

Kingston Stormwater In-lieu Mechanism

WSUD Planning Policy Forum
6th June 2017

community inspired leadership



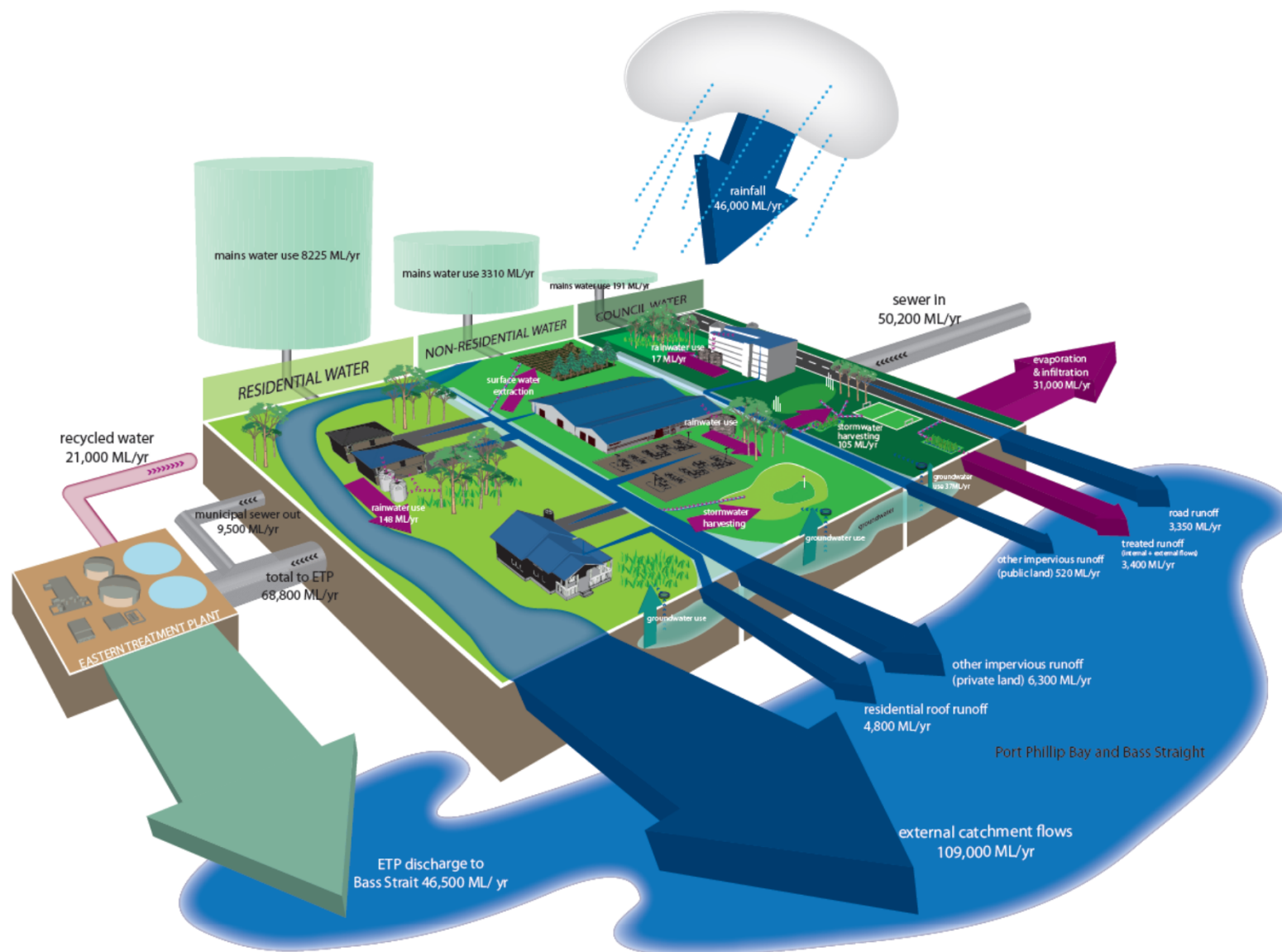
City of Kingston



INTEGRATED WATER CYCLE STRATEGY

February 2012







Mordialloc Creek



Kingston's Beaches

TARGETS



100% Stormwater Quality by 2040



15% decrease in potable water use by 2040



TARGETS



Large Projects



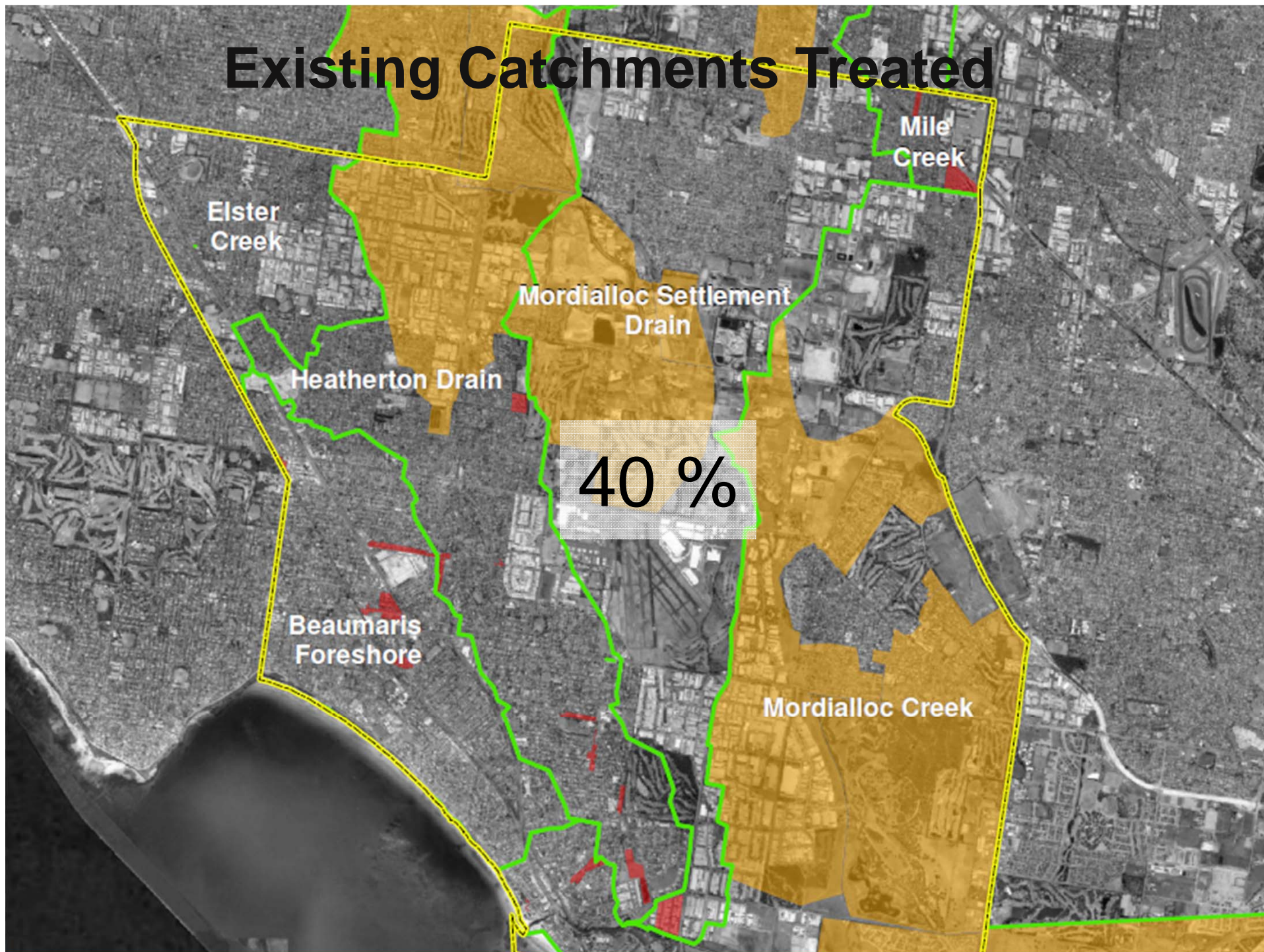
Medium Projects



Small Projects



Existing Catchments Treated



Catchment	Mordialloc Creek
Diversion type	Pump
Treatment type	Bioretention
Storage type	Above
Funder	Council
Total catchment area	61 ha
Reuse demand	9 ML/yr
Catchment % impervious	63%
Upstream systems	-
Downstream systems	-



Costs and benefits

Capital cost (millions)	\$0.67
Potable water saving	8.2 ML/yr
Volume water treated	110 ML/yr
SS reduction	33,000 kg/yr
TP reduction	40 kg/yr
TN reduction	260 kg/yr
Reuse Ratio	\$4.1/kL
TN Ratio	\$130/kg
Project Comparison Factor	16
% reduction achieved for catchment:	
SS	77%
TP	47%
TN	45%

Description

Low flows pumped from Council drain at the east end of Fraser Avenue to the bioretention located to the north of the playground. The total bioretention footprint will be approximately 1,140 m² (filter area 800 m²). Pumped flows will pass through a GPT before entering the bioretention. Water will be pumped to the bioretention system at a rate of 90 L/s. Low flows are already pumped from this pipe to a main drain as part of the minor drainage system so the pumping costs are not included in the cost of this project. The pipe network stores up to the six month ARI flow. Treated water will be used to irrigate the three ovals at Edithvale Recreation Reserve. Treated flows will be pumped to above ground storage tank(s) (total volume 600 kL). This option involves pumping enough water to the bioretention system to meet best practice. 80RP007b involves just treating enough water to meet reuse demand.

Benefits

- Irrigate valuable sporting reserve

Further investigations

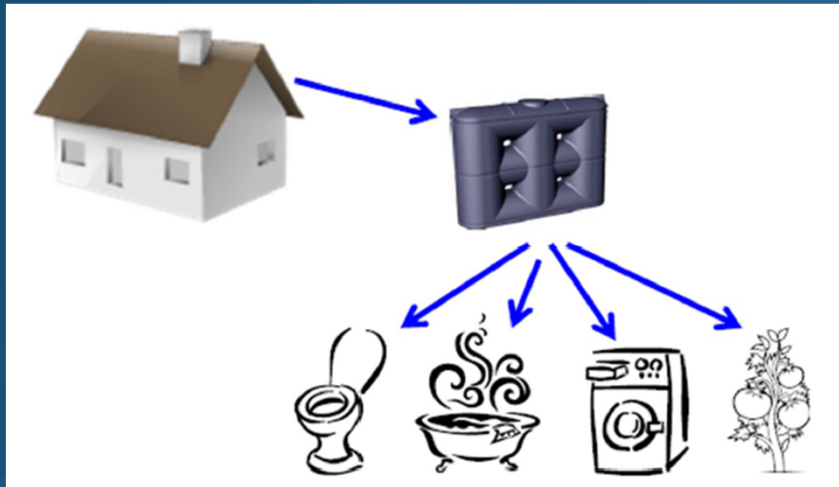
- Confirm feasibility of diversion, bioretention and storage construction

80RP007a: Edithvale Recreation Reserve harvesting Option 1

Kingston Council
Prioritisation Project – regional opportunities



Value for money



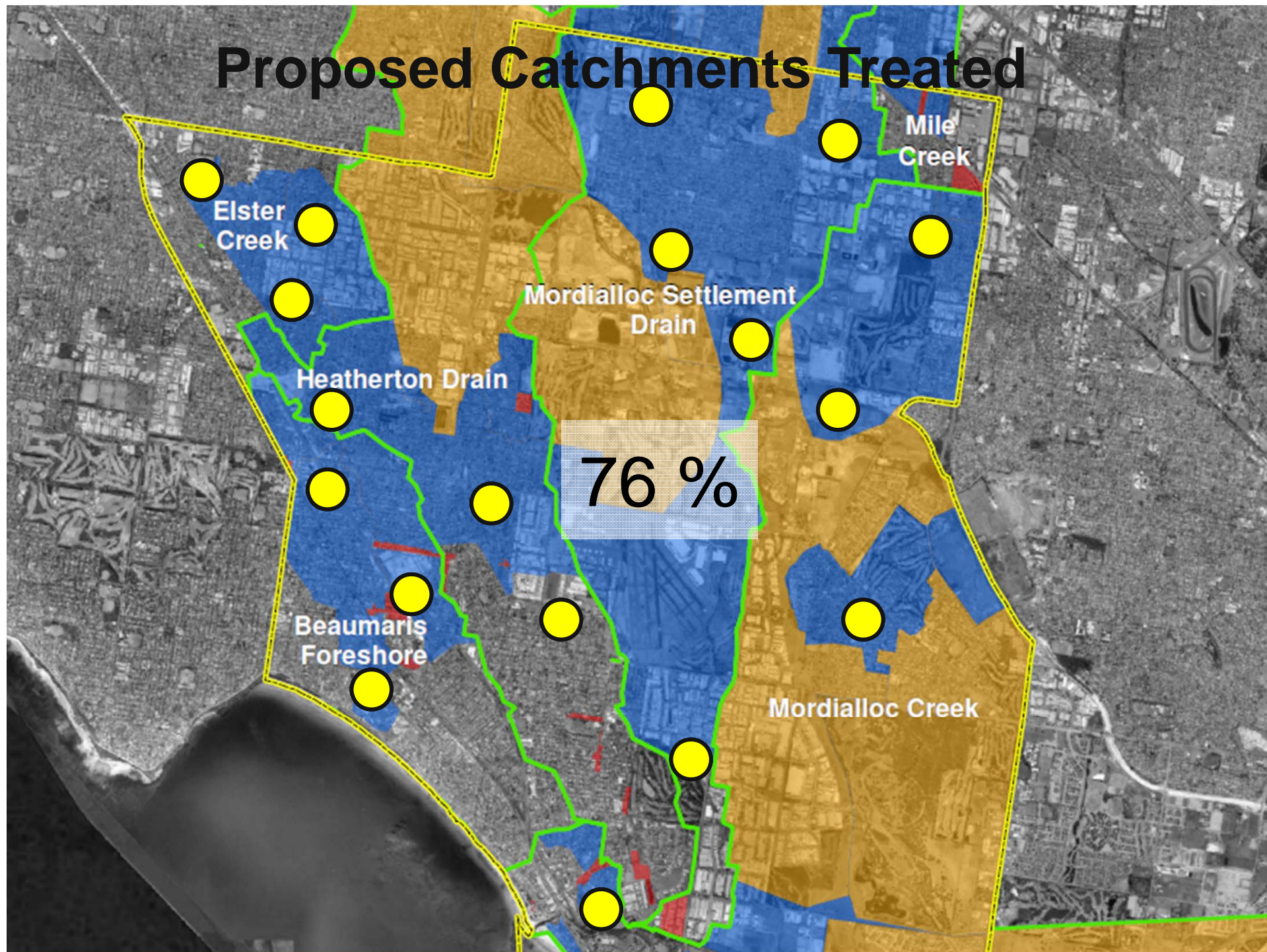
Small Scale Project



Medium Scale Projects

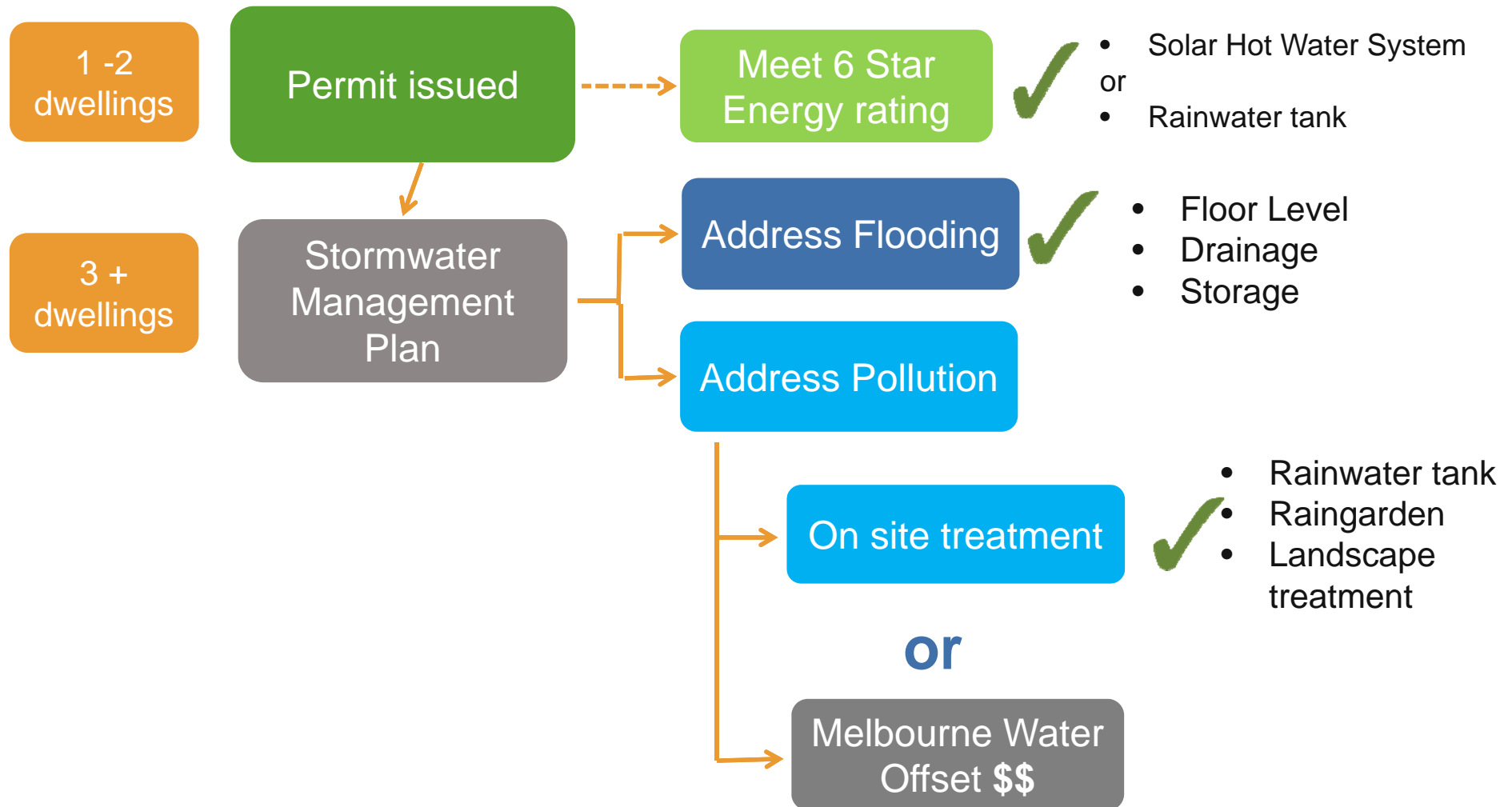
For each \$ invested **=** 5 to 15 times the benefit

Proposed Catchments Treated

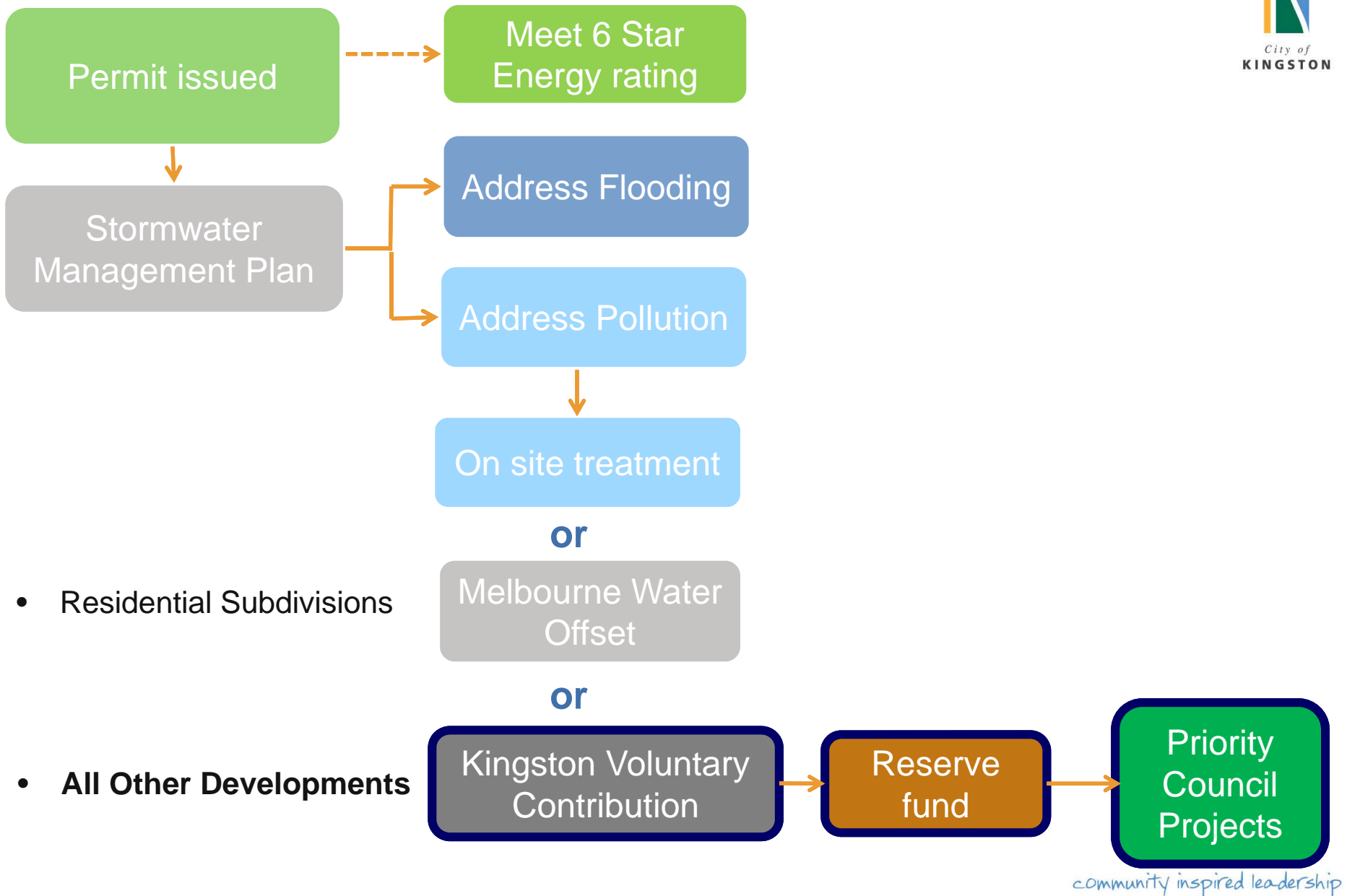


**31 Council stormwater quality
projects**
\$27.5 million

What happens now?

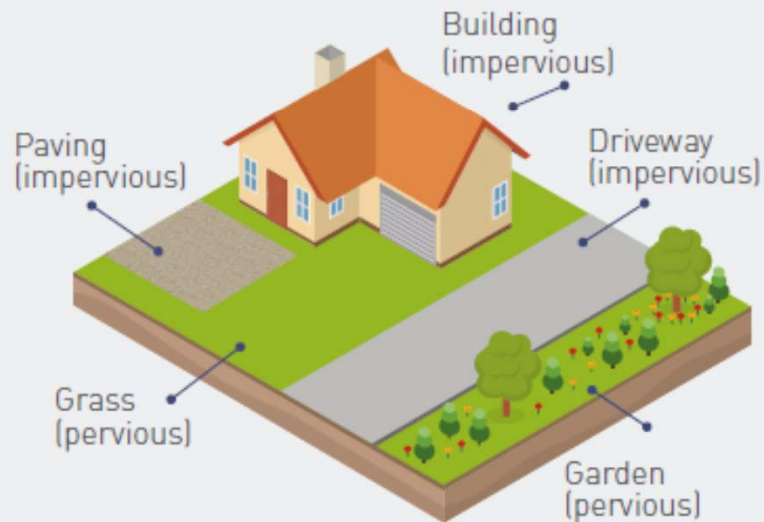


What is being proposed?

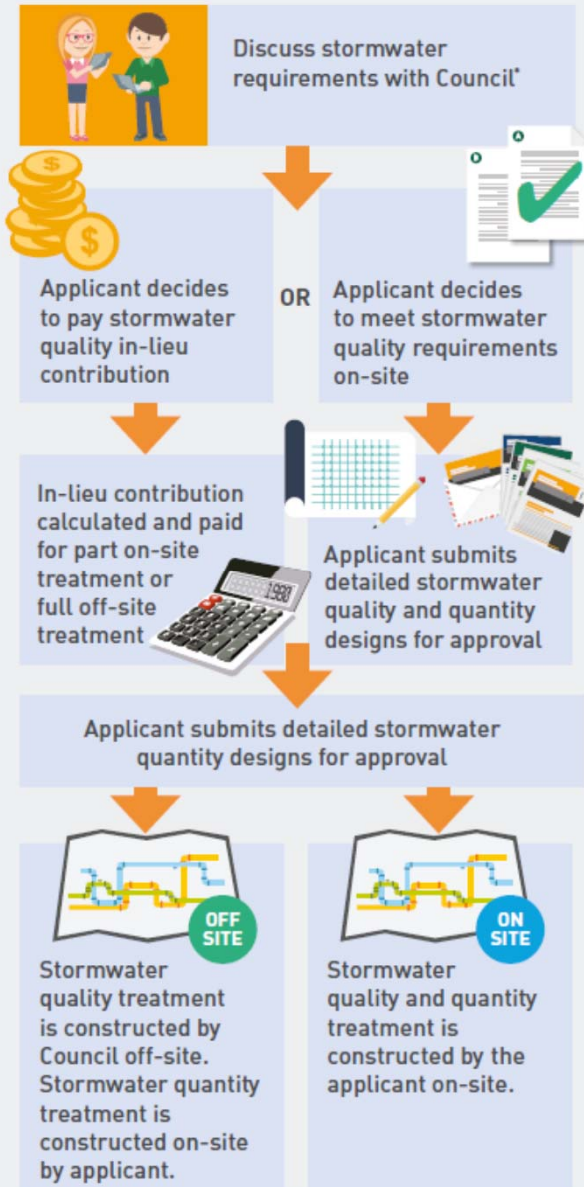


HOW IS IT CALCULATED?

Depending on the area of pervious and impervious surfaces Council will calculate the in lieu stormwater quality contribution. More details can be found on the website.



HOW WILL IT WORK?



*There are no opportunities to make in lieu contributions for stormwater quantity, these requirements must be met on-site.