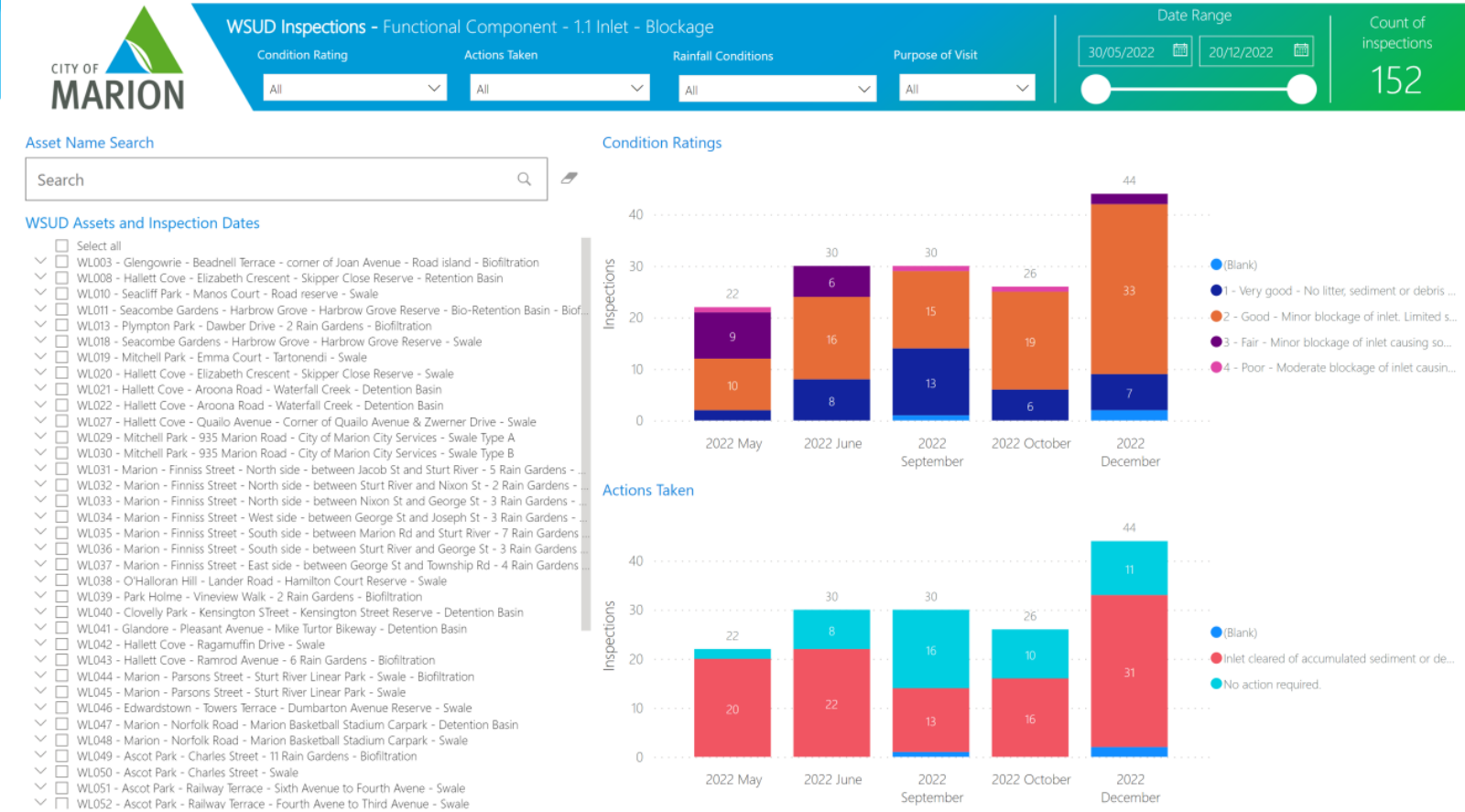


2022 Inspection and Maintenance Guidelines

- VIDEO

2022 Inspection and Maintenance Guidelines





Reporting

STORMWATER PLANNING & DEVELOPMENT



Development Principles of Stormwater Management

- Reduce Post-Development Peak Flows to Pre-Development Level - *DETENTION*
- Reduce Discharge Volumes - *RETENTION*
- Reuse Rainwater for Water Conservation - *PLUMBED RAINWATER TANKS*
- Reduce Water Pollution – *FIRST FLUSH RETENTION - EPA TARGETS*
- Flood Protection – FFL 300mm above 1 in 100 year Flood Level



DETENTION: the collection and storage of rainfall on impervious areas, and its slow release at a rate no greater than Pre-Development Flow or the downstream stormwater system capacity.

RETENTION: the collection and storage of rainfall for on-site reuse for garden watering or plumbed into dwelling for non-potable water use, avoiding discharge to downstream stormwater system.

POST-DEVELOPMENT PEAK FLOWS and volumes are significantly increased by higher density development that has been shown to increase existing urban impervious areas from 50% to 90% (Planning Study for Marion/Holdfast Bay Catchment Management Plan)

Development Stormwater Principles

Planning and Design Code

DEEMED TO SATISFY REQUIREMENTS for Residential Dwellings

- 1000litre RETENTION Rainwater Tanks < 200m² site area
- 2000litre RETENTION Rainwater Tanks > 200m² < 400m² site area
- 4000litre RETENTION Rainwater Tanks > 400m² site area
- Plus additional 1000litres for DETENTION, except for sites greater than 200m² that have greater than a 1/3 pervious site area



Development – Planning and Design Code

Land Divisions

INFILL DEVELOPMENT

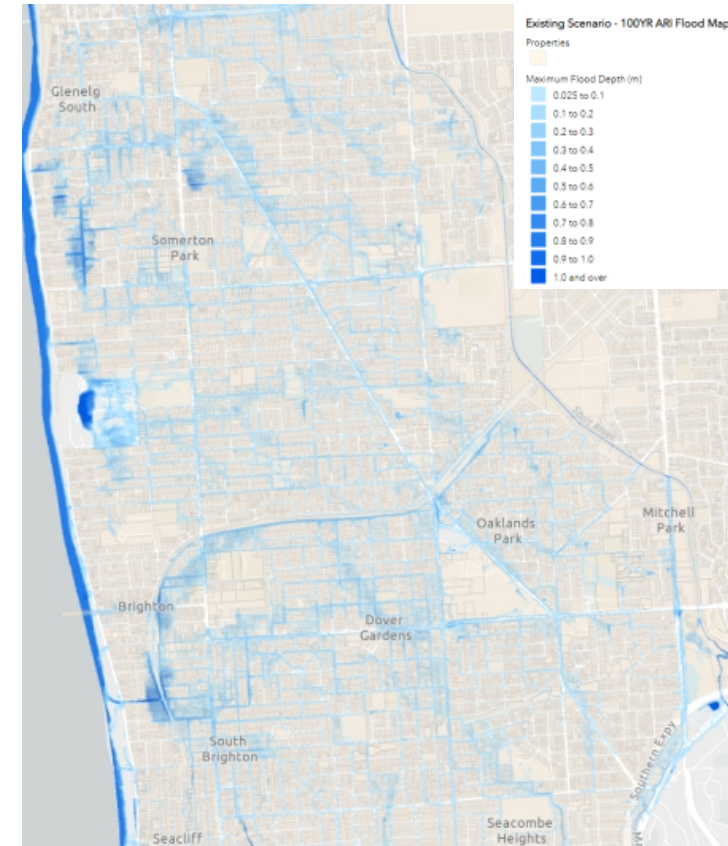
- **Oaklands Green**
(Barry Rd/Doreen St/Bombay St) – create 740 dwellings lots (88m² to 144m² site area) from 255 existing dwelling sites. Underground DETENTION tanks in Council Reserves with GPT's
- Connect to Oaklands Wetland Recycled Stormwater RETENTION, in lieu of on-site Rainwater tanks because of small allotments
- MUSIC Modelling demonstrating achieving EPA water quality improvement targets
- Discharge to under capacity downstream stormwater system to the west and into Sturt Drain to the East.



Development – Land Divisions

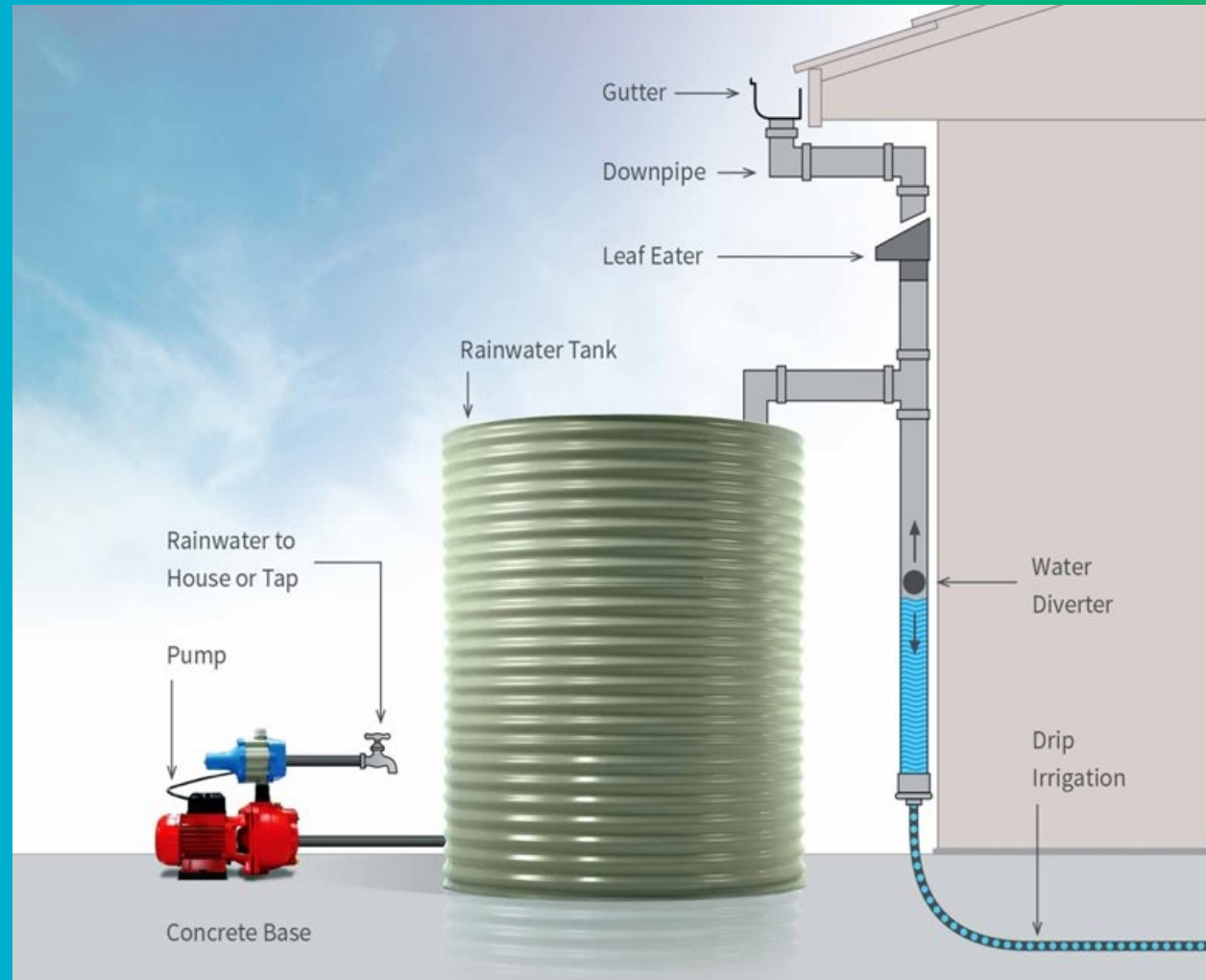
STATE GOVERNMENT FLOOD MAP STANDARDISATION PROJECT

- Provide complete uniform set of flood maps across Adelaide, and introduce a new layer for 1 in 500 year storm.
- To be included as an updated Planning and Design Code Overlay.

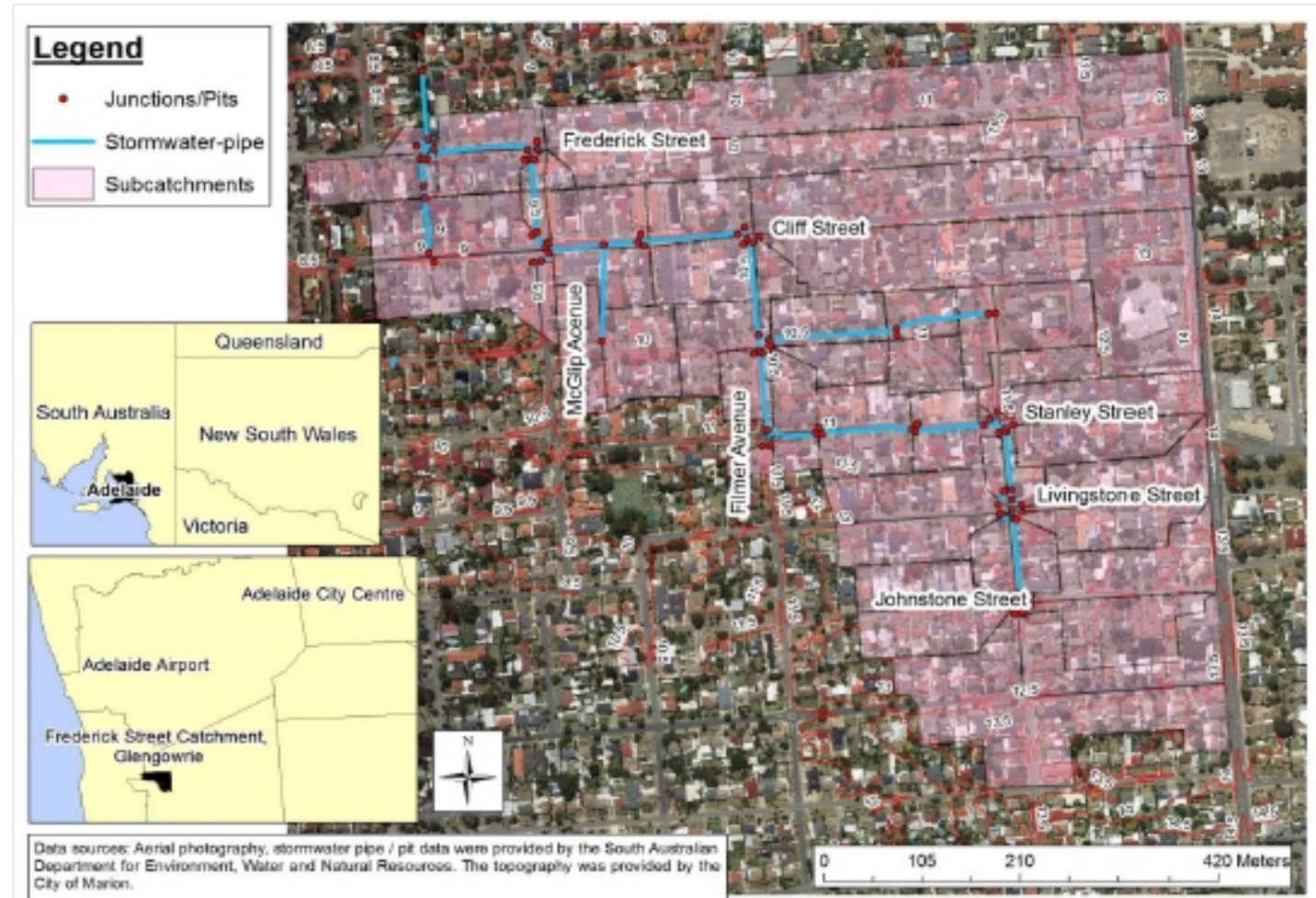


Development – Flood Mapping

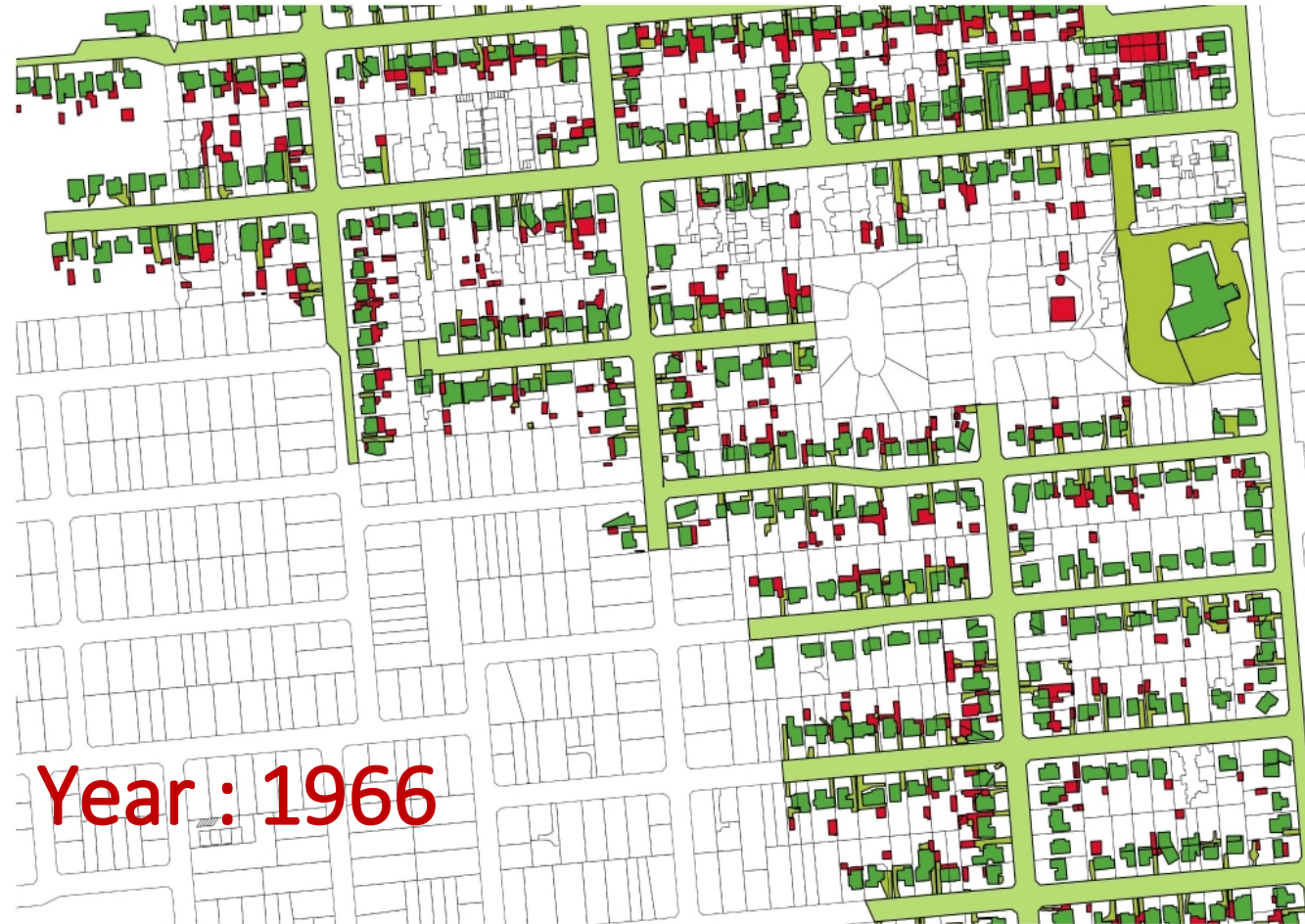
RAIN WATER TANK TRIAL



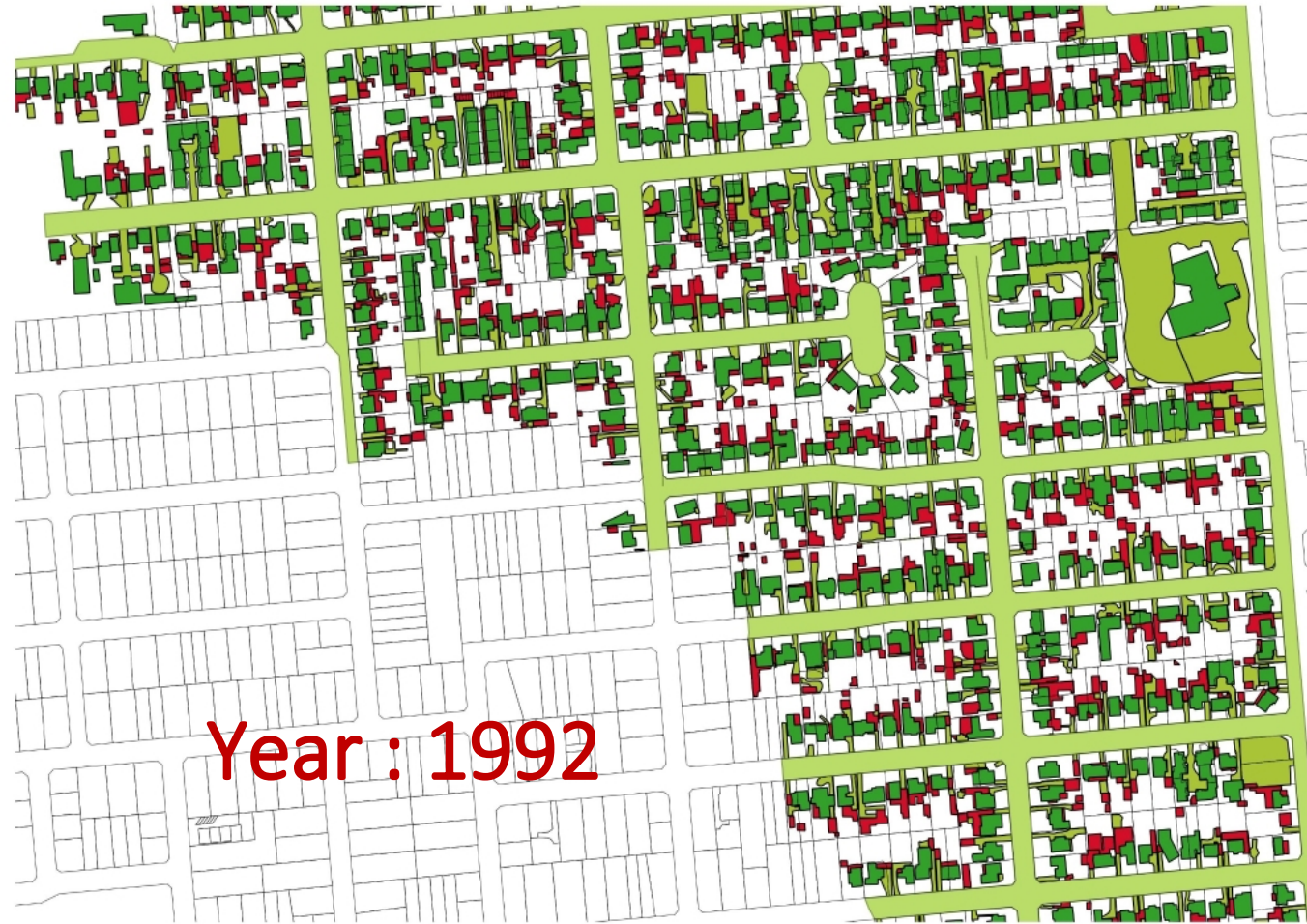
- 45 Ha Residential
- 0.5% grade
- **Rainfall data: July 1992 to present**
- **Flow data: August 2013 to present**



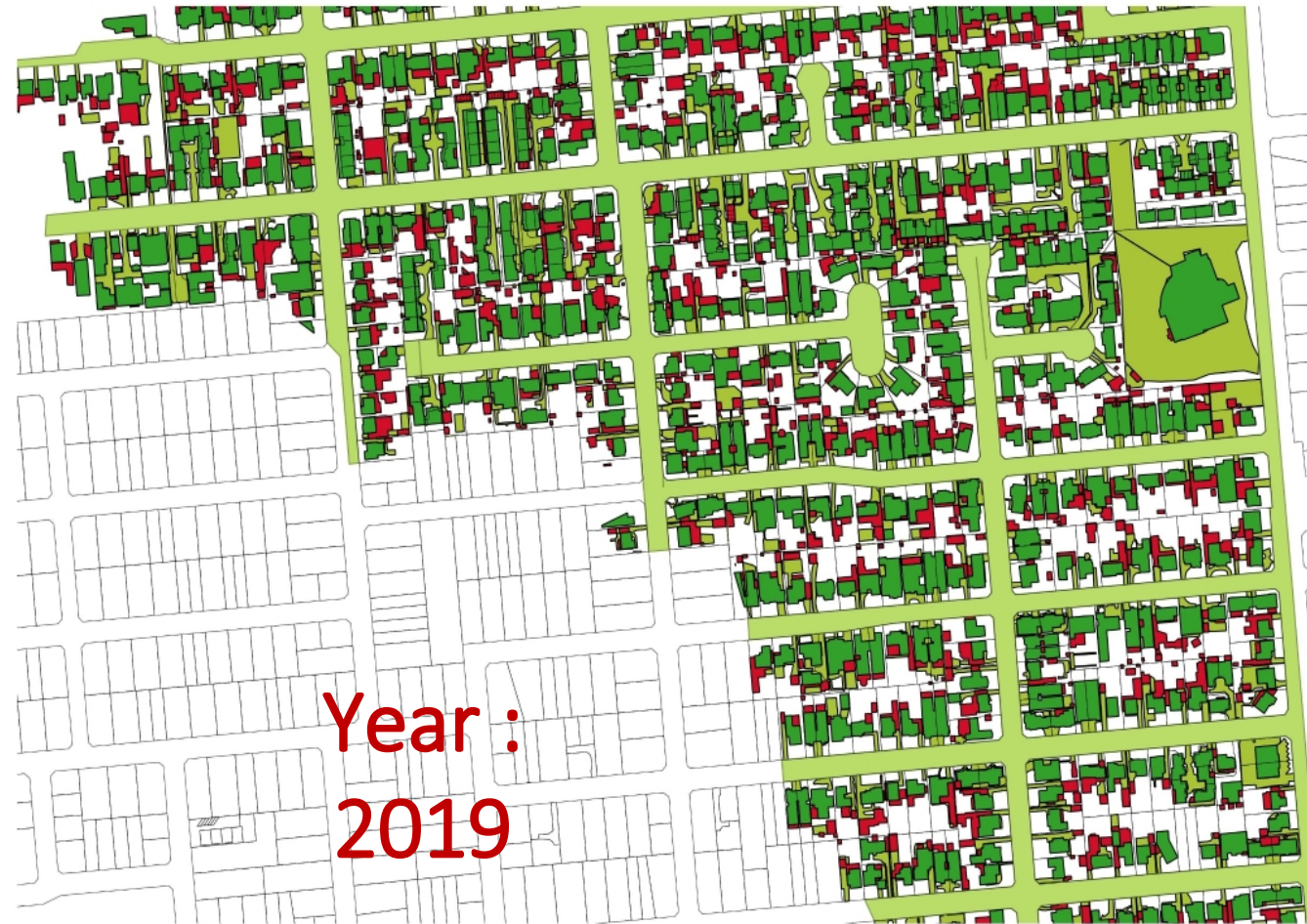
Frederick Street sub-catchment (Drain-18)



Frederick Street sub-catchment (Drain-18)



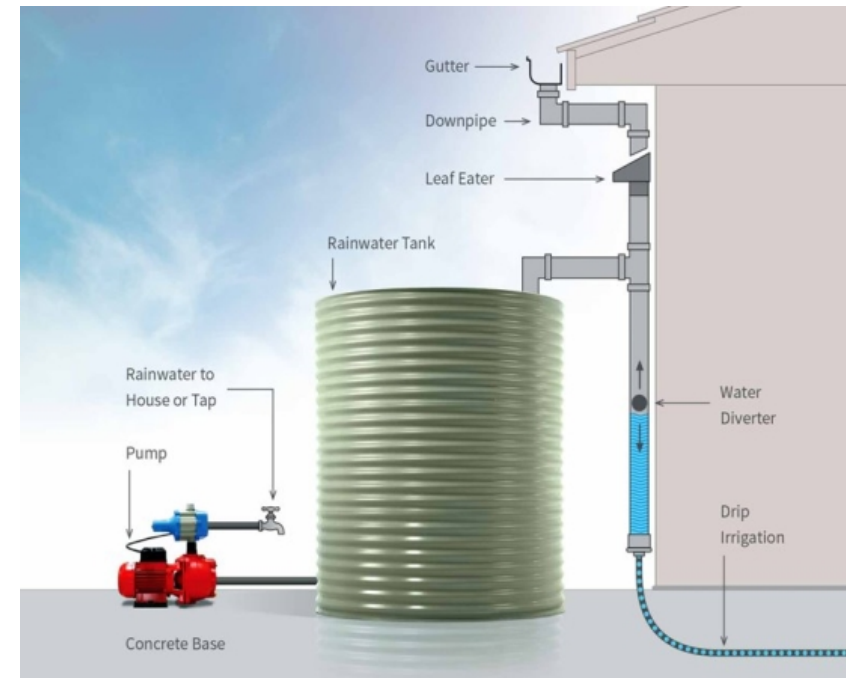
Frederick Street sub-catchment (Drain-18)



Frederick Street sub-catchment (Drain-18)

Joint Holdfast Bay and City of Marion Rainwater Tank Pilot Project For the Frederick Street Catchment

- \$260,000 Project, 50% funded by DEW
- MSc Student employed
- 1st Steering Group meeting, project starts in earnest in July
- Intent is to have Rebate scheme in place and tank installed for next winter
- Assess benefits and determine if scalable



Development – Opportunities

QUESTIONS



8 Reports for Noting - Nil**9 Workshop / Presentation Items - Nil****10 Other Business****11 Meeting Closure**

The meeting shall conclude on or before 8.00pm unless there is a specific motion adopted at the meeting to continue beyond that time.