

# Attachment - Item 10.4.1

<b>Policy No:</b>	IS002	<b>IS002 – Waste &amp; Resource Recovery Policy</b>
<b>Review Date:</b>	May 2017	
<b>Revision No:</b>	00 <del>3</del> <sup>2</sup>	
<b>Policy Manual Version No:</b>	002	
<b>Adopted:</b>	Wednesday 3 September 2014	

## 1. Purpose and Scope of the Policy

- To state Moorabool Shire Council's intention to improve the management and delivery of waste management services for the community.
- To work with the community and businesses to cost-effectively protect and enhance Moorabool's environmental and social attributes through the reduction, recovery and improved management of waste resources.
- To provide well executed and cost effective best practice waste management services to the community using a 'user pays' and 'best value' approach.
- To ensure that all waste management services to the community are financially sustainable.
- To actively participate in regional groups to improve waste management services for the community.

## 2. Policy

### Background

Moorabool is a rapidly growing municipality containing areas of urban development, land used for farming and horticulture, lifestyle farm and bush properties and state and national parks and reserves. The municipality has a growing population of people attracted to the area for the quality of the natural, social and built environment and its proximity to Melbourne, Ballarat and surrounding areas. Council provides waste management and resource recovery services via kerbside collection services, transfer stations and litter and cleaning operations. The council does not operate a landfill, sending residual waste to landfills inside and outside of the region.

### Key Policy Principles

The policy and strategy will adhere to the following key principles:

- a) Waste Minimisation  
The Shire will promote the waste minimisation hierarchy of 'Avoid, Reduce, Reuse, Recycle, Recover Energy and Safe Disposal', working to promote avoidance and reduction of waste and higher forms of resource recovery where practicable.
- b) Cost-effectiveness and Best Value  
In keeping with the Victorian government's Getting Best Value: The Victorian Waste and Resource Recovery Policy, the Shire will promote waste management and resource recovery options that are cost-effective, enhance prosperity and are financially sustainable. The Shire will work to minimise future costs of waste management by promoting innovation, efficiency and competition.

c) Access to Services

The Shire will create appropriate opportunities for the community and businesses to reduce, recover and/or safely dispose of waste. These will be provided by kerbside services and/or transfer station drop-off services as well as information about waste reduction and the correct use of waste and resource recovery systems within the Shire.

d) Equity

The Shire will price waste disposal and resource recovery services to reflect the full costs and benefits of services, with appropriate charging for services at points of disposal and through council rates notices.

e) Triple Bottom Line Accounting/Reporting

The Shire will consider the performance of resource recovery and waste disposal activities against financial, social and environmental 'bottom lines' and seek to optimise and improve performance against each of these.

f) Innovation

Moorabool Shire Council will continue to investigate the latest innovations in waste management, mindful of our obligations to the environment.

g) Continual Improvement

The Shire will collect appropriate statistics and annually review progress against the Moorabool Waste Minimisation and Resource Recovery Strategy (MWMRRS). This review will consider whether objectives are being met and appropriate modifications/updates to the strategy.

h) Community engagement and communications

The Shire will provide the community with opportunities to contribute to the development of the MWMRRS, and ensure the objectives, action and deliverables of the strategy are widely communicated and understood.

### Key Policy and Council Deliverables

a) Kerbside Services

Moorabool Shire Council will continue to deliver kerbside garbage, ~~and~~ recyclable ~~and~~ greenwaste services to existing and new households in the established collection areas that have certificates of occupancy. Services may also be extended to areas if there is sufficient demand for services by community members willing to pay for the services.

Bins will continue to be standardised as follows:

- Garbage bins (120L weekly or 240L fortnightly). These bins will have a green body and red lids. This service will be charged as part of the ~~general-waste rates~~ charges on the annual Rate & Valuation Notices.
- Recycling bins (240L fortnightly). These bins will have a green body and yellow lids. This service will be charged as part of ~~general-waste rates~~ charges on the annual Rate & Valuation Notices.
- Greenwaste bins (240L fortnightly). These bins will have a green body and light green lid. This service will be charged as part of the waste charges on the annual Rate & Valuation Notices.

Residents are required to purchase their own waste bins and can purchase them through Council. Residents are allowed a 120L MGB for Residential and Low Density Residential zoned land and 240L MGB for all other land zones. Waste bins will have a green body with a red lid in accordance with industry standard. Bins not purchased through Council will be required to be inspected prior to coming onto the service. If they do not have a red lid on the garbage bin, residents will have to purchase a red lid from Council at a fee set by Council. Households will be able to order and pay for additional bins at cost and pay for the extra services separate to rates payment.

Council will provide every property within the waste/recycling area with a recycling bin free of charge. The recycling bins remain the property of Council and are registered to the property they are issued to. Any replacement bins due to damage, being stolen etc. will be free of charge.

Resident are required to purchase their own greenwaste bins and can purchase these through Council. Residents are allowed a 240L MGB for Residential and Low Density Residential zoned land. Greenwaste bins will have a green body with a light green lid in accordance with industry standard. Bins not purchased through Council will be required to be inspected prior to coming onto the service. If they do not have a light green lid, residents will be required to purchase a lid from Council at a fee set by Council. Households will be able to order and pay for additional bins at a cost and pay for the extra services separate to their rates payment.

Only properties that have a Certificate of Occupancy can come onto the kerbside service. (A case for the exception to this may be sought from sites that do not have a certificate of occupancy, but can guarantee security of bins against theft and not leave bins set out on roadsides for more than 24 hours.)

Council will replace broken lids, wheels, pins etc., on waste bins free of charge to residents but take no responsibility for waste bins that are over 5 years of age and become brittle. Industry only guarantees mobile bins for a period of 5 years life span. It is the responsibility of the resident to ensure the bins, ~~both-recycling, and-garbage~~ and greenwaste, are kept in good condition and sanitised.

For Occupational Health and Safety (OH&S) reasons, bins found to be overfull will not be emptied. Overfull bins can cause waste/recycling to dislodge and injure pedestrians or damage the garbage/recycling collection vehicles or the Contractor's staff.

Bins that are too heavy for the mechanical arm to lift will be left uncollected and stickered by the Contractors. Bins that have foreign objects in them i.e. motors, metal wheels etc., will be left uncollected and stickered.

The Contractor will not return to collect bins that are only partly emptied. This only occurs when something in the bin is stopping rubbish coming out, or the rubbish has been squashed down preventing rubbish from coming out.

Compulsory waste collection areas will include all residences within the zoning of Residential and Low Density Residential, Township and Rural Living. Residential and Low Density Residential will be serviced by a 120L weekly garbage collection and 240L fortnightly recycling collection. Township, Rural Living and all other zoned land in compulsory and non-compulsory will be serviced by a 240L fortnightly garbage collection and 240L fortnightly recycling collection. A non-compulsory greenwaste service will be offered to properties within a Residential or Low Density Residential zoned area, by a 240L fortnightly kerbside collection.



Decisions regarding transition from non-compulsory service to compulsory service in all other areas will be based on factors such as costs to service, housing and occupied housing densities and local community demand for services.

Council recognises that many farm or more remote properties have access to commercial garbage collection services or make other arrangements for waste disposal. The council provided kerbside service is made available to most households within the shire provided they are located on roads in a collection area. Households located on roads that are not in a compulsory or non-compulsory area have the option of placing an MGB on an appropriate point on accessible roads. In this way, council offers kerbside services to virtually all domestic premises within the shire.

Residents who wish to cancel their non-compulsory service are required to leave Councils recycling bin out for the Contractor to take it away. The garbage/recycling charge will not be taken off the property until the recycling bin has been retrieved.

b) School, Emergency Services and Community Groups Recycling

Council provides schools, emergency services and community groups with a recycling program and a maximum of 4 recycling bins will be collected fortnightly from any individual school, emergency service, or community group. Council provides the recycling bins to schools, emergency services and community groups and if they choose to withdraw from the service, the bins are returned to Council.

Schools, emergency services and community groups must agree to commit for a minimum period of twelve months. (The rate for school, emergency services and community groups recycling will be adjusted annually in the budget process).

c) Recreation Reserves and Halls

Council provides a free waste service to Committees of Management for Recreation Reserves and Halls within the municipality. This is funded by the waste management charge and is limited to a maximum of 6 x 240L bins category 1 reserves, 4 x 240L for other reserves and 2 x 240L bins for Halls. The frequency of collection will match the collection area that it sits in. Additional bins requested by reserves and halls will be charged at the set rate. This allocation is over and above litter bins that are placed at some reserves.

MGB recycling service is not automatically provided to recreation reserves and halls. Where it is justified and can be demonstrated that contamination can be controlled, a maximum of 2 x 240L bins will be supplied to these facilities.

d) Commercial/Industrial Waste Collection

Council operates a 240L commercial waste collection service across the municipality. This service is non-compulsory and businesses can pull out of the service at any time by writing to Council. Businesses in established collection areas will continue to have access to a weekly MGB garbage collection service offered as part of the regular weekly or fortnightly garbage collection service provided to rateable premises in designated collection areas.

The service is user pays i.e. number of bins x number of days collection = \$ cost. There is currently no recycling collection provided for Commercial premises. Transfer stations will continue to provide areas for dropping off of conventional 'dry' recyclables (cardboard, paper, metals, glass cullet, and rigid plastic containers) and garbage.

### e) Transfer Stations and Drop-off Resource Recovery Facilities

Moorabool Shire Council will continue to operate transfer station and resource recovery facilities at:

- Bacchus Marsh
- Ballan
- Mt Egerton

Operating days and hours of the transfer stations will be:

Bacchus Marsh	Open:	Friday to Monday, 10am to 4pm
	Closed:	Tuesday to Thursday
Ballan	Open:	Wednesday to Monday, 1pm to 4pm
	Closed:	Tuesday
Mt Egerton	Open:	Saturday and Sunday, 12noon to 5pm
	Closed:	Weekdays

These facilities allow drop off of up to 5 cubic metre loads of general waste for consolidation and landfill or recycling. Charges for garbage disposal will be set annually as part of the fees and charges schedule in the budget and will reflect the cost of transfer, transport and disposal.

Resource recovery opportunities provided at transfer stations will include:

- Free drop off for:
  - Cardboard and paper
  - Metals and e-waste
  - Commingled 'dry' recyclables (metal, glass, and plastics beverage and food packaging containers)
  - Whitegoods (with certain conditions)
  - Automotive oil
  - Cooking oil
  - Empty chemical containers through the ChemClear/DrumMuster programs.
- Garden organics and untreated timber at half the price for an equivalent volume of landfilled waste.
- Mattresses can be dropped off for recycling at a fee reflecting recovery cost.
- Tyres can be dropped off for recycling at a price reflecting the costs of management. These fees will be set annually depending on the size and nature of the tyres.

The costs of transfer station operations and different materials will be distributed to volumes, materials and waste streams with consideration of the following:

- The costs of general operation, depreciation and maintenance of transfer station facilities will be distributed to different landfilled and recycled items on the basis of proportional volume of materials.
- Costs specific to the management of particular wastes and recovered resources such as gate fees, collection costs, payment of resources, or handling or processing costs significantly different to other materials.
- The net costs of management, calculated as the costs of recovering a resource minus the avoided landfill disposal costs.

- Other factors such as environmental benefits of recovery, equity, or prevalence of illegal dumping.

Waste and recycling charges at transfer stations will be made available via the Council website and on signage at transfer station facilities. These will be revised annually or in response to significant changes to costs of operation. Gate charges will be set as per the fees and charges schedule set in the annual budget.

Opportunities will be investigated for expanding resource recovery to include items such as:

- Soil
- Building rubble
- Plasterboard
- Film plastics, including silage wrap and other horticultural films
- Furniture
- Books and magazines
- Bric-a-brac

Hazardous waste recovery is provided for items including:

- Oil and automotive fluids
- Automotive batteries

### f) Litter, Dumping and Public Place Recycling

In order to protect and improve the local environment the Council encourages residents and visitors to help keep our Shire clean by disposing of all litter, waste and rubbish thoughtfully. Council has the authority to issue infringement notices and enforce fines for offences under Council by-laws and under the Litter Act to ensure the environmental health of Moorabool. Council provides public place litter bins in high traffic areas. Council will develop strategies to reduce and improve the management of litter and dumping. Options for the expansion of public place litter and recycling systems will be considered where warranted.

### g) Waste from other Council Operations

The Shire currently generates and either disposes of or recovers wastes from council operations. Details of such materials are not always well recorded, and are sometimes the responsibility of contractors providing services to the Shire. The Shire has informal systems for the management of surplus items. In some instances, a high degree of resource recovery occurs from council operations. The Strategy development process will seek to formalise systems to ensure opportunities for cost-effective resource recovery are favoured over landfill disposal.

### h) Purchasing of Recycled Content Products

The Shire will consider the availability, relative costs, quality and environmental and social performance of recycled content products. Where practicable the Shire will adopt preferential purchasing policies favouring recycled content products that are competitive in cost and quality and are Australian made.

### i) Hard Waste

The Shire does not currently operate a hard waste service however the community has access to the three transfer stations to dispose of hard waste at the gate fee. The Shire will look at ~~various~~ options for the service at various opportunities but it must be a full cost recovery system for the Shire to introduce such a service. Prior to consideration of a hard waste service, a survey to property owners would be undertaken to gauge support for the service and willingness to pay.

### j) Greenwaste/Organics

The Shire ~~does not operate a~~ provides a non-compulsory kerbside collection for greenwaste/organics ~~however t~~ to households with a Residential or Low Density Residential land zoning.

The provision of this service is outlined in section a) kerbside services. Residents who wish to receive a greenwaste collection must commit to the service for a minimum of a 12 month period.

The wider community also continues to ~~has have~~ access to ~~the~~ three transfer stations to dispose clean greenwaste/organics at a subsidised gate fee. ~~The Shire will look at various options of greenwaste/organics but it must be a full cost recovery system for the Shire to introduce such a service. Prior to consideration of a greenwaste service, a survey to property owners would be undertaken to gauge support for the service and willingness to pay.~~

### Key Action Areas

The waste minimisation and resource recovery will have objectives and actions for the following key action areas:

- Kerbside garbage/general waste
- Kerbside recyclables
- Hard waste collection service
- Transfer station operations
- Greenwaste/Organics recovery
- Litter and dumping
- Street sweeping
- Other municipal
- Commercial and Industrial waste
- Construction and Demolition waste
- Managing council surplus items
- 'Safe'/secure landfilling, disposing of wastes to landfills with high levels of environmental protection
- Procurement of services
- Community engagement
- Strategy reporting, review and continual improvement

### 3. Related Legislation/Policies/Guidelines

- Council Plan 2013-2017
- Local Government Act 1989
- Environmental Protection Act 1997
- Getting Full Value - Victorian Waste and Resource Recovery Policy 2013

### 4. Review

The waste minimisation and resource recovery policy will be periodically reviewed at least every three years. The strategy will be an active document, with annual review and updating of action items as required. Fees will need to be reviewed on an annual basis and updated as part of the budget process.

### 5. References

<b>Department</b>	Infrastructure
<b>MSC</b>	Moorabool Shire Council

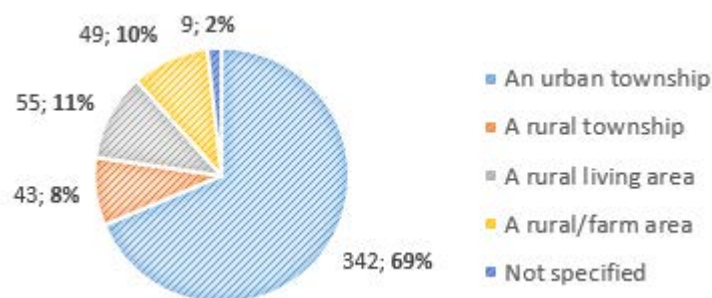
One of the recommendations of Council's Waste & Resource Recovery strategy is to investigate options for greenwaste and hardwaste collection services. To assist in making a decision on these services, a community survey was undertaken to allow residents to provide feedback on the level of demand for different options. Here's what you told us...

### YOUR LOCALITY

Bacchus Marsh	172	Clarendon	5	Ingliston		Navigators	8
Ballan	25	Claretown		Korobeit		Parwan	2
Balliang		Clarkes Hill		Korweinguboorra	3	Pentland Hills	
Balliang East		Coimadai	4	Lal Lal	6	Pootilla	
Barkstead		Colbrook		Leigh Creek	1	Rowsley	3
Barrys Reef		Dales Creek	4	Lerderderg		Scotsburn	4
Beremboke		Darley	76	Long Forest	6	Spargo Creek	
Blackwood	5	Dunnstown	3	Maddingley	32	Springbank	1
Blakeville		Durham Lead		Meredith		Trentham	
Bolwarrah	1	Elaine	2	Merrimu	3	Wallace	1
Bullarook		Fiskville		Millbrook	1	Warrenheip	1
Bullarto South		Glen Park		Mollonghip		Wattle Flat	
Bunding	2	Glenmore	1	Morrison's		Yendon	5
Bungal		Gordon	14	Mount Doran	1	Not specified	84
Bungaree	1	Greendale	8	Mount Egerton	4		
Buninyong	1	Grenville		Mount Wallace	1		
Cargerie	1	Hopetoun Park	4	Myrning	2		

\*Of the 84 responses not specifying a locality, 67 identified as people within 'an urban township (Bacchus Marsh/Ballan)

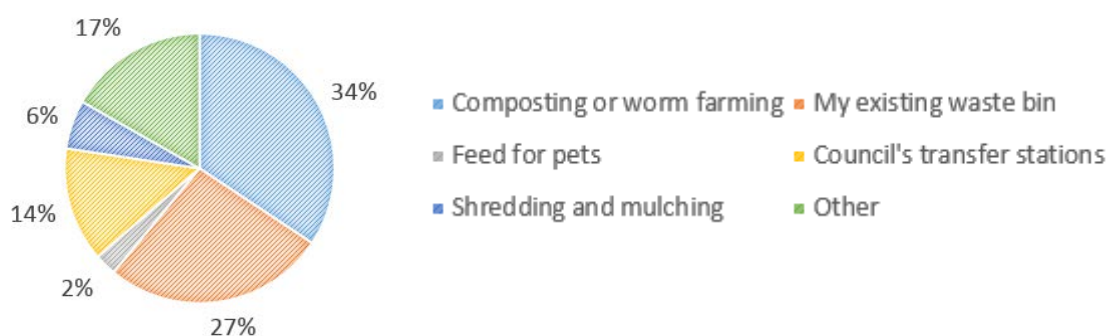
### YOUR LOCATION



**69% of responses** received were from residents living in an **urban township** (Bacchus Marsh or Ballan)

### THE RESPONSES

**QUESTION:** How do you currently dispose of greenwaste?





**Your comments:**

*"Private removal service"*

*"Burn off outside of the fire danger period"*

*"I pay an external company for green waste"*

*"Sad to say I illegally dump green waste due to the ridiculous transfer station fees"*

*"In normal bin"*

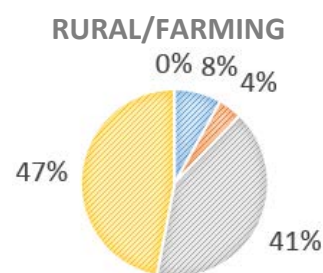
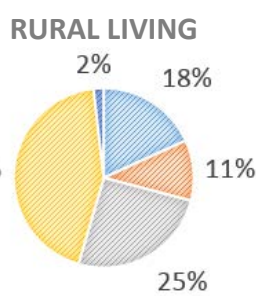
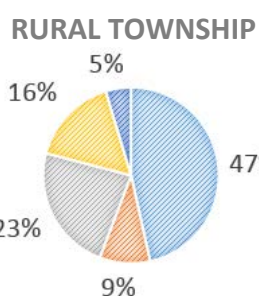
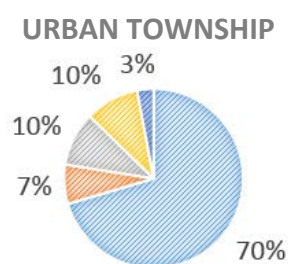
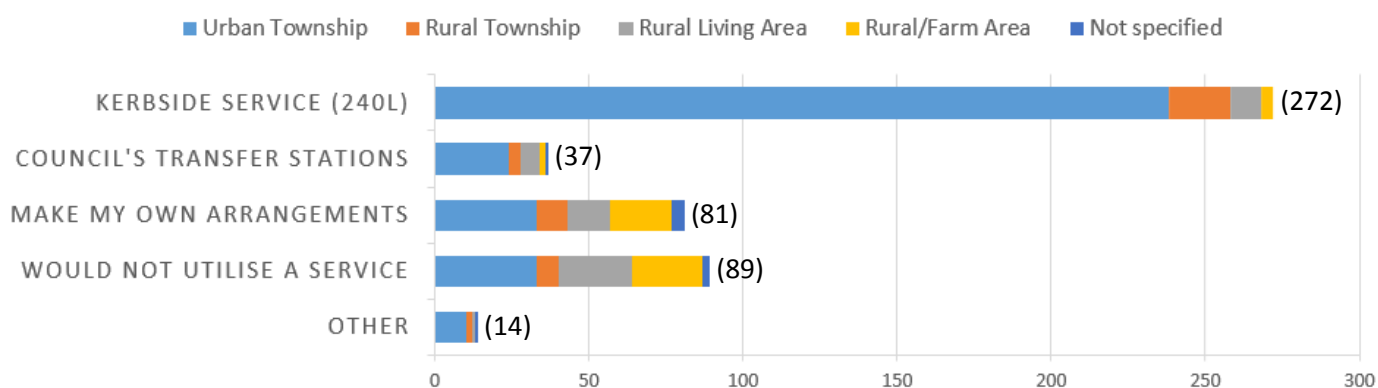
*"Private contractor"*

*"Either burn off or take it to the transfer station"*

*"Need greenwaste bins in the shire, sick of putting it in with my normal garbage as it takes up room"*

**QUESTION:** The introduction of a kerbside greenwaste collection, if this were offered by Council, would be on a full cost recovery basis with the associated charge added to your Rate & Valuation Notice. Given this please select one of the following.

- A kerbside service – 240L (approx. \$60-90 per annum)
- Continue to use Council’s transfer stations, paying the associated gate fees
- Make my own arrangements (ie. composting, mulching etc)
- I would not utilise a greenwaste service
- Other (please specify)



■ Kerbside service ■ Council's transfer stations ■ Make my own arrangements ■ Would not utilise a service ■ Other

**Your comments:**

*"Greenwaste should be free to dump at the transfer station. Council should sell the greenwaste commercially for compost/mulch"*

*"We pay enough already, this service should be included in our rates"*

*"A 240L bin is not enough if you take into account other items and during winter. The transfer station then becomes convenient as you use it only when needed"*

*"It is the responsibility of Council – paid for by my increasing rates. Why should I pay extra for rubbish when my rates hike every year"*

*"Would still burn it"*

*"Melton provide this service for free"*

*"Should be no charge to keep in line with what other Councils offer. Why should we pay – revenue raising again?"*

*"I would use a greenwaste service"*

*"\$60 acceptable not \$90"*

*"I'll keep on using the existing waste bin"*



# Attachment - Item 10.4.2

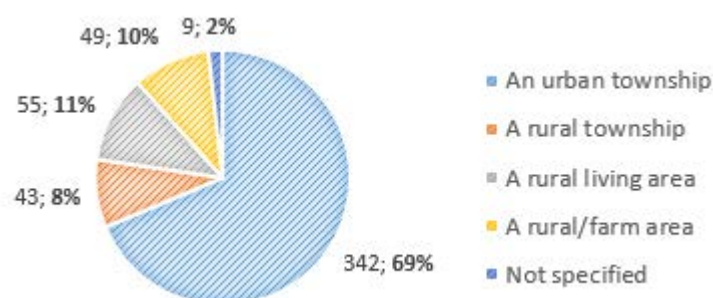
One of the recommendations of Council's Waste & Resource Recovery strategy is to investigate options for greenwaste and hardwaste collection services. To assist in making a decision on these services, a community survey was undertaken to allow residents to provide feedback on the level of demand for different options. Here's what you told us...

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Barrys Reef		Dales Creek	4	Lerderderg		Scotsburn	4
Beremboke		Darley	76	Long Forest	6	Spargo Creek	
Blackwood	5	Dunnstown	3	Maddingley	32	Springbank	1
Blakeville		Durham Lead		Meredith		Trentham	
Bolwarrah	1	Elaine	2	Merrimu	3	Wallace	1
Bullarook		Fiskville		Millbrook	1	Warrenheip	1
Bullarto South		Glen Park		Mollonghip		Wattle Flat	
Bunding	2	Glenmore	1	Morrison's		Yendon	5
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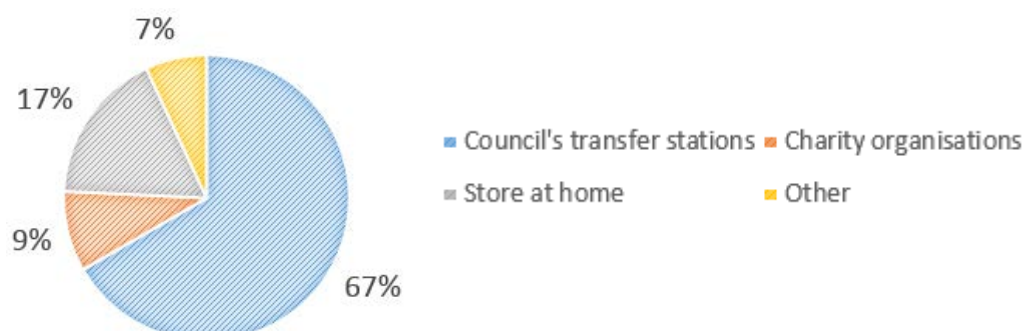
### YOUR LOCATION



**69% of responses** received were from residents living in an **urban township** (Bacchus Marsh or Ballan)

### THE RESPONSES

**QUESTION:** How do you currently dispose of hardwaste items?



**Your comments:**

*"I regularly clean up the rubbish dumped on Council land behind my house – dumped I assume because people can't afford the rates at the tip"*

*"Private contractor"*

*"Bacchus Marsh Buy Swap & Sell or eBay"*

*"It is closer for me to utilise Ballarat's facilities"*

*"Hire a skip or go to the tip with a trailer"*

*"Take metal items to the metal recycle place in Maddingley"*

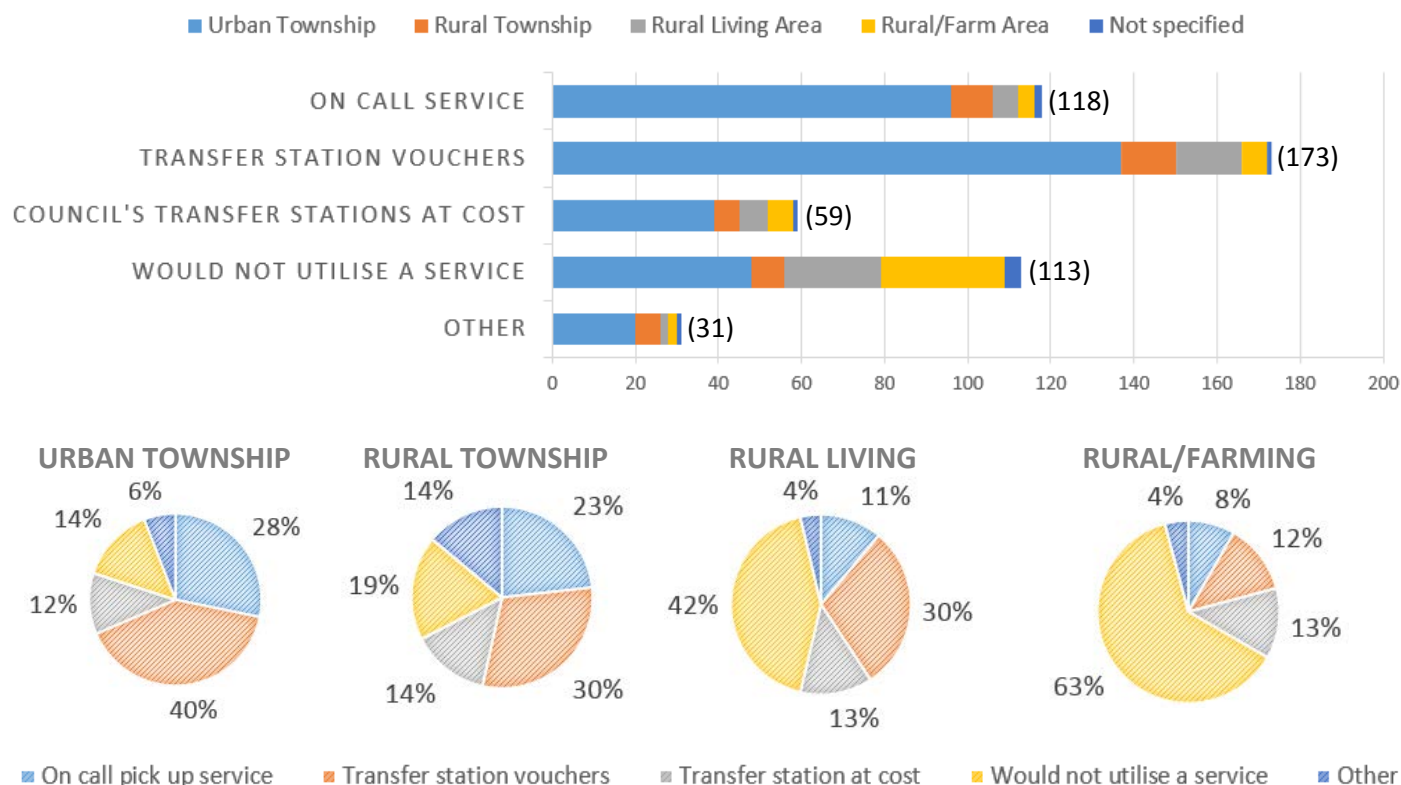
*"Skip"*

*"Use 2 free vouchers provided by Melton Council from another property we own"*

*"Bury in the garden, as an aged pensioner on a tiny income I cannot afford expensive transfer station fees"*

**QUESTION:** The introduction of a hardwaste service, if this were offered by Council, would be on a full cost recovery basis. Given this, please select one of the following:

- An on call pick up service (approx. \$40-60 per collection)
- Transfer station vouchers issued with Rate Notices (approx. \$10-20 added to the notice)
- Continue to use Council's transfer stations, paying the associated gate fees
- I would not utilise a hardwaste service
- Other (please specify)



**Your comments:**

*"A once-yearly date when the community at large puts out their hard rubbish to the curb for collection. Germany does this and people can recycle hard rubbish their neighbours aren't using because it's scheduled and the schedule reduces costs"*

*"I believe there should be at least 1 FREE hardwaste collection per year for residents"*

*"Possibly option 1 but would depend on the details of service - capacity, exclusions, flexibility"*

*"I think we should not have to pay. All other Councils have either a hard rubbish or tip pass with your rates*

*each year. For the amount of rates we pay it should be included. Would also probably solve all the dumped rubbish on the outskirts of Bacchus"*

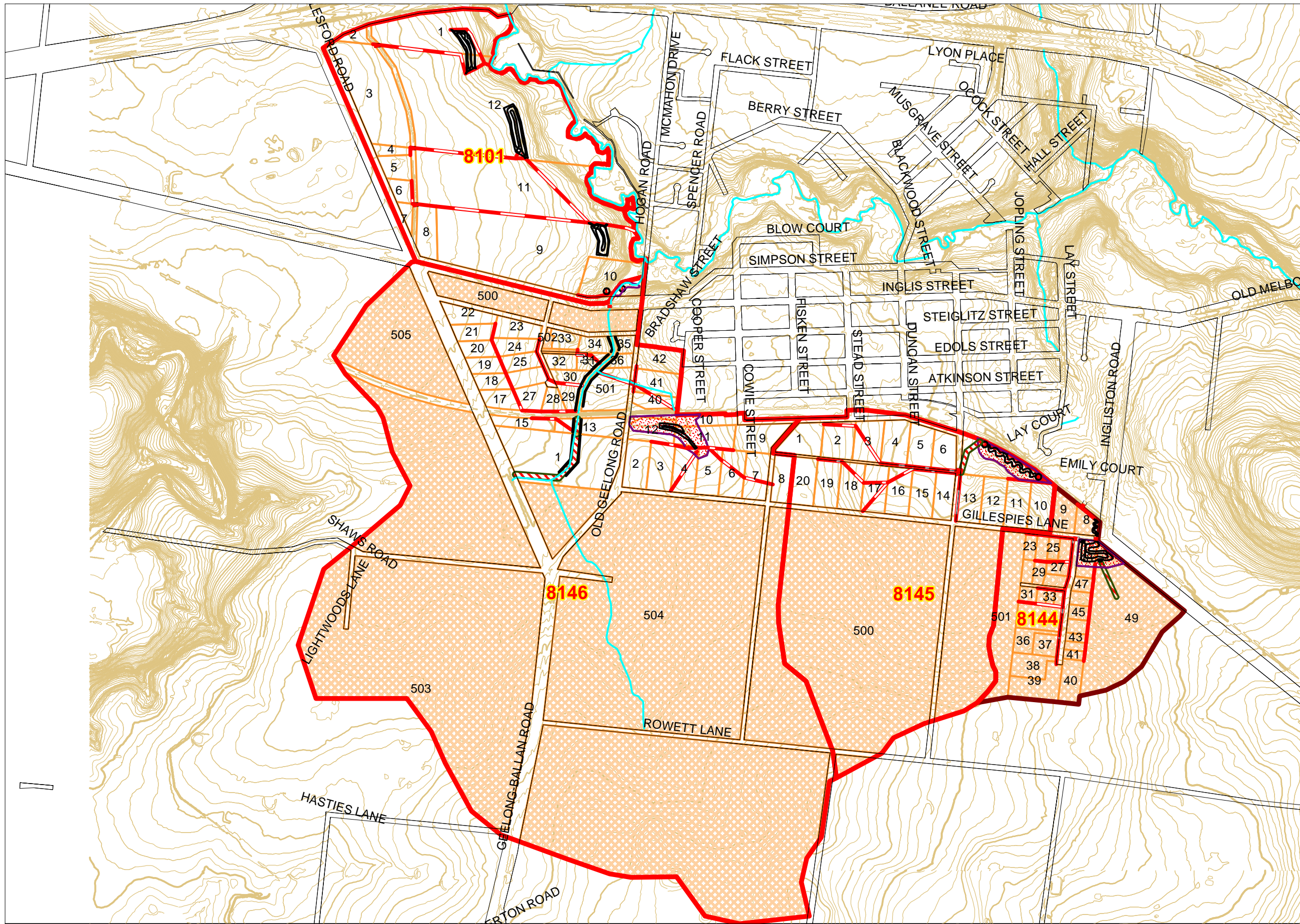
*"Again why a fee, other councils offer to their residents for free"*

*"In the areas where kerbside hardwaste is available, the nature strips look like rubbish tips. I do not want that for Bacchus Marsh. In addition, I do not want to pay any more rates for others to use this service"*

*"Annual hard rubbish pick up would be good but not at that price!"*

# Attachment - Item 10.4.4





- Scheme Boundary
  - Property (unpaid)
  - Property (partly paid)
  - Property (fully paid)
  - Contribution
  - Stage (Allocated)
  - Stage (Works in Progress)
  - Stage (Finalised)
  - Nodes
  - Pipeline
  - Culvert
  - Soft Engineering
  - Grassed Swale
  - Bio-Retention Swale
  - Channel
  - Low Flow Pipe with Channel
  - Cleanout Works
  - Sediment Trap
  - Litter Trap
  - Retarding Basin
  - Wetland
  - Bio-Retention Basin
  - Buffer Strip
  - Inlet/Outlet Structure
  - Junction Pit
- Existing Assets
- Pipeline
  - Channel
  - Natural Waterway
  - Retarding Basin
  - Wetland
  - Sediment Trap
  - Lake

## Ballan Development Services Schemes and Strategy

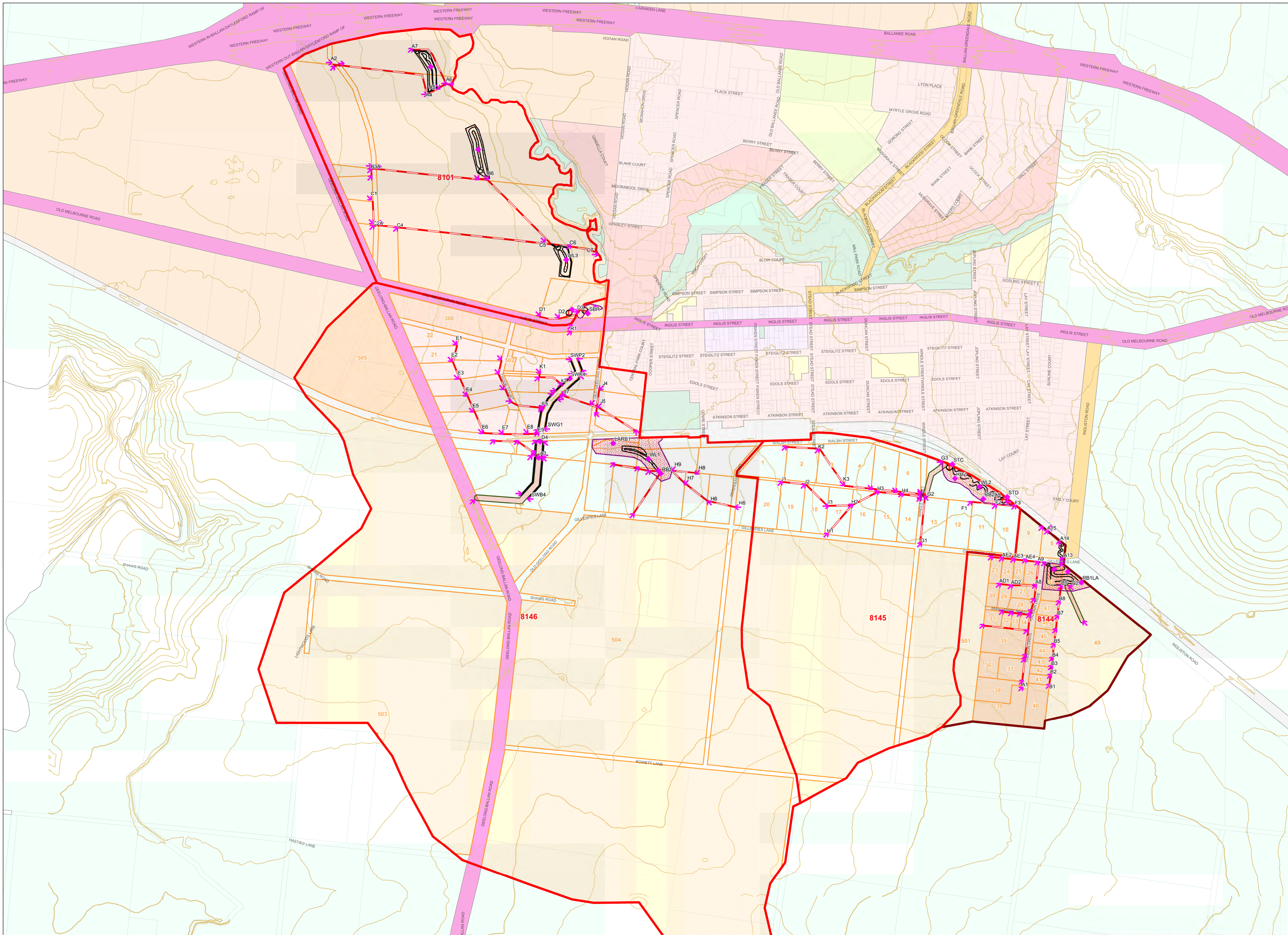
Whilst all due skill and attention has been used Melbourne Water Corporation shall not be liable in anyway for loss of any kind including damages, costs, interest, loss of profits or special loss or damage, arising from any error, inaccuracy, incompleteness or other defect in this information. By receiving and accepting this information the recipient acknowledges that Melbourne Water Corporation makes no representations as to the accuracy or completeness of this information and ought carry out its own investigation if appropriate.

N  
MGA55  
3/02/2016

Map at A3 Scale 1: 16,000







- Scheme Boundary
  - Property (unpaid)
  - Property (partly paid)
  - Property (fully paid)  
(or no contribution expected)
  - Contribution
  - ▲ Stage (Allocated)
  - ▲ Stage (Works in Progress)
  - ▲ Stage (Finalised)
  - ◆ Nodes
  - Pipeline
  - - - Culvert
  - ~ Soft Engineering
  - - - Grassed Swale
  - - - Bio-Retention Swale
  - - - Channel
  - - - Low Flow Pipe with Channel
  - - - Cleanout Works
  - - - Sediment Trap
  - - - Litter Trap
  - - - Retarding Basin
  - - - Wetland
  - - - Bio-Retention Basin
  - - - Buffer Strip
  - - - Inlet/Outlet Structure
  - - - Junction Pit
- Existing Assets**
- Pipeline
  - - - Channel
  - ~ Natural Waterway
  - - - Retarding Basin
  - - - Wetland
  - - - Sediment Trap
  - - - Lake

**Ballan Township proposed DSSs and Strategy**

Map at A1  
Scale 1: 7,500

3/02/2015



Whilst all due skill and attention has been used Melbourne Water Corporation shall not be liable in anyway for loss of any kind including damages, costs, interest, loss of profits or special loss or damage, arising from any error, inaccuracy, incompleteness or other defect in this information. By receiving and accepting this information the recipient acknowledges that Melbourne Water Corporation makes no representations as to the accuracy or completeness of this information and ought carry out its own investigation if appropriate.





## Ballan North West DSS

8101

## Moorabool Shire Council Assets

## Pipes

Pipe Ref.	Catchment Area (ha)	Pipe Length (m)	Pipe Size (mm)	Pipe Type
A2-A3	7	19	600	RRJ
A3-A4	7	430	600	RRJ
A4-A5	15	50	600	RRJ
A5-A6	15	45	750	RRJ
A7-A6	5	235	450	RRJ
A6-A8	19	27	825	RRJ
B1-B3	1	30	600	RRJ
B3-B4	4	12	600	RRJ
B4-B5	4	425	600	RRJ
B5-B6	23	40	750	RRJ
B6-C5	23	390	1050	RRJ
C1-C2	1	100	375	RRJ
C2-C3	2	20	450	RRJ
C3-C4	2	80	450	RRJ
C4-C5	4	650	525	RRJ
C5-C6	43	70	1050	RRJ
C6-C7	43	110	1050	RRJ
D1-D2	4	82	450	RRJ
D2-D3	5	71	525	RRJ

## Culverts

Culvert Ref.	Catchment Area (ha)	ARI (yr)	Culvert Type	Culvert Size (mm)	Culvert Length (m)
A2A-A3	7	100	Pipe	2 x 750	19
B3A-B4	4	100	Pipe	2 x 600	20
C2A-C3	2	100	Pipe	1 x 600	20

## Wetlands

Wetland Ref.	Catchment Area (ha)	Wetland Type	Treatment Area (m2)	Inlet Pond Area (m2)	Footprint Area (m2)
WL1	19	Stand Alone	2,700	410	5,150
WL2	23	Stand Alone	2,800	410	6,130
WL3	20	Stand Alone	3,500	410	8,970

## Sediment Basins

Sediment Basin Ref.	Catchment Area (ha)	Sediment Basin Type	Treatment Area (m2)	Footprint Area (m2)
SB1	5	Stand Alone	410	1,240

No Melbourne Water Assets



## Gosling Street Drain Upper DS Strategy 8144

## Moorabool Shire Council Assets

## Pipes

Pipe Ref.	Catchment Area (ha)	Pipe Length (m)	Pipe Size (mm)	Pipe Type
B1-B2	2	172	450	RRJ
B2-B3	2	36	450	RRJ
B3-B4	2	36	450	RRJ
B4-B5	3	36	450	RRJ
B5-B6	4	61	600	RRJ
B6-B7	3	60	600	RRJ
B7-B8	3	62	600	RRJ
B8-B9	4	58	675	RRJ
A1-A2	2	30	450	RRJ
A2-A3	4	92	600	RRJ
A3-A4	5	15	600	RRJ
A4-A5	6	107	675	RRJ
AB-A5	3	190	300	RRJ
A5-A6A	11	65	825	RRJ
AC1-AC2	1	40	300	RRJ
AC2-AC3	1	35	375	RRJ
AC3-A6a	1	42	375	RRJ
A6a-A6b	12	15	825	RRJ
A6b-A7	12	52	825	RRJ
A7-A8	13	62	825	RRJ
AD1-AD2	1	52	375	RRJ
AD2-A8	1	101	375	RRJ
A8-A9	14	98	1050	RRJ
AE1-AE2	4	50	300	RRJ
AE2-AE3	5	51	375	RRJ
AE3-AE4	5	47	450	RRJ
AE4-A9	6	54	525	RRJ
A14-A15	1	70	600	RRJ
A16-A15	3	22	375	RRJ

## Channels

Channel Ref.	Catchment Area (ha)	Channel Length (m)	Hydraulic Width (m)
C1-C2	12	170	30

## Culverts

Culvert Ref.	Catchment Area (ha)	ARI (yr)	Culvert Type	Culvert Size (mm)	Culvert Length (m)
A9-A10	20	100	Pipe	3 x 1050	20
A12-A13	43	100	Pipe	1 x 450 and 2 x 300	40
A15-A17	46	100	Pipe	1 x 600	30

## Wetlands

Wetland Ref.	Catchment Area (ha)	Wetland Type	Treatment Area (m2)	Inlet Pond Area (m2)	Footprint Area (m2)
WL1	41	Within RB	5200	410	5610

## Retarding Basins

Retarding Basin Ref.	Catchment Area (ha)	Retarding Basin Surface Area (ha)
RB1	41	2

No Melbourne Water Assets

## Gillespies Lane DSS

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## Moorabool Shire Council Assets

## Pipes

Pipe Ref.	Catchment Area (ha)	Pipe Length (m)	Pipe Size (mm)	Pipe Type
F1-F2	2	101	450	RRJ
F2-F3	4	80	525	RRJ
F3-F4	6	40	600	RRJ
H1-H2	20	160	525	RRJ
J1-J2	2	103	375	RRJ
J2-J3	4	130	450	RRJ
J3-H2	6	105	525	RRJ
H2-H3	29	121	750	RRJ
H3-H4	31	101	825	RRJ
H4-H5	33	82	825	RRJ
H5-G2	35	25	750	RRJ
K1-K2	2	135	375	RRJ
K2-K3	5	182	525	RRJ
K3-K4	7	112	600	RRJ
K4-K5	9	104	750	RRJ
K5-K6	11	107	750	RRJ
K6-G2	14	20	750	RRJ

## Culverts

Culvert Ref.	Catchment Area (ha)	ARI (yr)	Culvert Type	Culvert Size (mm)	Culvert Length (m)
H5A-G2	14	100	Pipe	1 x 750	25
K6A-G2	34	100	Pipe	1 x 750	25

## Melbourne Water Assets

## Pipes

Pipe Ref.	Catchment Area (ha)	Pipe Length (m)	Pipe Size (mm)	Pipe Type
G1-G2	60	198	675	IFJ

## Channels

Channel Ref.	Catchment Area (ha)	Channel Length (m)	Hydraulic Width (m)
G2-G3	112	165	24

## Wetlands

Wetland Ref.	Catchment Area (ha)	Wetland Type	Treatment Area (m2)	Inlet Pond Area (m2)	Footprint Area (m2)
WL2	120	Within RB	5,200	410	5,610

## Sediment Basins

Sediment Basin Ref.	Catchment Area (ha)	Sediment Basin Type	Treatment Area (m2)	Footprint Area (m2)
STC	109	Within RB	500	500

## Retarding Basins

Retarding Basin Ref.	Catchment Area (ha)	Retarding Basin Surface Area (ha)
RB2	122	2

## Ballan South West DSS

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## Moorabool Shire Council Assets

## Pipes

Pipe Ref.	Catchment Area (ha)	Pipe Length (m)	Pipe Size (mm)	Pipe Type
H1-RB1	41	209	675	RRJ
H3-H4	2	105	450	RRJ
H4-H2	4	58	450	RRJ
H2-SB1	6	33	525	RRJ
H5-H6	2	120	300	RRJ
H6-H7	4	117	450	RRJ
H7-H9	6	75	450	RRJ
H8-H9	2	65	300	RRJ
H9-SB1	12	49	675	RRJ
J3-J5	1	29	300	RRJ
J4-J5	2	80	450	RRJ
D1-D2	1	100	300	RRJ
D2-D3	1	82	375	RRJ
E1-E2	1	74	375	RRJ
E2-E3	3	75	450	RRJ
E3-E4	4	75	525	RRJ
E4-E5	5	74	525	RRJ
E5-E6	6	99	600	RRJ
E6-E7	7	79	600	RRJ
E7-E8	8	110	600	RRJ
E8-E9	9	42	600	RRJ
F1-F2	2	55	375	RRJ
F2-F3	3	70	450	RRJ
F3-F4	4	60	525	RRJ
F4-F5	5	145	525	RRJ
K1-K2	1	21	375	RRJ
K2-K3	2	111	375	RRJ

## Swales

Swale Ref.	Catchment Area (ha)	ARI (yr)	Length (m)	Top Width (m)
SWB4-B5	5	6-month	190	10
SWB1-B2	5	6-month	175	9
SWC1-C2	1	6-month	55	3
SWD3-D4	2	6-month	55	3
SWE9-E10	7	6-month	105	4
SWF5-F6	5	6-month	75	2
SWG1-G2	3	6-month	160	8
SWK3-K4	3	6-month	95	4
SWJ7-J8	5	6-month	110	5
SWP1-P2	1	6-month	65	3
SWQ1-Q2	1	6-month	60	3

## Melbourne Water Assets

## Pipes

Pipe Ref.	Catchment Area (ha)	Pipe Length (m)	Pipe Size (mm)	Pipe Type
J2-J5	64	191	675	IFJ
J5-J7	85	160	1050	IFJ

## Culverts

Culvert Ref.	Catchment Area (ha)	ARI (yr)	Culvert Type	Culvert Size (mm)	Culvert Length (m)
J5-J6	86	100	Box	3 x 1200 x 600	12
R1-R2	414	100	Pipe	3 x 1500	12

**Channels**

Channel Ref.	Catchment Area (ha)	Channel Length (m)	Hydraulic Width (m)
A1-A3	269	400	24
A3-D4	284	62	24

**Wetlands**

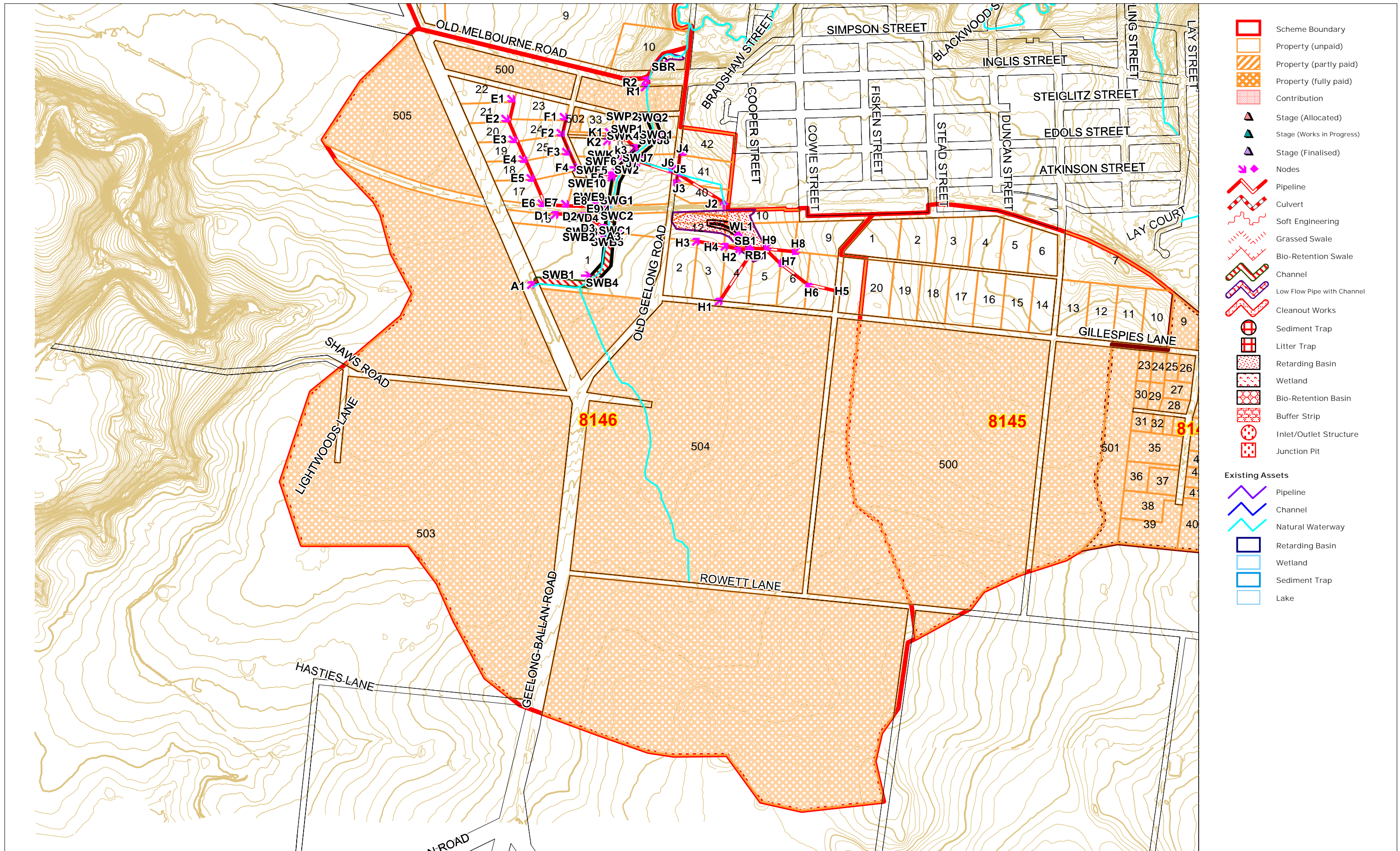
Wetland Ref.	Catchment Area (ha)	Wetland Type	Treatment Area (m2)	Inlet Pond Area (m2)	Footprint Area (m2)
WL1	61	Within RB	5,000	450	7,130

**Sediment Basins**

Sediment Basin Ref.	Catchment Area (ha)	Sediment Basin Type	Treatment Area (m2)	Footprint Area (m2)
SBR	414	Stand Alone	1,500	3,360

**Retarding Basin**

Retarding Basin Ref.	Catchment Area (ha)	Retarding Basin Surface Area (ha)
RB1	61	3



## Ballan South West DSS 8146

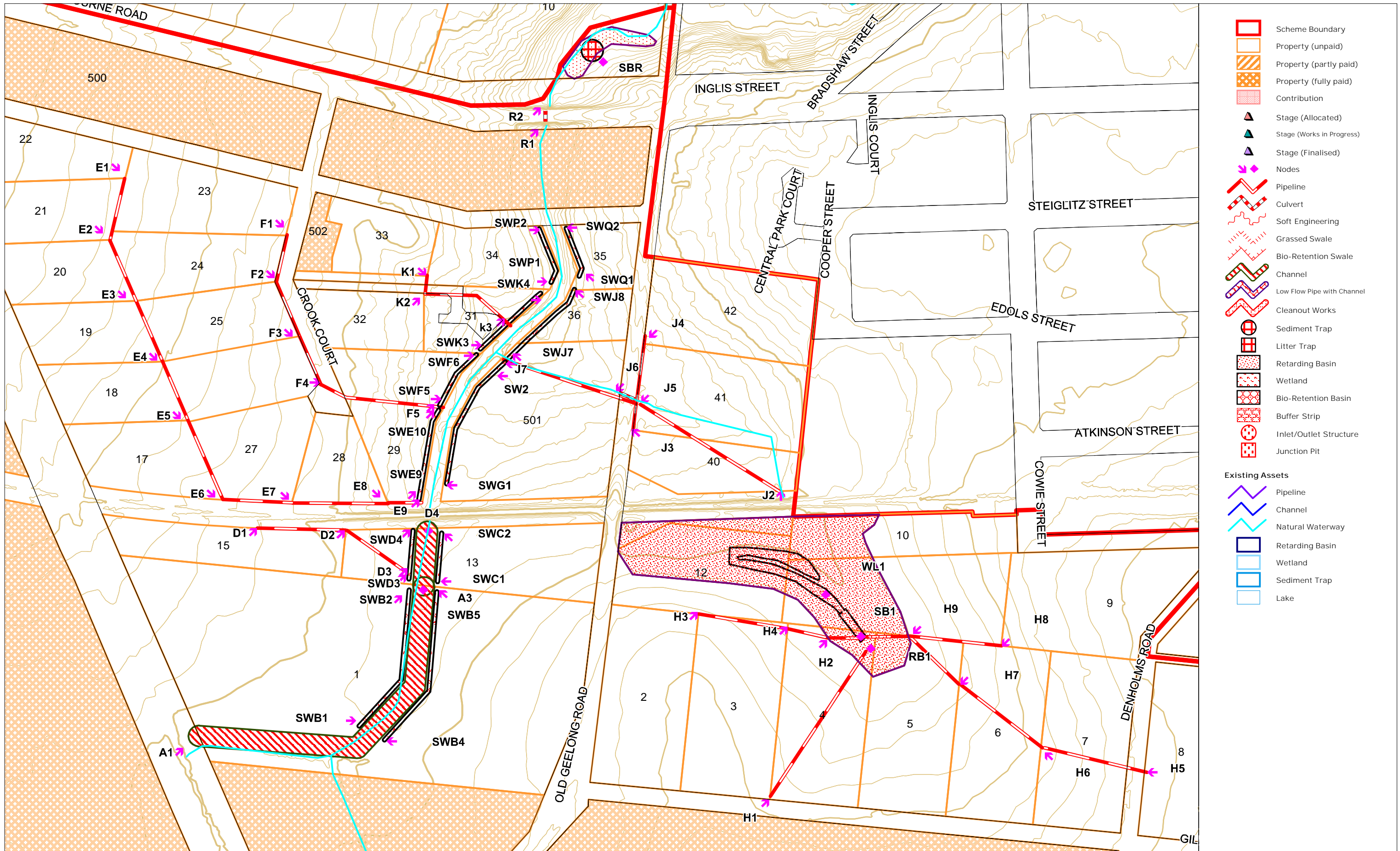
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## Ballan South West DSS 8146 - Works

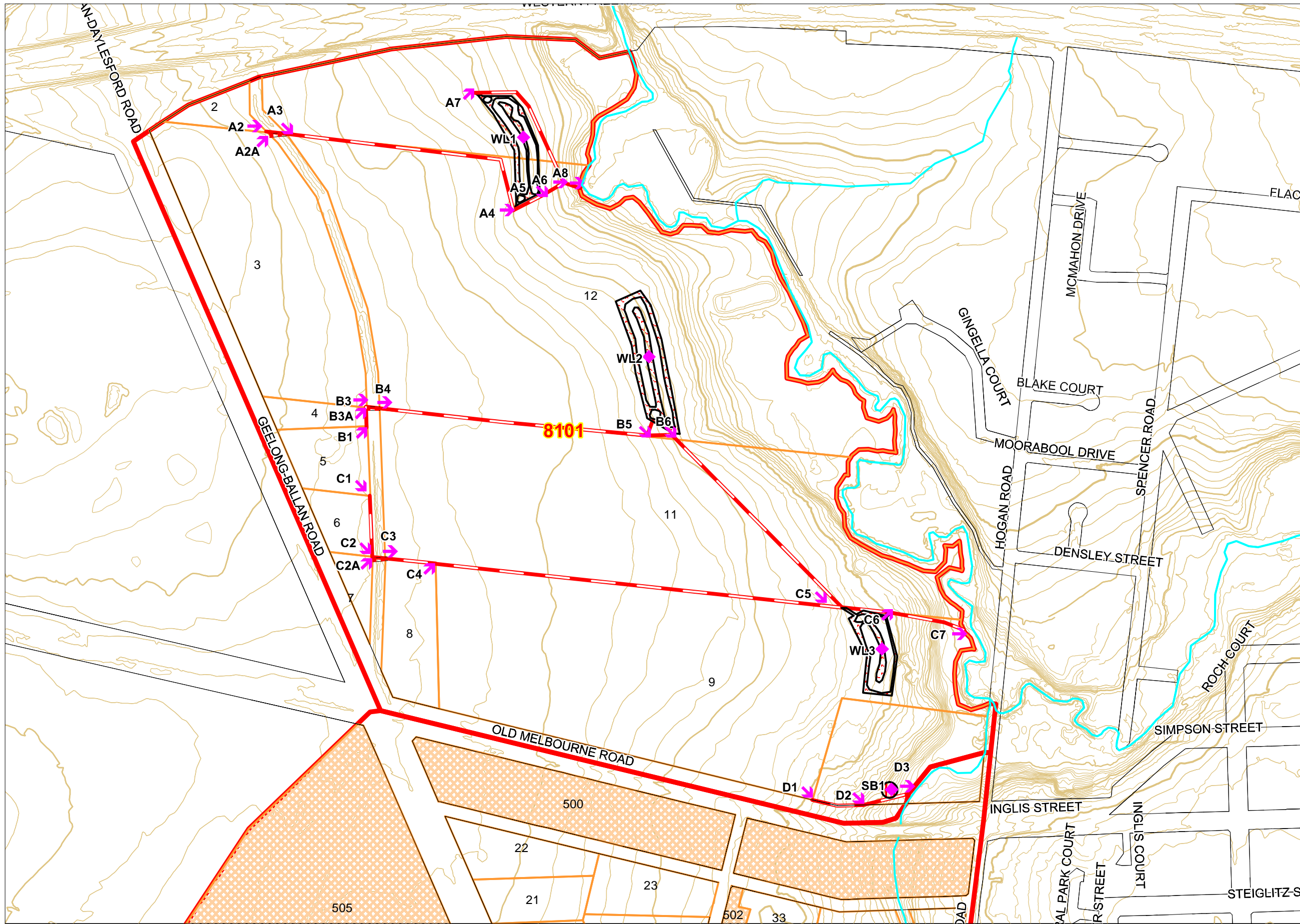
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- Scheme Boundary
  - Property (unpaid)
  - Property (partly paid)
  - Property (fully paid)
  - Contribution
  - Stage (Allocated)
  - Stage (Works in Progress)
  - Stage (Finalised)
  - Nodes
  - Pipeline
  - Culvert
  - Soft Engineering
  - Grassed Swale
  - Bio-Retention Swale
  - Channel
  - Low Flow Pipe with Channel
  - Cleanout Works
  - Sediment Trap
  - Litter Trap
  - Retarding Basin
  - Wetland
  - Bio-Retention Basin
  - Buffer Strip
  - Inlet/Outlet Structure
  - Junction Pit
- Existing Assets
- Pipeline
  - Channel
  - Natural Waterway
  - Retarding Basin
  - Wetland
  - Sediment Trap
  - Lake

## Ballan North West DSS 8101

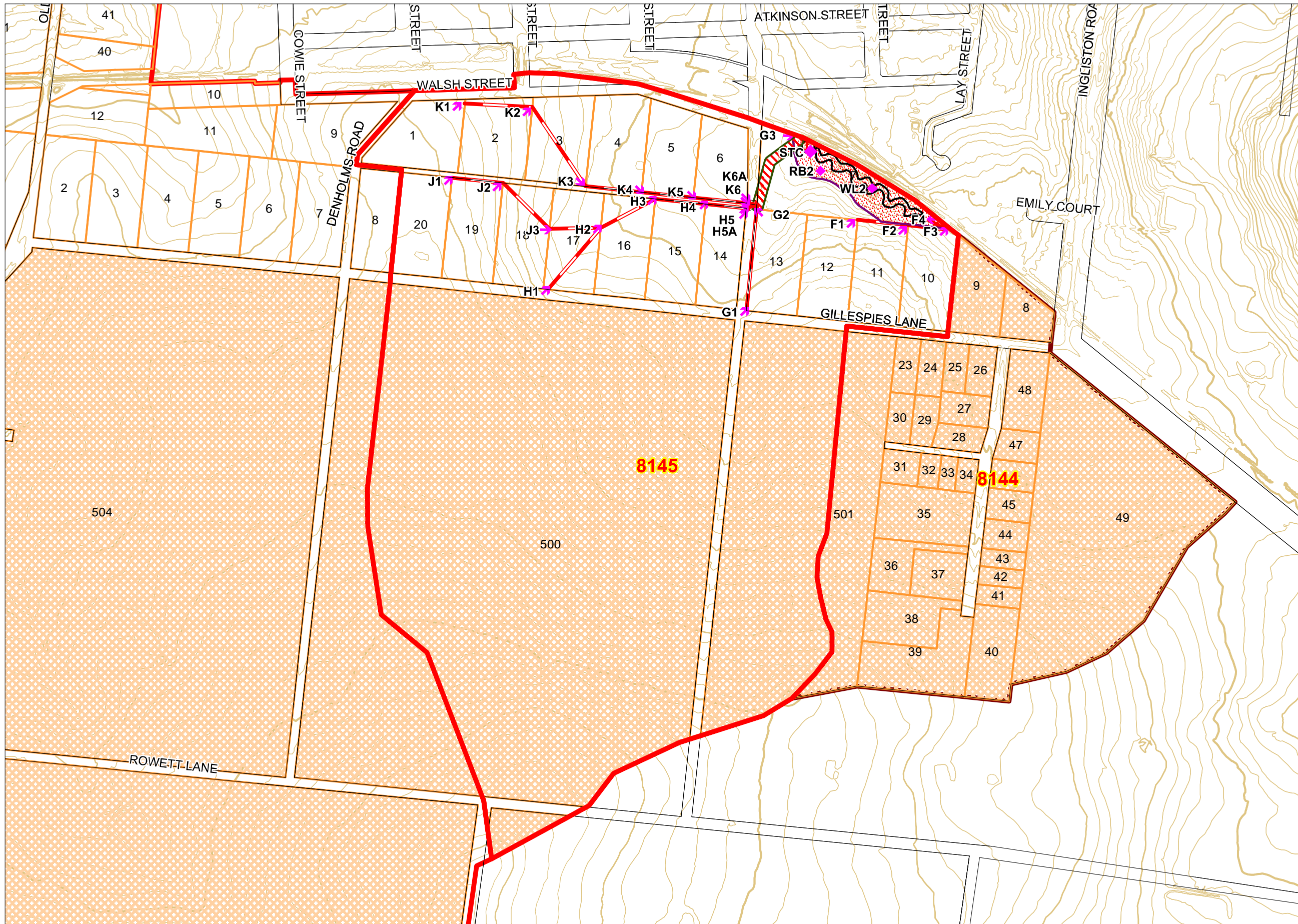
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  - Property (fully paid)
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  - Stage (Works in Progress)
  - Stage (Finalised)
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  - Bio-Retention Basin
  - Buffer Strip
  - Inlet/Outlet Structure
  - Junction Pit
- Existing Assets**
- Pipeline
  - Channel
  - Natural Waterway
  - Retarding Basin
  - Wetland
  - Sediment Trap
  - Lake

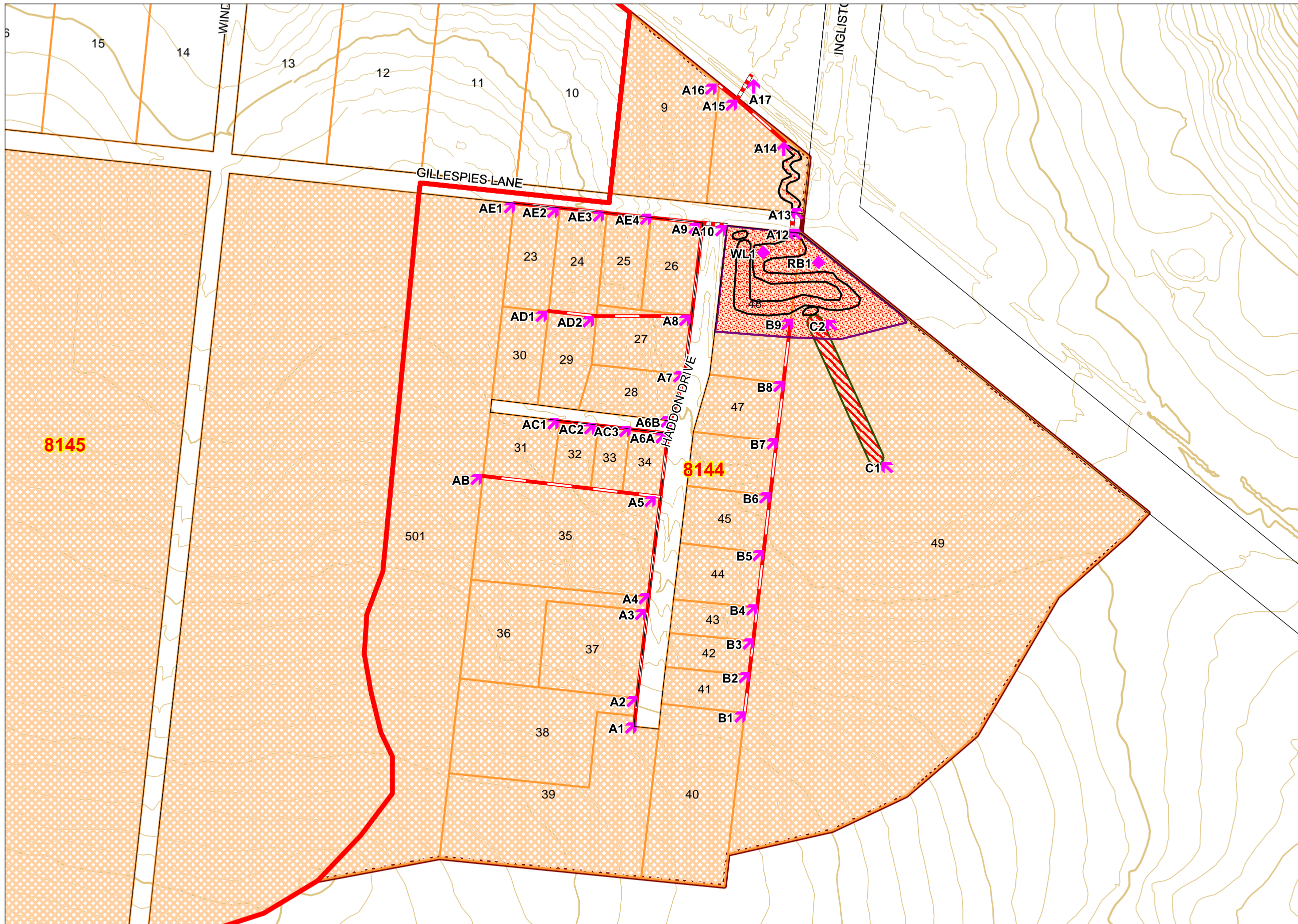
## Gillespies Lane DSS 8145

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- Litter Trap
- Retarding Basin
- Wetland
- Bio-Retention Basin
- Buffer Strip
- Inlet/Outlet Structure
- Junction Pit

- Existing Assets
- Pipeline
  - Channel
  - Natural Waterway
  - Retarding Basin
  - Wetland
  - Sediment Trap
  - Lake

## Gosling Street Drain Upper Strategy 8144

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