

# **Development of a Critical Assets Database for Sunshine Coast Council**

August 2019

## Introduction

- Initial Discussions brought on by Severe weather events in 2012 and 2014.
- Early 2017 - Development of Critical Assets Database for effective operation of drainage networks and early response
- Undertake risk management of assets impacted by severe weather events.
- Key criteria included - safety well being of community, financial risk, service delivery, engaging key stakeholders.
- Separate levels of service to highlight extra funding (Capital Works)

# Introduction

## Goals and Objectives of Critical Asset Management

- Ensure a defined level of service and implementing life cycle approach.
- Develop cost-effective management strategies for long term.
- Manage risks associated with asset failures.
- Sustainable use of physical resources.
- Continuous improvement of Critical Asset Database.
- Incorporation in AMS (CONFIRM), Disaster Management unit.

## AMP covers the following infrastructure assets

### All council-owned stormwater infrastructure

- Pipes – 1400km from 300 – 3600mm - \$1.5 billion
- Pit – 65000 incl. MH, catch pits, Field inlets, ES, tidal valves - \$750m.
- Culverts – 73 Km box/pipe culverts - \$85m
- Open Drain (concrete/vegetated)– 150km – \$25m
- Water Quality – Quantity 1550– \$25m
- 16000 Drainage easements & miscellaneous – \$5m
- **TOTAL – 2.2 billion. Approx.**

## Defining a Critical Asset

*Those assets that are likely to result in a more significant financial, environment & social cost in terms of impact on organisational objectives, (IIMM, 2015)*

*Organisational resilience – Capacity of an organisation to make decisions and act on those decisions, plan and respond to an event that enables the organisation to function by minimising disruption and act effectively in a crisis and adapt to change i.e. climate change and growth.*

# Core and Advanced Asset Management

## Core Asset - Top Down Approach – Systems/Knowledge approach

- Based on what we know (GIS, Archival data)
- Uses current levels of service (aware/reactive)
- Inconsistent data is a major constraint
- Provides a base to move forward

## Advanced Asset – Bottom up Approach – Asset/Component data

- Find out what we don't know
- Analysis to individual assets & services
- Implement improvement plan

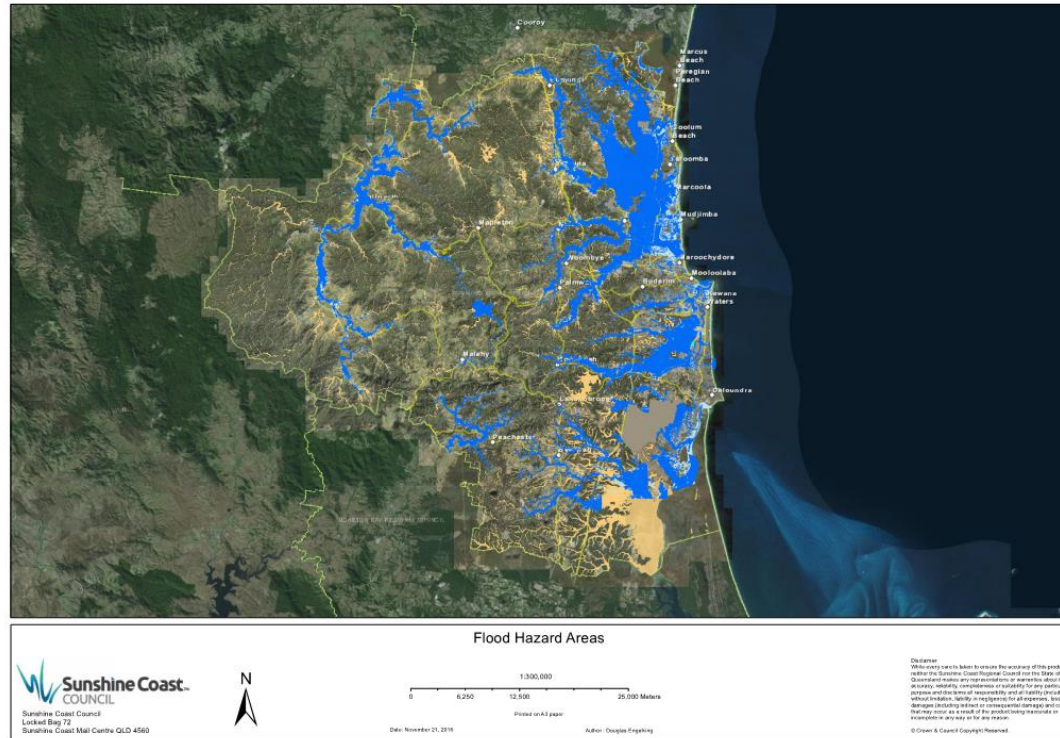
## Facilities identified – Key Stakeholders

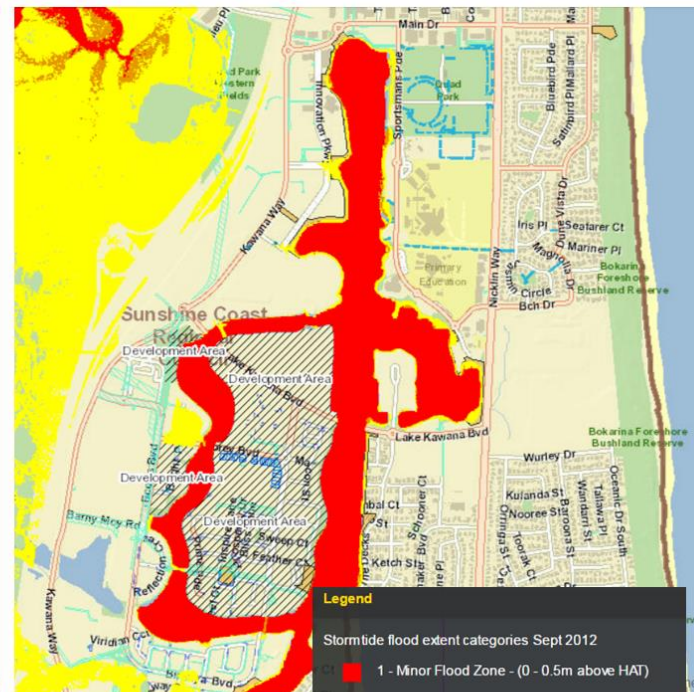
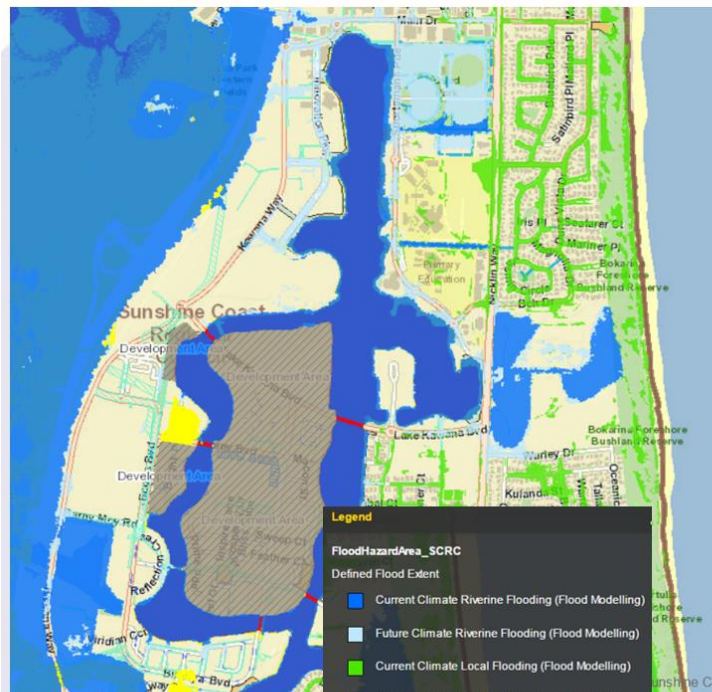
- Emergency Services – Fire/Rescue, Ambulance, Police & SES
- Community – Aged and Child Care Centres, Council Depots, Evacuation/Community
- Health and Medical – Major Hospitals, Medical Centres & Mental Health Centres
- Public Utilities - Sewer and water treatment plants, Power Sub-Station
- Education – Schools, colleges, Universities and TAFE.

## Methodology/Scope of Service

- Engage local Consultant to develop preliminary report
- Phase 1 – Desktop review of flood mapping/modelling
- Phase 2 – Identify roads and facilities prone to flooding
- Phase 3 – Locate types of SW infrastructure in these areas.
- Phase 4 – Conduct structural/serviceability assessment of SW networks
- Phase 5 – Undertake maintenance on SW assets in poor condition.
- Maintenance could cover pre, during and post weather events.











# Identify – Register Critical Assets

Classification / Facility Use	Asset Name	Owner	Suburb	Critical Access Road	Stormwater Asset	Asset ID	US It	DS It	Length	Comments	Locality	GIS Map	Assessment Complete
Aged Care	Arcare Maroochydore	Private	Maroochydore	Dakon Drive	no critical stormwater assets defined	-	-	-	-	* Roads Tc: AEP affected * Facility Tc: AEP affected * Stormwater Quality Devices Present - Possible GPT	<a href="#">Link</a>		yes
Aged Care	Arcare Peregrine Springs	Private	Peregrine Springs	Peregrine Springs Drive	no critical stormwater assets defined	-	-	-	-		<a href="#">Link</a>		yes
Aged Care	Blue Care Bli Bli Aged Care Facility	Private	Bli Bli	Bli Bli Road	no critical stormwater assets defined	-	-	-	-	* Roads Tc: AEP affected * Facility Tc: AEP affected * Maroochy Wetlands adjacent	<a href="#">Link</a>		yes
Aged Care	Blue Care Caloundra Aged Care Facility	Private	Caloundra	Caloundra Road	no critical stormwater assets defined	-	-	-	-	* Roads Tc: AEP affected	<a href="#">Link</a>		yes
Aged Care	Blue Care Dicky Beach Aged Care Facility	Private	Dicky Beach	Cooroora Street	no critical stormwater assets defined	-	-	-	-	* Roads Tc: AEP affected	<a href="#">Link</a>		yes
Aged Care	Blue Care Warana Beachcroft Aged Care Facility	Private	Warana	Nicklin Way	Stormwater pipes in Nicklin Way but no gully pits in close proximity. Could possibly be a Field Inlet to south which isn't shown on my maps	-	-	-	-	* Affected by Local Flooding * Canals adjacent	<a href="#">Link</a>	<a href="#">Link</a>	yes
Aged Care	Buderim Views Assisted Aged Care	Private	Buderim	Mooloolaba Road	no critical stormwater assets defined	-	-	-	-		<a href="#">Link</a>		yes
Aged Care	Caloundra Adventist Retirement Village	Private	Little Mountain	Sugar Bag Road Caloundra Rd	no critical stormwater assets defined	-	-	-	-		<a href="#">Link</a>		yes
Aged Care	Coolum Waters Retirement Resort	Private	Coolum Beach	David Low Way	no critical stormwater assets defined	-	-	-	-	* Roads Tc: AEP affected * Facility Tc: AEP affected * Stunners Creek adjacent	<a href="#">Link</a>		yes
Aged Care	Estia Health Mount Coolum	Private	Mount Coolum	Suncoast Beach Drive David Low Way	Field Inlet Type 2 1050da Open Drain Grassed Pipe 600RCP/1 Field Inlet type 2 1050da	225196 1823 141595 225197	2.72 SL 1.83 2.95 SL	1.31 1.32 1.83	n/a un 100.63	* Roads Tc: AEP affected * Facility Tc: AEP affected * Drainage Reserve adjacent	<a href="#">Link</a>	<a href="#">Link</a>	yes
Aged Care	Estia Health Nambour	Private	Nambour	Glenbrook Drive Image Flat Road	Gully Pit Pipe 1350RCP/1 Manhole 1800 Pipe 1350RCP/1 Manhole 1800 Pipe 1350RCP/1	203247 124271 205204 106508 205205 123524	53.75 SL 57.4 53.42 SL 56.35 53.55 SL 56.7	57 56.75 59	35.24		<a href="#">Link</a>	<a href="#">Link</a>	yes
Aged Care	Glenbrook Residential Aged Care Facility	Private	Nambour	Jack St Glenbrook Dr Image Flat Rd	no critical stormwater assets defined	-	-	-	-		<a href="#">Link</a>		yes
Aged Care	Immanuel Gardens Retirement Village	Private	Buderim	Magnetic Dr Whitehaven Dr Deloraine Dr Mooloolaba Road	no critical stormwater assets defined	-	-	-	-		<a href="#">Link</a>		yes
Aged Care	IRT Woodlands	Private	Meridan Plains	Woodlands Boulevard Kavana Way Meridan Way	no critical stormwater assets defined	-	-	-	-	* Roads Tc: AEP affected * Facility Tc: AEP affected * Drainage Reserve adjacent * Stormwater Quality Devices Present - Possible	<a href="#">Link</a>		yes

# GIS Mapping



## Condition Assessment - Maintenance

- Identification is a good driver for asset conditioning.
- CCTV survey for pipes – Serviceability and Structural.
- Level 2 box culvert inspections including outlet & tail water conditions.
- Assists with future funding on operational works – Justification.
- Disaster aware better placed to allocate response teams.
- Maintenance- cleaning program prior to storm season.

## Outcomes – Future Development

- Prioritise assessment of incomplete SW assets.
- Data cleansing and groundtruthing
- Identification of existing sewer pump stations impacted on previous events.
- Information – data fed into CONFIRM AMS.
- Improved mapping including linking CCTV footage to layers.
- Information feeding into Council Disaster management HUB –

Thank you