

Byron Shire Council Utilities

Overview

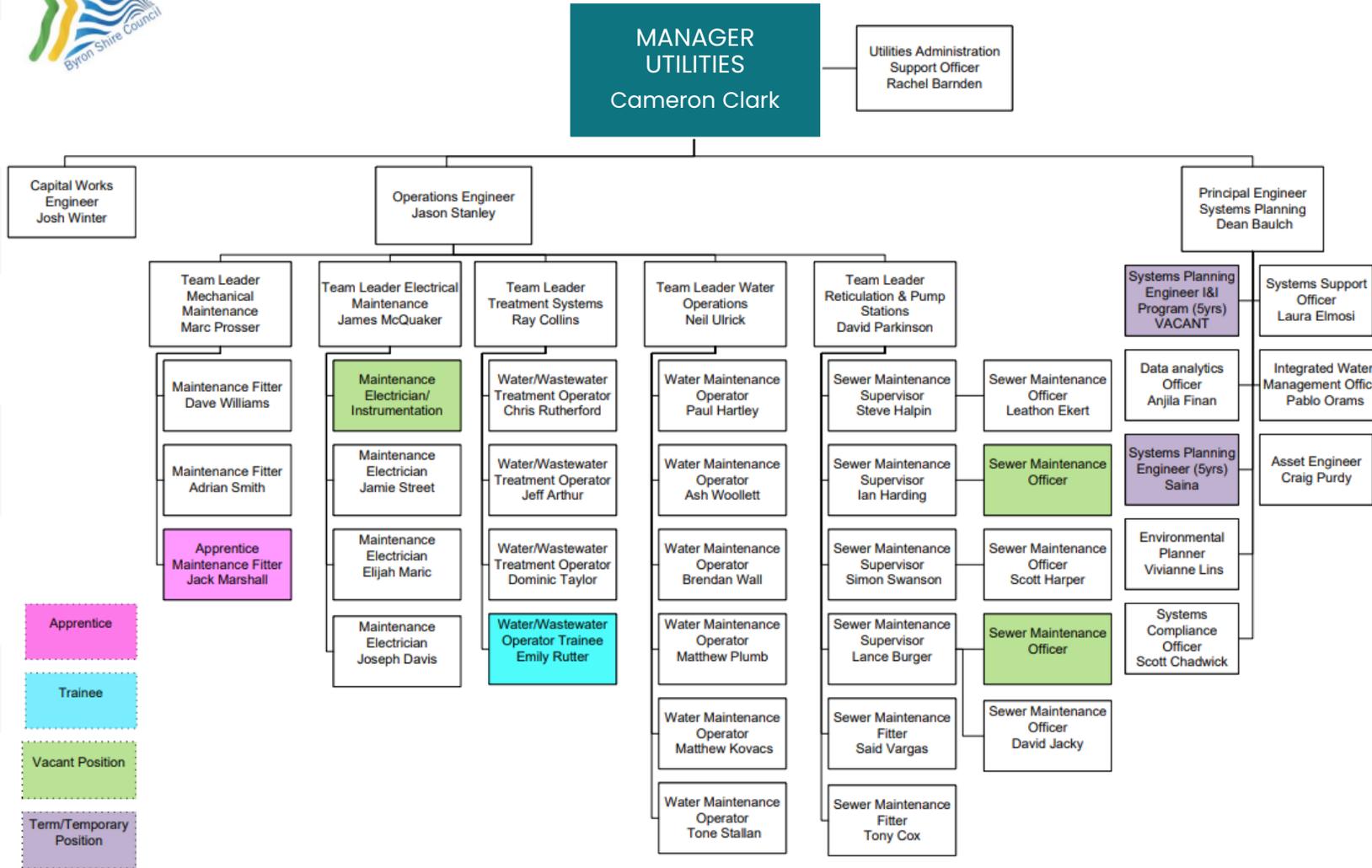


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Utilities Structure



Utilities
March 2022



Byron Shire Council Utilities Branch are responsible for delivering integrated water and sewerage services that provides best value for money based on social, environmental and economic considerations.

The Utilities Branch consists of 3 Units:

- **Systems Planning**
- **Capital Works**
- **Operations**



Governance

Key Legislation



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- Local Government Act
- Local Government (General) Regulation 2021
- Work Health and Safety Act 2011
- Water Act 2007
- NSW Water Management Act 2000 No 92
- Environment Protection and Biodiversity Conservation Act 1999
- Environmental Planning and Assessment Act 1979
- Land Acquisition (Just Terms Compensation) Act 1991

External Stakeholders



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- Our Community
- Bundjalung of Byron Bay Aboriginal Corporation (Arakwal)
- Consultants
- Contractors
- Environmental Protection Authority
- Rous County Council (water supply)
- Northern Rivers Joint Organization
- Australian Water Association
- Water NSW
- Department of Planning and Environment
- Crown Lands
- Office of Environment and Heritage
- Department of Primary Industries
- NSW Health
- Tweed Laboratory
- NSW Police
- NSW Fire and Rescue
- NSW Rural Fire Service
- NSW State Emergency Service
- Bureau of Meteorology
- National Parks and Wildlife
- Byron Bay Bird Buddies
- Non-Government Organisations



Strategies & Plans

- Integrated Water Cycle Management Strategy (30yr Plan) Currently under development
- Strategic Business Plan for Water Supply and Sewerage Services (2016)
- Byron Shire Council Development Servicing Plan for Water Supply and Sewerage (2016)
- Byron Shire Council Drinking Water Management System (DWMS) (2021)
- Byron Shire Recycled Water Management Strategy 2017-2027
- Integrated Water Cycle Management Plan - Water Supply and Sewerage Strategic Plan (2017)
- Mullumbimby Drought Management Plan (2014)
- Regional Water Supply Drought Management Plan (2016)
- Northern Rivers Regional Bulk Water Supply Strategy
- Digital Asset Management Plan (Water, Sewer & Reuse Water) (Draft)
- Operations Environmental Management Plan
- Operational Environmental Management Plan (OEMP) for BBIWMR
- Pollution Incident Response Management Plan
- BSC Wastewater Management System



Council Policies

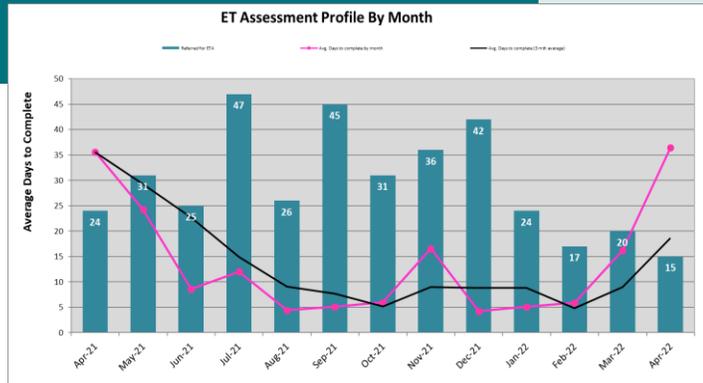
- Backflow Prevention 2020
- Access to bulk water from Council water mains 2019
- Building in the Vicinity of Underground Infrastructure 2020
- Liquid Trade Waste 2019
- Pressure Sewerage 2020
- Private sewer pump station 2020
- Reticulated Town Drinking Water Quality 2020
- Urban Recycled Water Connections 2019
- Water and Sewer Equivalent Tenements Policy 2018
- Water Conservation 2019
- Dual Water Reticulation Supply Policy (Draft)



Systems Planning

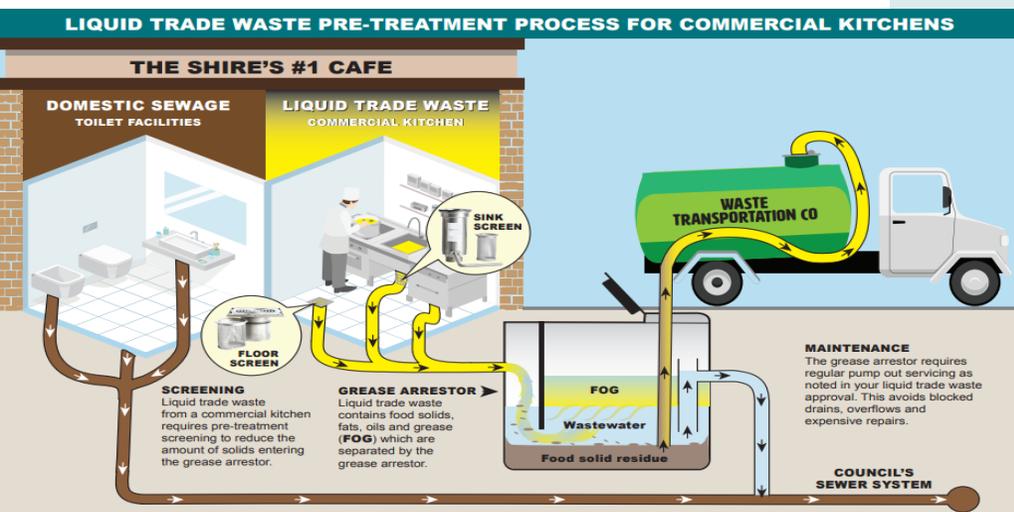
Systems Planning

Section 307 Certificate of Compliance



Systems Planning

- Water Utilities in the Water Management Act
- Water and Sewer Systems Planning
- Section 64 Contributions under the LG Act (1993) enables Council to levy developer charges for water supply and sewerage.
- Section 307 Certificates
- Integrated Water Management Strategic Planning
- Liquid Trade Waste Regulation & Compliance
- Asset Maintenance Planning
- Regulation Compliance Reporting
- Water & Wastewater Public Data



Utilities Assets Overview



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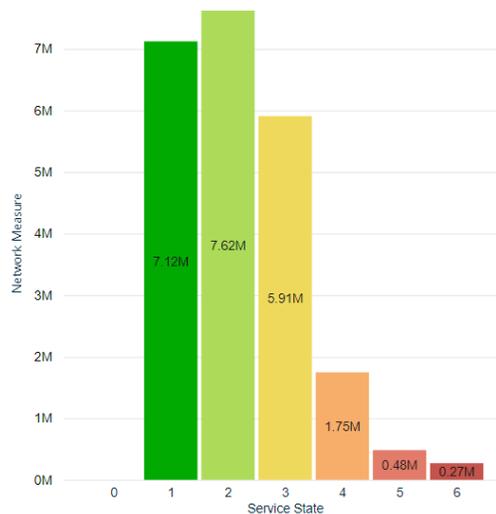
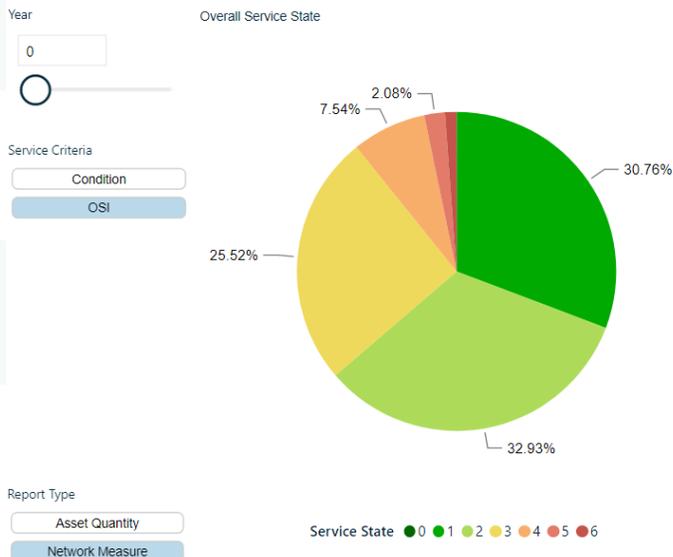
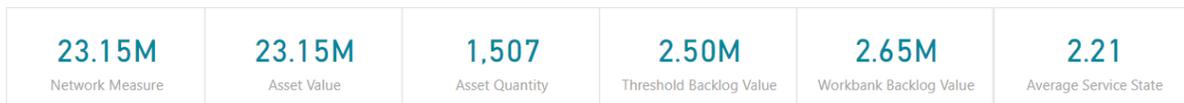
-  Water Hydrants – 2459
-  Water Treatment Plants – 1
-  Water Pump Stations – 9
-  Water Valves – 1606
-  Water Mains – 1741 (250km)
-  Dam Weirs – 1
-  Water Reservoirs – 15
-  Water Reuse Access Points – 7
-  Water Reuse Pump Stations – 1
-  Water Reuse Valves – 163
-  Water Reuse Mains – 90 (26km)
-  Water Reuse Filling Stations – 4
-  Irrigation Systems – 20

-  Sewer Treatment Plants – 4
-  Sewer Pump Stations – 87
-  Sewer Rising Mains – 166 (72km)
-  Sewer Rising Main Valves – 210
-  Sewer Gravity Mains – 5187 (195km)
-  Sewer Gravity Main Valves – 3
-  Sewer Gravity Manholes – 3941
-  Vacuum Sewer Mains – 174 (7km)
-  Vacuum Sewer Valves – 20
-  Vacuum Sewer Pods – 84
-  Pressure Sewer Mains – 600 (10km)
-  Pressure Sewer Boundary Kits – 315
-  Buildings – 29
-  Shelters – 9

Predictive modelling of Utilities Assets

- Optimise available funding to extend asset life and improve levels of service.
- Apply condition based life cycle degradation profiles to accurately model future asset conditions.
- Produce prioritised long term capital work and financial plans.
- Drive capital investment in regards to agreed levels of service.

2022 - MAINTAIN - Budget to maintain + 2.5% Inflation

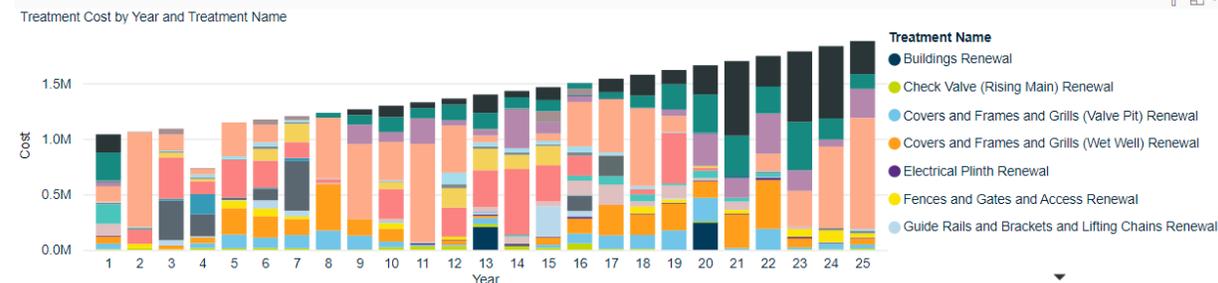


2022 - MAINTAIN - Budget to maintain + 2.5% Inflation

Service State by Year

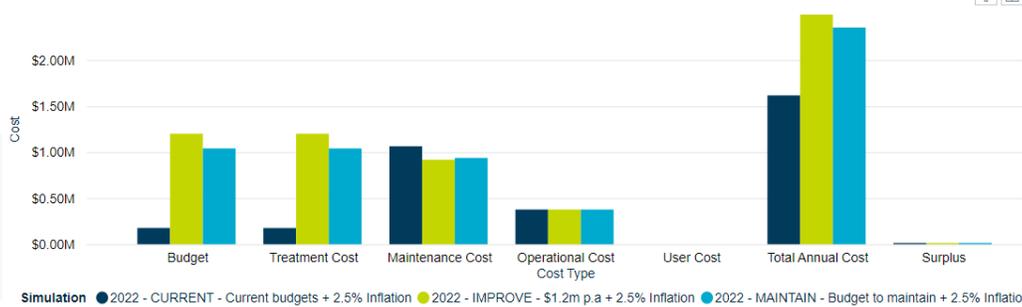
Asset Name	Unique Asset ID	0	1	2	3	4	5	6	7	8	9	10	11	12
SPS1002 Raftons Road Behind 5&7 Palm Tree Crs	(Rising Main)													
	SPS1002 Raftons Road Behind 5&7 Palm Tree Crs Covers and Frames and Grills (Valve Pit)	4.00	0.00	0.00	1.00	1.00	2.00	2.00	2.00	2.00	3.00	3.00	3.00	0.00
	SPS1002 Raftons Road Behind 5&7 Palm Tree Crs Covers and Frames and Grills (Wet Well)	4.00	0.00	0.00	1.00	1.00	2.00	2.00	2.00	3.00	3.00	3.00	3.00	3.00
	SPS1002 Raftons Road Behind 5&7 Palm Tree Crs Guide Rails and Brackets and Lifting Chains	2.00	2.00	2.00	3.00	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00
	SPS1002 Raftons Road Behind 5&7 Palm Tree Crs Instrumentation	4.00	4.00	5.00	0.00	0.00	1.00	1.00	2.00	2.00	3.00	3.00	3.00	4.00

2022 - MAINTAIN - Budget to maintain + 2.5% Inflation



Predictive Modelling – Compare budgeting scenarios

Cost by Simulation and Cost Type



Create scenarios to clearly demonstrate the impact of increased, static or decreased funding to ultimately make better informed decisions.

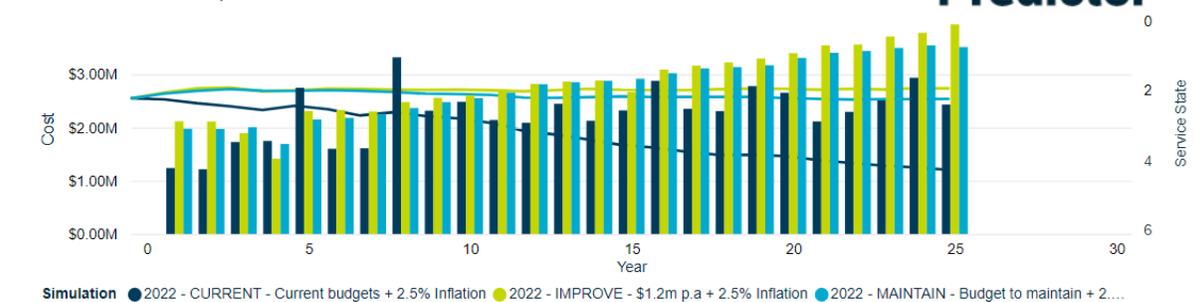
Budget and Cost Allocation by Simulation

Simulation	Budget	Treatment Cost	Maintenance Cost	Operational Cost	User Cost	Total Annual Cost	Surplus
2022 - CURRENT - Current budgets + 2.5% Inflation	\$176,493.00	\$175,787.50	\$1,063,591.74	\$376,644.45	\$0.00	\$1,616,023.69	\$705.50
2022 - IMPROVE - \$1.2m p.a + 2.5% Inflation	\$1,200,000.00	\$1,199,762.50	\$917,513.02	\$376,644.45	\$0.00	\$2,493,919.97	\$237.50
2022 - MAINTAIN - Budget to maintain + 2.5% Inflation	\$1,040,000.00	\$1,039,862.50	\$936,649.97	\$376,644.45	\$0.00	\$2,353,156.92	\$137.50

Total Backlog

Year	2022 - CURRENT - Current budgets + 2.5% Inflation	2022 - IMPROVE - \$1.2m p.a + 2.5% Inflation	2022 - MAINTAIN - Budget to maintain + 2.5% Inflation
0	\$2,645,525.00	\$2,645,525.00	\$2,645,525.00
1	\$2,469,737.50	\$1,445,762.50	\$1,605,662.50
2	\$2,718,492.19	\$497,996.25	\$827,892.50
3	\$2,802,069.41	\$0.00	\$259,530.64
4	\$2,909,650.78	\$0.00	\$0.00
5	\$3,284,478.04	\$451,431.88	\$564,572.70
6	\$4,074,582.82	\$18,555.09	\$333,991.70
7	\$5,372,859.61	\$0.00	\$298,360.12
8	\$5,569,319.64	\$308,255.93	\$1,068,539.34
9	\$6,752,602.08	\$433,355.45	\$1,425,577.08
10	\$7,504,495.64	\$332,821.98	\$1,434,974.77
11	\$9,208,224.16	\$860,728.85	\$2,068,504.62
12	\$10,752,386.15	\$1,172,743.05	\$2,746,262.98
13	\$11,665,649.72	\$736,124.90	\$2,616,413.96
14	\$12,631,279.47	\$33,911.37	\$2,054,463.94
15	\$13,385,171.65	\$0.00	\$1,607,610.96
16	\$13,725,738.97	\$786,787.98	\$2,072,369.85
17	\$15,289,984.40	\$704,466.00	\$2,082,892.44

Total Cost and Service State by Year and Simulation

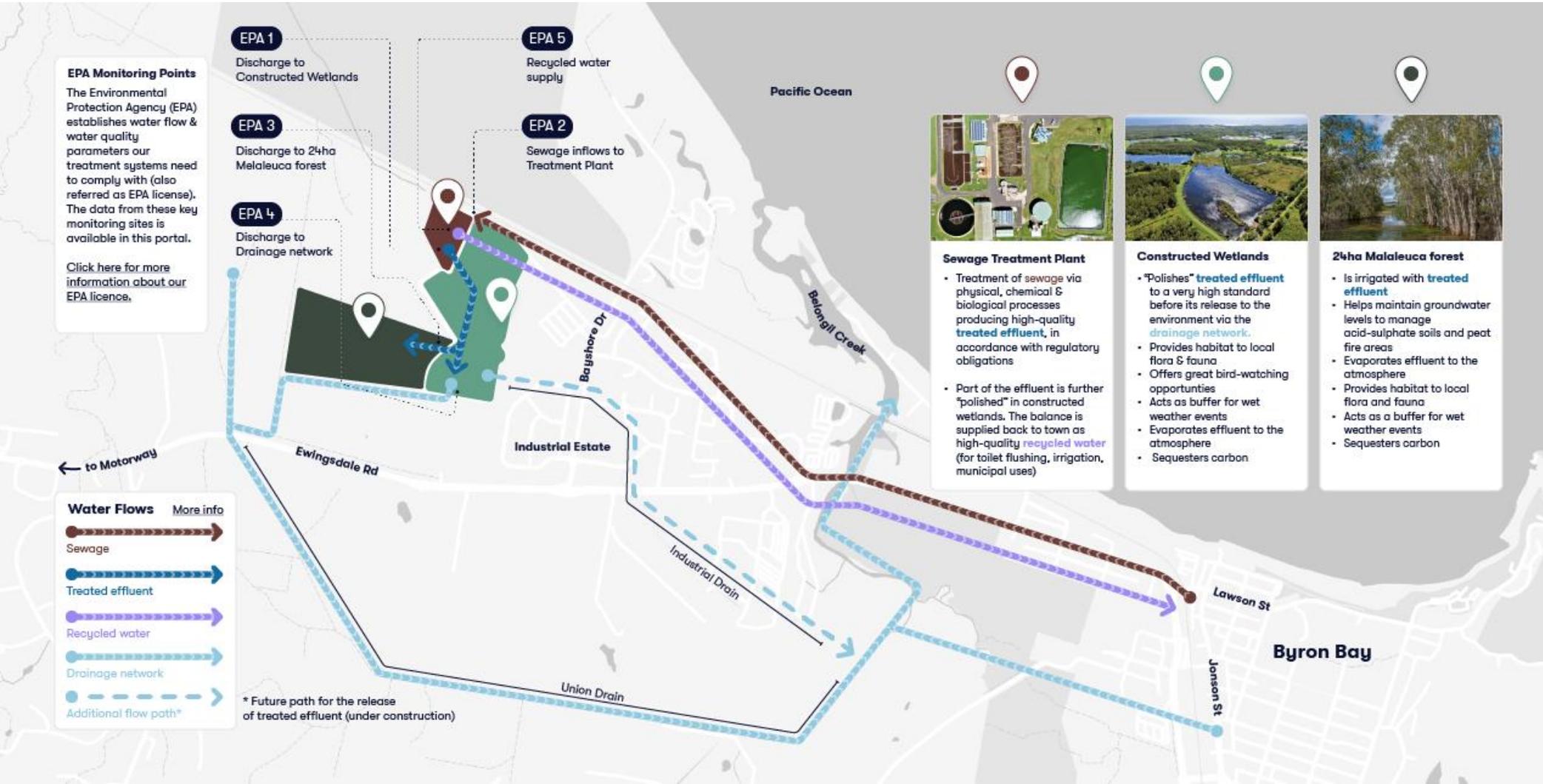


Service State

Service Criteria: OSI

Year	2022 - CURRENT - Current budgets + 2.5% Inflation	2022 - IMPROVE - \$1.2m p.a + 2.5% Inflation	2022 - MAINTAIN - Budget to maintain + 2.5% Inflation
19	3.76	1.94	2.17
20	3.80	1.95	2.20
21	3.91	1.97	2.22
22	3.99	1.95	2.24
23	4.06	1.97	2.23
24	4.11	1.93	2.23
25	4.18	1.94	2.23

Integrated Water Management



Integrated Water Management encourages less reliance on limited natural water sources with less production of pollutant loads to the receiving environment from sewerage operations.

Smart water metering



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HOW DO SMART WATER METERS WORK?



The meter registers water use.

The meter transmits the data.

The data can be viewed by Council and you.

Any leaks can be identified quickly and repaired.

Water and money saved!

HOW



SMART
WATER
METERS
HELP
EVERYONE

HELPS YOU IDENTIFY
LEAKS EARLIER



HELPS
OPTIMISE
THE WATER
NETWORK
AND YOUR
SUPPLY



HELPS YOU
SAVE WATER,
MONEY AND
POTENTIAL
DAMAGE





Utilities Operations

Utilities Operations

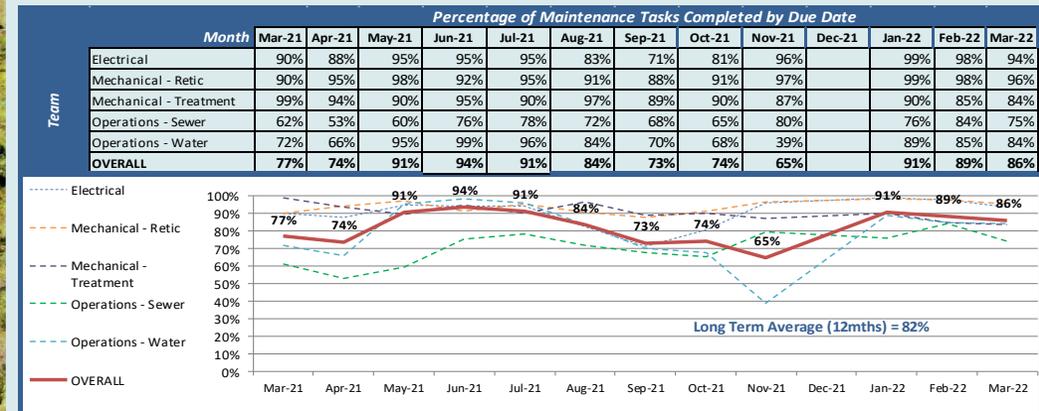


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Utilities Operations consists of 5 Teams:

- Treatment Systems
- Water Operations
- Sewer Reticulation and Pump Stations
- Mechanical Maintenance
- Electrical Maintenance



Utilities Operations

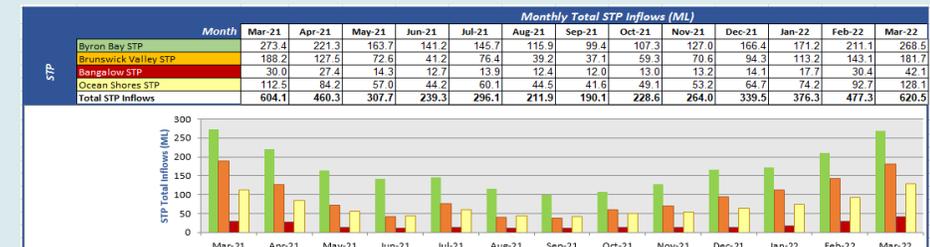


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Operations

- Delivery of potable water (Rous)
- Mullumbimby Water Treatment Plant
- Water and Sewer Network Asset Maintenance
- Sewerage Treatment Plant Operations
- SCADA
- Recycled Water Network Operations
- Byron Integrated Water Management Reserve Operations
- Coordinate Infrastructure Services on-call after hours
- Emergency Management Response back up





Capital Works

Upcoming Capital works projects



- RFT 2021-1145 - Fletcher, Bangalow and Carlyle Water Main Replacements, Byron Bay
- RFT2021-1130 Reservoir Roof Replacements Work
- RFT2021-1131 - Reservoir Slope Stability Works
- RFT2021-1247 - Panel of Providers - Plumbing, Electrical, General Building and Maintenance
- RFQ 2021-0035 Byron STP Inlet Works Remediation
- RFQ2021-1144 Carlyle Street Water Main Replacement
- Byron Bay Industrial Estate Channel Bed Mowing Services
- RFT2021-1102 Sewer Pump Stations 5015 & 5019 Refurbishment Work
- RFT2021-1146 Inflow & Infiltration 21/22 Construction Package
- RFQ2021-1144 Casons Road Water Main Replacement
- RFT2021-1097 Sewer Pump Stations 3018 & 3020 Refurbishment Work

Additional Flow Path (Byron Arts & Industry Estate)



ADDITIONAL FLOW PATH

A drainage upgrade project to better manage treated water and stormwater flows in the Belongil catchment.



We want to hear from you

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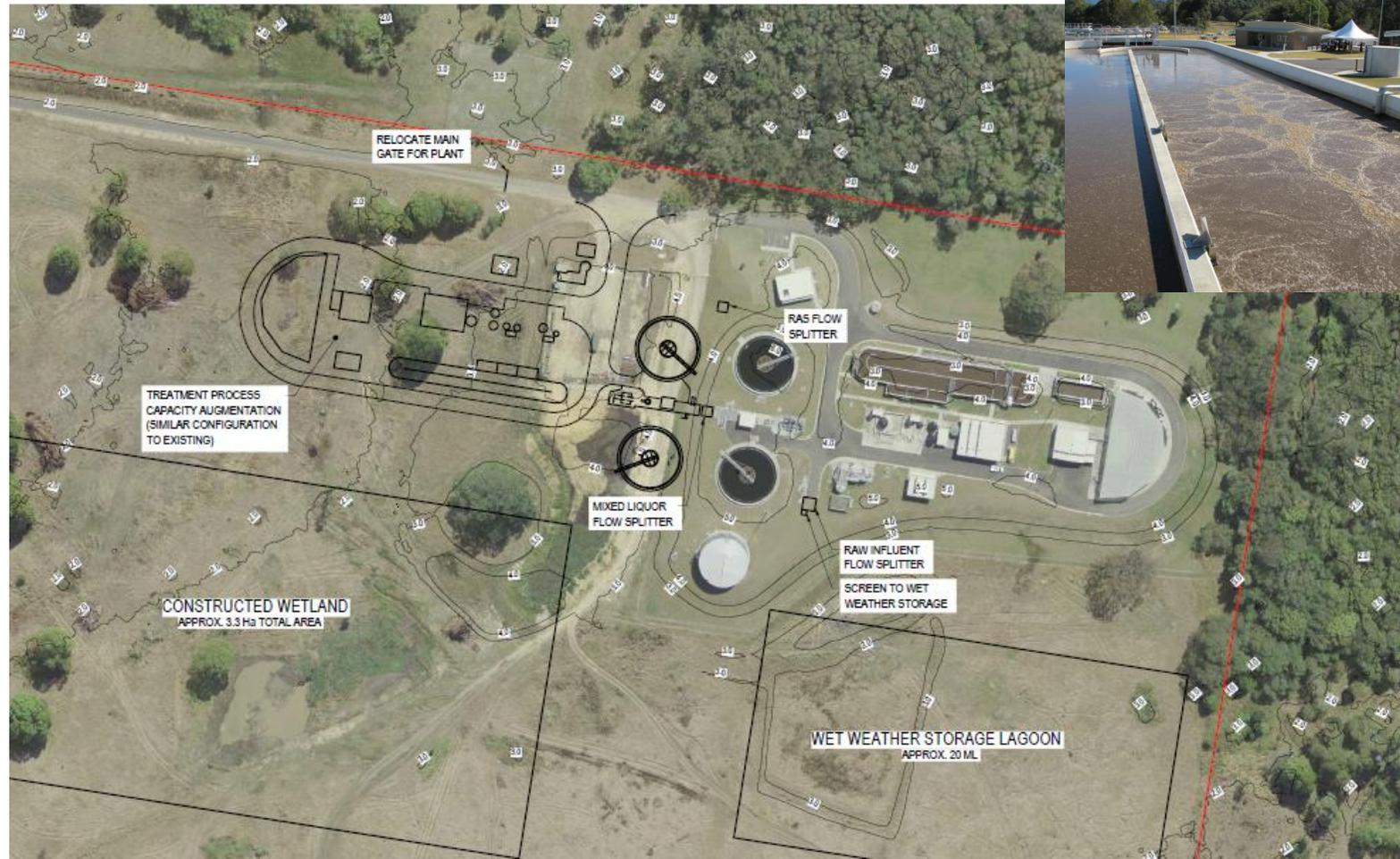


Additional Projects

Ocean Shores to Brunswick Valley STP Transfer



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Byron Shire Bioenergy Facility (\$22.5m)



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WHAT IS BIO ENERGY?

Converting
organic waste
into clean
and green
renewable
energy.

COMMERCIAL ORGANIC WASTE SOLUTIONS

CURRENT VS BIOENERGY



HIGH SERVICE COSTS



OUT OF AREA HAULAGE
HIGH COST AND CO₂



CH₄ + CO₂ OPEN AIR RELEASE
FROM LANDFILL



WASTE



LOWER SERVICE COSTS



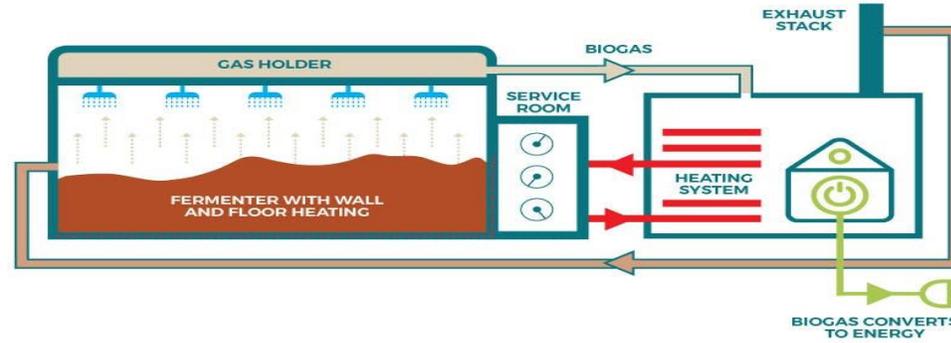
LOCAL
LOWER KMs COST AND CO₂



CH₄ CONTAINED
AND CONVERTED



RENEWABLE ENERGY,
COMPOST PRODUCT AND
LOCAL JOB CREATION



Thank you.

We look forward to working together in W&SAC.

If you would like more information please contact:

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