

Minutes of Council Meeting

held on

Tuesday 22 September 2020, 5.30PM

in the Council Chamber, 83 Mandurah Terrace Mandurah and via eMeeting

PRESENT:

MAYOR	R WILLIAMS	
COUNCILLOR	C KNIGHT	NORTH WARD
COUNCILLOR	P JACKSON	NORTH WARD
COUNCILLOR	A ZILANI	NORTH WARD
COUNCILLOR	D LEE	EAST WARD (Electronic)
COUNCILLOR	L RODGERS	EAST WARD
COUNCILLOR	D PEMBER	EAST WARD
COUNCILLOR	M DARCY	COASTAL WARD
COUNCILLOR	J GREEN	COASTAL WARD
COUNCILLOR	C DI PRINZIO	COASTAL WARD (Electronic)
COUNCILLOR	D SCHUMACHER	TOWN WARD (Electronic)
COUNCILLOR	P ROGERS	TOWN WARD
COUNCILLOR	M ROGERS	TOWN WARD (Electronic)
MR	M NEWMAN	CHIEF EXECUTIVE OFFICER
MR	A CLAYDON	DIRECTOR BUILT AND NATURAL ENVIRONMENT (Electronic)
MR	G DAVIES	DIRECTOR STRATEGY AND ECONOMIC DEVELOPMENT
MRS	C MIHOVLOVICH	DIRECTOR BUSINESS SERVICES
MS	J THOMAS	DIRECTOR PLACE AND COMMUNITY
MS	L CLARK	ACTING MINUTE OFFICER

OPENING OF MEETING AND ANNOUNCEMENT OF VISITORS [AGENDA ITEM 1]

Prior to commencement of this electronic meeting Elected Member and other attendee connections by electronic means were tested and confirmed.

The Mayor declared the meeting open at 5.36pm.

ACKNOWLEDGEMENT OF COUNTRY [AGENDA ITEM 2]

Mayor Williams acknowledged that the meeting was being held on the traditional land of the Bindjareb people, and paid his respect to their Elders past and present.

APOLOGIES [AGENDA ITEM 3]Leave of Absence

Nil.

Apologies

Nil.

DISCLAIMER [AGENDA ITEM 4]

The Mayor advised that the purpose of this Council Meeting is to discuss and, where possible, make resolutions about items appearing on the agenda. Whilst Council has the power to resolve such items and may in fact, appear to have done so at the meeting, no person should rely on or act on the basis of such decision or on any advice or information provided by a Member or Officer, or on the content of any discussion occurring, during the course of the meeting. Persons should be aware that the provisions of the *Local Government Act 1995* (Section 5.25(e)) and the City of Mandurah Standing Orders 2016 (Section 13.1(1)) establish procedures for revocation or rescission of a Council decision. No person should rely on the decisions made by Council until formal advice of the Council decision is received by that person.

The City of Mandurah expressly disclaims liability for any loss or damage suffered by any person as a result of relying on or acting on the basis of any resolution of Council, or any advice or information provided by a Member or Officer, or the content of any discussion occurring, during the course of the Council meeting.

ANSWERS TO QUESTIONS TAKEN ON NOTICE [AGENDA ITEM 5]

Nil.

PUBLIC QUESTION TIME [AGENDA ITEM 6]

Nil.

PUBLIC STATEMENT TIME [AGENDA ITEM 7]

Nil.

ANNOUNCEMENTS [AGENDA ITEM 8]

G.1/9/20

STANDING ORDERS LOCAL LAW 2016

The Mayor advised the meeting that the *City of Mandurah Standing Orders Local Law 2016* will be modified to ensure Council Members and the public can participate in and follow the meeting as it progresses.

MOTION

Moved: Mayor R Williams
Seconded: Councillor A Zilani

That Council:

1. Suspend the operation of the following provisions of the *City of Mandurah Standing Orders Local Law 2016* for the duration of this electronic meeting to ensure Council Members and the public can follow and participate in the meeting as it progresses:
 - 1.1. Standing Orders 3.3 Public Question Time and 3.4 Public Statement Time pertaining to public participation in meetings continues via electronic means only with public submissions received to be read aloud by the Presiding Member at the relevant agenda item.
 - 1.2. Standing Order 7.2 Members to occupy own seats whilst present in meeting room. Relevant only for Elected Members attending the Council Chambers.
 - 1.3. Agree under Standing Orders 8.1(1) and 12.2, that instead of requiring a show of hands, a vote will be conducted by exception with the Presiding Member calling for those Members against each motion. If no response is received the motion will be declared carried and minuted accordingly.
 - 1.4. Reiterate the requirement as per Standing Order 7.3 for Members to advise the Presiding Member when leaving or entering the meeting at any time.

CARRIED: 13/0

LEAVE OF ABSENCE REQUESTS [AGENDA ITEM 9]

Nil.

PETITIONS [AGENDA ITEM 10]

Nil.

PRESENTATIONS [AGENDA ITEM 11]

Nil.

DEPUTATIONS [AGENDA ITEM 12]**PLANNING SOLUTIONS – OLIVER BASSON:
REPORT 4 LOT 7 (NO 33-69) BAILEY BOULEVARD, DAWESVILLE STRUCTURE PLAN**

Oliver Basson representing Signature Care Landholdings Pty Ltd spoke in support of the report recommendation with deletion of proposed Officer recommendation modifications no. 1, 2, 3 and 5.

CONFIRMATION OF MINUTES [AGENDA ITEM 13]

G.2/9/20 CONFIRMATION OF COUNCIL MINUTES: TUESDAY 25 August 2020

MOTION

**Moved: Councillor L Rodgers
Seconded: Councillor C Knight**

That the Minutes of Council Meeting held on Tuesday 25 August 2020 be confirmed.

CARRIED: 13/0

ANNOUNCEMENTS BY THE PRESIDING MEMBER [AGENDA ITEM 14]

Mayor Williams presented to the Chief Executive Officer the LGIS Silver Award for Occupational Health and Safety.

At the invitation of the Mayor, Councillors updated the meeting on the following recent activities:

- Councillor Caroline Knight** – 28 August 2020
Tree Planting Program with Halls Head College
- 10 September 2020
Dwellingup Trails & Visitor Centre Official Opening
- Councillor Merv Darcy** – 29 August 2020
New Bushfire Brigade Opening
- Councillor Don Pember** – 1 September 2020
Launch of the Stay on Your Feet Programme – Remove Hazards Campaign
- 4 September 2020
10 Year Celebration of the Paediatric Ward at Peel Health Campus
- Mayor Rhys Williams** – Awarded Local Legend, Linda Thorpe for her community work and support for many local community groups.

DECLARATION OF INTERESTS [AGENDA ITEM 15]

- Chief Executive Officer, Mark Newman declared a financial interest in Executive Committee minutes and the late items to be considered by Council. Mr Newman will vacate the chamber when the items are discussed and voted upon.

QUESTIONS FROM ELECTED MEMBERS [AGENDA ITEM 16]**Questions of which due notice has been given**

Councillor A Zilani

Questions relate to report 6: Arboricultural Assessment of Street Trees: Cox Bay, Falcon

The following responses were provided from Director Built and Natural Environment:

Question 1: *How much money did the City spend for the assessment of 65 trees in Cox Bay?*

Response: \$13,299

Question 2: *Please provide a copy of the assessment report.*

Response: Refer to Attachment 6.1 – Arboricultural assessment of Norfolk Island Pines – Falcon

Question 3: *Would you please provide me the approximate maintenance cost in the future for those 15 trees that officers recommend to “keep” instead of “remove”?*

Response: Approximately \$5,000 to address existing issues. Future maintenance costs would be \$5,000 over 10 years i.e. \$500 per year. Note that this is estimated because future maintenance cannot be predicted however past experience leads to this conclusion.

Question 4: *Would you please tell me, out of those 15 trees how many trees are on the residential verges?*

Response: The trees are located within road reserve i.e. within the verge adjacent to the properties.

Question 5: *What do you mean by “Amenity Value” and how is it calculated?*

Question 6: *What do you mean by “Individual Tree Values” and how do you calculate in dollar?*

Question 7: *What do you mean by Community Wellness Value and how do you calculate that in dollar?*

Response: 5, The Amenity Value of Trees

6 & 7: The word “Amenity” is derived from the Latin word “amoenus” which means “pleasant”. In current usage it refers to a useful or desirable feature, but whichever way the word is interpreted, the benefits of trees are tangible and can be readily appreciated by each of the human senses, and the benefits they provide are many:

- Trees, alive or dead, are an essential habitat for insects, birds, mammals, fungi and other plants.

- They visually soften an otherwise harsh urban environment.
- Tree canopies slow up rainfall and the root system absorb moisture and so aid stormwater management.
- They mark the changing of the seasons with spring flowers, summer foliage, autumn fruit and bare winter branches.
- Provide shade and cooler air temperatures
- Provide noise reduction
- Mitigate urban heat island effect.

Stress and illness levels are often lower where trees are planted, as trees provide psychological refreshment and a sense of wellbeing through softening the urban environment. As trees mature, they create character and a sense of place and permanence whilst releasing scents and aromas that create positive emotional response.

As well as absorbing carbon dioxide (the main greenhouse gas) and producing oxygen; trees filter, absorb and reduce pollutant gasses including ozone, sulphur dioxide, carbon monoxide and nitrogen oxide.

The amenity value for each tree was calculated by the consultant using "The (Revised) Burnley Method of Amenity Tree Evaluation" (Moore, 2006).

The formula has been developed for Australian trees and is as follows:

Appraised value = tree volume x life expectancy x form and vigour x location x base value.

The parameters for each tree assessed in Cox Bay are detailed in the Arboricultural Assessment undertaken by Bowden Tree Consultancy.

Generally, City officers use the methodology for valuing trees developed by the City of South Perth (which has been distributed separately to each Elected Member).

In summary:

Amenity Value

Benefits of trees appreciated by the human senses

Individual Tree Values

Calculated by a well-established formula, The (Revised) Burnley Method of Amenity Tree Evaluation (Moore, 2006).

Community Wellness

Economic value of an individual tree based on its ecosystem services and equivalent replacement costs. Reference Dan Burden (2006) Urban Street Trees: 22 Benefits.

Questions of which notice has not been given

Councillor D Schumacher

Question: In the response to Councillor Zilani, the Officers have said that it would cost approximately \$5,000 to address existing issues and future maintenance costs of \$500 per year. Is that enough to maintain the trees?

Response: Director Built and Natural Environment responded that the maintenance of the trees is minimal as it is focused on root maintenance. The reason the existing cost was higher was due to complete removal of some dead trees.

Councillor D Pember

Question: Halls Cottage been extensively damaged. Given the City is responsible, what works are required as it is heritage listed?

Response: Director Built and Natural Environment advised that enquiries have been made with the Department of Planning, Lands and Heritage and specialist repairers to determine the restoration requirements for the heritage building.

BUSINESS LEFT OVER FROM PREVIOUS MEETING [AGENDA ITEM 17]

Nil.

RECOMMENDATIONS OF COMMITTEES [AGENDA ITEM 18]

NOTE: Council adopted en bloc (moved by Councillor P Rogers and seconded by Councillor P Jackson) the recommendations of the Audit and Risk Committee meeting of Tuesday 8 September 2020.

G.3/9/20 STRATEGIC INTERNAL AUDIT UPDATE AND PROGRESS UPDATE ON REGULATION 17 REVIEW (AR.4/9/20)

Summary

The City of Mandurah (the City) Strategic Internal Audit function was adopted by Council on 26 May 2020 and the function was formally implemented on 1 July 2020. In accordance with the Internal Audit Plan, the Audit and Risk Committee is required to receive a Strategic Internal Audit Plan Monitoring Report on a quarterly basis, with the first report due to the Audit and Risk Committee at the meeting of 1 December 2020. This report will set out the internal audit findings for any audits conducted in quarter one and two, including any recommendations, the City's actions and a progress update.

In April 2020, the Chief Executive Officer (CEO) engaged an external audit service provider to conduct a review of risk management, internal controls and legislative compliance, in accordance with Regulation 17(1) of the *Local Government (Audit) Regulations 1996* (Regulations). This review, required every three years determines the appropriateness and effectiveness of the City's systems and procedures in relation to risk management, internal controls and legislative compliance. The Audit and Risk Committee received the report at its meeting on 19 May 2020 and noted a number of recommendations for improvement.

Whilst this internal audit was undertaken prior to the implementation of the City's formal internal audit function, the progress on the implementation of the recommendations are to be monitored in accordance with the Internal Audit Plan.

A progress update (**Confidential Attachment 1.1**) is now being presented to the Audit and Risk Committee for review and noting prior to being presented to Council.

Committee Report Recommendation

That the Audit and Risk Committee note the progress update on the implementation of the improvements from the review of risk management, internal controls and legislative compliance as per Confidential Attachment 1.1.

Council Resolution**MOTION**

Moved: Councillor P Rogers
Seconded: Councillor P Jackson

That the Audit and Risk Committee note the progress update on the implementation of the improvements from the review of risk management, internal controls and legislative compliance as per Confidential Attachment 1.1.

CARRIED: 13/0
(This item was adopted en bloc)

G.4/9/20 OFFICE OF THE AUDITOR GENERAL – LOCAL GOVERNMENT SYSTEMS PERFORMANCE AUDIT (AR.5/9/20)Summary

The Auditor General has issued a performance audit report assessing the general information technology (IT) controls at 10 local governments. Each entity was assessed over fourteen categories. The City of Mandurah was not one of the 10 local governments included in the Auditor General audit.

A comparison between the report's findings and the City's IT structure and organisation has been undertaken.

Council is requested to note the comparison of the status of the City's information systems controls with the findings of the performance audit.

Committee Report Recommendation

That the Audit and Risk Committee note the comparison of the status of the City's general computer controls with the findings of the Auditor General's report on Local Government as detailed in Confidential Attachment 2.1.

Council Resolution**MOTION**

Moved: Councillor P Rogers
Seconded: Councillor P Jackson

That the Audit and Risk Committee note the comparison of the status of the City's general computer controls with the findings of the Auditor General's report on Local Government as detailed in Confidential Attachment 2.1.

CARRIED: 13/0
(This item was adopted en bloc)

G.5/9/20 OFFICE OF THE AUDITOR GENERAL: REGULATION OF CONSUMER FOOD SAFETY BY LOCAL GOVERNMENT ENTITIES (AR.6/9/20)Summary

The Office of the Auditor General (OAG)¹ has released a report on the Regulation of Consumer Food Safety by Local Government Entities that was tabled on 30 June 2020. The OAG selected a sample of two local government entities to conduct the audit. These two local governments were selected because they have a large number of food businesses such as restaurants, cafes and bars.

The original scope of the performance audit included the Department of Health (DoH) however due to the impact of COVID-19, the DoH will be subject to a separate audit at a later date.

Committee Report Recommendation

That the Audit and Risk Committee note the City responses in this report from the Office of the Auditor General's Report into Regulation of Consumer Food Safety by Local Government Entities as detailed in Confidential Attachment 3.1.

Council Resolution**MOTION**

Moved: Councillor P Rogers
Seconded: Councillor P Jackson

That the Audit and Risk Committee note the City responses in this report from the Office of the Auditor General's Report into Regulation of Consumer Food Safety by Local Government Entities as detailed in Confidential Attachment 3.1.

CARRIED: 13/0
(This item was adopted en bloc)

G.6/9/20 OFFICE OF THE AUDITOR GENERAL: WORKING WITH CHILDREN CHECKS - MANAGING COMPLIANCE (AR.7/9/20)Summary

An audit conducted by the Office of Auditor General (OAG) recently made a number of recommendations that will impact on how the City of Mandurah will manage its requirements on Working with Children Checks. This audit assessed whether the WA health system, the Department of Justice and the Department of Education complied with their Working with Children Check obligations. The Auditor General's report can be viewed via the link <https://audit.wa.gov.au/reports-and-publications/reports/working-with-children-checks-compliance/>

Recommendations coming from the Audit require that all public sector entities who work with children, including those not sampled in this audit, should consider the findings in this report and

¹ Due to the size of the Auditor General's report it has not been included as an attachment. The report can be accessed at <https://audit.wa.gov.au/reports-and-publications/reports/regulation-of-consumer-food-safety-by-local-government-entities/>

implement the recommendations where appropriate, by 31 December 2020. The Office of Auditor General (OAG) have identified a number of recommendations.

The City of Mandurah have identified a number of areas that will require some modifications to our existing practices. These actions are identified in the body of the report. Council is requested to note the report and that a further report on progress will be provided to the Audit and Risk Committee in 2021.

Committee Report Recommendation

That the Audit and Risk Committee note the City officer's responses and proposed actions to the Auditor General's report and Recommendations on Working with Children Cards as detailed in Confidential Attachment 4.1.

Council Resolution

MOTION

Moved: Councillor P Rogers
Seconded: Councillor P Jackson

That the Audit and Risk Committee note the City officer's responses and proposed actions to the Auditor General's report and Recommendations on Working with Children Cards as detailed in Confidential Attachment 4.1.

CARRIED: 13/0
(*This item was adopted en bloc*)

G.7/9/20 OCCUPATIONAL SAFETY AND HEALTH (OSH) 2019-2020 ANNUAL REVIEW (AR.8/9/20)

Summary

The City is now operating under our second 3-Year Strategic OSH Plan which was developed alongside the 2018 LGIS Worksafe Plan Audit outcomes and known legislative requirements. The 2019-2020 OSH performance is reflective of the considerable work completed in all business units within the City.

The Audit and Risk Committee and Council is requested to note the City's performance and progress being made in continuing the 3-Year Strategic OSH Plan and the initiatives being implemented to address the management of workplace injury.

Committee Report Recommendation

That the Audit and Risk Committee

1. Notes the City's OSH performance for the 2019/20 financial year as detailed in Confidential Attachment 5.1.
2. Notes the progress of implementation of the 3-Year Strategic OSH Plan.

Council Resolution

MOTION

Moved: Councillor P Rogers

Seconded: Councillor P Jackson

That the Audit and Risk Committee

- 1. Notes the City's OSH performance for the 2019/20 financial year as detailed in Confidential Attachment 5.1.**
- 2. Notes the progress of implementation of the 3-Year Strategic OSH Plan.**

CARRIED: 13/0
(This item was adopted en bloc)

G.8/9/20 2020 LOCAL GOVERNMENT INSURANCE SERVICES 3 STEPS TO SAFETY PROGRAM (AR.9/9/20)

Summary

In June 2020, Local Government Insurance Services (LGIS) were engaged to conduct an assessment into the City's Occupational Safety and Health (OSH) management systems.

This report provides a summary of the assessment outcomes and the Audit and Risk Committee and Council are requested to acknowledge the audit result and the proposed actions as a result of the audit findings.

Committee Report Recommendation

That the Audit and Risk Committee

- 1. Acknowledges the success of the City's OSH LGIS 3 Steps to Safety Program assessment report score of 82%**
- 2. Notes the proposed actions as a result of the assessment**
- 3. Notes the current 3-year OSH plan will be updated based on the identified actions from the assessment.**

Council Resolution

MOTION

Moved: Councillor P Rogers
Seconded: Councillor P Jackson

That the Audit and Risk Committee

- 1. Acknowledges the success of the City's OSH LGIS 3 Steps to Safety Program assessment report score of 82%**
- 2. Notes the proposed actions as a result of the assessment**
- 3. Notes the current 3-year OSH plan will be updated based on the identified actions from the assessment.**

CARRIED: 13/0
(This item was adopted en bloc)

5.55pm: At this juncture in the meeting Mayor Williams checked with each attendee and confirmed that all attendees remained connected and in attendance at the electronic meeting.

REPORTS [AGENDA ITEM 19]

G.9/9/20 CHANGE ORDER OF REPORTS FOR DISCUSSION

At this juncture of the meeting, in view of interested parties in the public gallery, the Chairman suggested that with the consensus of Council Members, the order of the agenda be changed and Report 7 Lakelands Community Garden be considered next.

MOTION

Moved: Councillor C Knight

Seconded: Councillor A Zilani

That the report order be amended to consider Report 7 Lakelands Community Garden to accommodate members of the public attending the Chamber.

CARRIED: 13/0

G.10/9/20 LAKELANDS COMMUNITY GARDEN (REPORT 7)

Summary

Council resolved at its meeting on 23 July 2019 to support the development of a Lakelands Community Garden and a Community Gardens toolkit.

Over the last 12 months, the officers have been working with the Lakelands Community Garden Group on their plans for an incorporated management committee and community garden. This has resulted in the incorporation of the LCGG, the delivery of a community workshop series and the development of a design for Stage 1 of the proposed Lakelands Community Garden. A Community Gardens Guide has been created as a supplement to the existing Embrace a Space toolkit, to guide and support other community members in the early stages of developing a community garden in a space.

After extensive consultation, the site at Reserve 49971, Lot 3001 Catalina Drive, Lakelands which is Crown Land, was identified as the most suitable site for the Lakelands Community Garden.

In order for the group to start development over the site they are required to hold tenure over the relevant 900 sq. metre portion of the lot. A licence to occupy agreement is required to be entered into between Lakelands Community Garden Group and the City, at a recommended maximum term of five years.

In order for the Department of Lands to support the licence, a change of purpose of the Reserve will be required. In principle support has been obtained from the Department of Lands to alter the current designation from a Right of Way to Community Purposes with the power to enter into a lease or licence for a term of up to five years.

The City has made provision in its 2020/2021 budget for an allocation of \$30,000 to the Lakelands Community Garden Group, to be administered through the City's existing Partnership Fund.

Officers recommend that Council:

1. Re-affirm the allocation of \$30,000 to the Lakelands Community Garden Group, to be administered through the City's existing Partnership Fund.
2. Approve a licence over a 900sq metre portion of R49971, Lot 3001 Catalina Drive, Lakelands for a term of three years with a two-year option of renewal (3+2 years).
3. Acknowledge the development of the Community Gardens Guide as a supplement to the Embrace a Space Guide and Template Kit.

Officer Recommendation

That Council:

1. Endorse the use of Reserve 49971, Lot 3001 Catalina Drive, Lakelands by the Lakelands Community Garden Group for the purpose of developing a community garden.
2. Approves a licence to Lakelands Community Garden Group over 900 sq. metre portion of Reserve 49971, Lot 3001 Catalina Drive, Lakelands with the following conditions:
 - 2.1 Tenure period of three years with a two-year option of renewal (3+2 years).
 - 2.2 Waiver the annual rent of \$1020 for the term of the lease.
 - 2.3 Waiver document preparation fee of \$460.
 - 2.4 Subject to the support of the Minister for Lands and the change of purpose of the Reserve to support the activities of the group.
3. Approve the allocation of \$30,000* to the Lakelands Community Garden Group from the Asset Management Reserve, to be administered through the City's existing Partnership Fund.
4. Acknowledge the development of the Community Gardens Guide as a supplement to the Embrace a Space Guide and Template Kit.

Council Resolution

MOTION

Moved: Councillor C Knight

Seconded: Councillor A Zilani

That Council:

1. **Endorse the use of Reserve 49971, Lot 3001 Catalina Drive, Lakelands by the Lakelands Community Garden Group for the purpose of developing a community garden.**
2. **Approves a licence to Lakelands Community Garden Group over 900 sq. metre portion of Reserve 49971, Lot 3001 Catalina Drive, Lakelands with the following conditions:**
 - 2.1 **Tenure period of three years with a two-year option of renewal (3+2 years).**
 - 2.2 **Waiver the annual rent of \$1020 for the term of the lease.**
 - 2.3 **Waiver document preparation fee of \$460.**
 - 2.4 **Subject to the support of the Minister for Lands and the change of purpose of the Reserve to support the activities of the group.**

3. **Approve the allocation of \$30,000* to the Lakelands Community Garden Group from the Asset Management Reserve, to be administered through the City's existing Partnership Fund.**
4. **Acknowledge the development of the Community Gardens Guide as a supplement to the Embrace a Space Guide and Template Kit.**

CARRIED: 13/0

G.11/9/20 FINANCIAL REPORT AUGUST 2020 (REPORT 1)

Summary

The Financial Report for August 2020 together with associated commentaries, notes on investments, balance sheet information and the schedule of accounts are presented for Elected Members' consideration.

Officer Recommendation

That Council:

- 1 Receives the Financial Report for August 2020 as detailed in Attachment 1.1 of the report.
- 2 Receives the Schedule of Accounts for the following amounts as detailed in Attachment 1.2 of the report:

Total Municipal Fund	\$	7,867,654.38
Total Trust Fund	\$	15,269.50
	\$	<u>7,882,923.88</u>

- 3 Approve the allocation of \$500 to each of the following volunteer units that would ordinarily be recognised at the annual Emergency Service Volunteer Appreciation Evening:
 - Mandurah SES
 - Falcon Volunteer Fire and Rescue Service
 - Mandurah Volunteer Fire and Rescue Service
 - Mandurah Southern Districts Bush Fire Brigade
 - Port Bouvard Lifesaving Club
 - Mandurah Lifesaving Club
 - Mandurah Volunteer Marine Rescue Group
 - St John Ambulance
- 4 Approves the following budget variations for 2020/21 annual budget:
 - 4.1 Decrease in capital expenditure of \$20,197* for Smart Street Mall.
Decrease in capital expenditure of \$35,871* for Peel Street.
 - Decrease in utilised loans of \$56,068*
 - 4.2 Increase in capital expenditure of \$33,000* for DR Leighton Road/Halls Head Parade.
 - To be funded from DR Rainbow Way Swale Reinstatement \$33,000*

- 4.3 Increase in capital expenditure of \$30,000* for TM Merlin St/Mistral St Roundabout.
 - To be funded from RR Thera Street \$30,000*
- 4.4 Increase in capital expenditure of \$31,665* for Old Coast Road/Wilderness Drive – Playground Renewal.
 - To be funded from Yalgor Heights Reserve – Playground Renewal \$31,665*
- 4.5 Increase in capital expenditure of \$6,500* for Louis Dawe Park.
 - To be funded from Pinjarra Road East – Median Stage 3 \$6,500*
- 4.6 Increase in capital expenditure of \$40,000* for Duverney Park Picnic Facilities. Increase in capital expenditure of \$5,000* for Templetonia Reserve.
 - To be funded from Grahame Heal Reserve \$45,000*
- 4.7 Increase in operating expenditure of \$20,000* for CASM Education Programs.
 - To be funded from Arts and Culture Projects \$20,000*
- 4.8 Increase in capital expenditure of \$35,000* for Reading Cinema Complex FIP.
 - To be funded from Site Main Switchboard Program \$35,000*

ABSOLUTE MAJORITY REQUIRED

Officer Alternative Recommendation

That Council:

- 1 Receives the Financial Report for August 2020 as detailed in Attachment 1.1 of the report.
- 2 Receives the Schedule of Accounts for the following amounts as detailed in Attachment 1.2 of the report:

Total Municipal Fund \$	7,867,654.38
Total Trust Fund	\$ 15,269.50
	\$ 7,882,923.88
- 3 Approve the allocation of \$500 to each of the following volunteer units that would ordinarily be recognised at the annual Emergency Service Volunteer Appreciation Evening:
 - Mandurah SES
 - Falcon Volunteer Fire and Rescue Service
 - Mandurah Volunteer Fire and Rescue Service
 - Mandurah Southern Districts Bush Fire Brigade
 - Port Bouvard Lifesaving Club
 - Mandurah Lifesaving Club
 - Mandurah Volunteer Marine Rescue Group
 - St John Ambulance
- 4 Approves the following budget variations for 2020/21 annual budget:
 - 4.1 Decrease in capital expenditure of \$20,197* for Smart Street Mall. Decrease in capital expenditure of \$35,871* for Peel Street.
 - Decrease in utilised loans of \$56,068*
 - 4.2 Increase in capital expenditure of \$33,000* for DR Leighton Road/Halls Head Parade.
 - To be funded from DR Rainbow Way Swale Reinstatement \$33,000*
 - 4.3 Increase in capital expenditure of \$30,000* for TM Merlin St/Mistral St Roundabout.
 - To be funded from RR Thera Street \$30,000*

- 4.4 Increase in capital expenditure of \$31,665* for Old Coast Road/Wilderness Drive – Playground Renewal.
 - To be funded from Yalgor Heights Reserve – Playground Renewal \$31,665*
 - 4.5 Increase in capital expenditure of \$6,500* for Louis Dawe Park.
 - To be funded from Pinjarra Road East – Median Stage 3 \$6,500*
 - 4.6 Increase in capital expenditure of \$40,000* for Duverney Park Picnic Facilities. Increase in capital expenditure of \$5,000* for Templetonia Reserve.
 - To be funded from Grahame Heal Reserve \$45,000*
 - 4.7 Increase in operating expenditure of \$20,000* for CASM Education Programs.
 - To be funded from Arts and Culture Projects \$20,000*
 - 4.8 Increase in capital expenditure of \$35,000* for Reading Cinema Complex FIP.
 - To be funded from Site Main Switchboard Program \$35,000*
- 5 Approve the allocation of \$6,000 as a City of Mandurah donation to the end of school year awards (up to a value of \$200 for each school upon request), for the primary and secondary schools located in Mandurah.

ABSOLUTE MAJORITY REQUIRED

Council Resolution

MOTION

Moved: Councillor P Rogers
Seconded: Councillor D Pember

That Council:

- 1 **Receives the Financial Report for August 2020 as detailed in Attachment 1.1 of the report.**
- 2 **Receives the Schedule of Accounts for the following amounts as detailed in Attachment 1.2 of the report:**

Total Municipal Fund	\$ 7,867,654.38
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	\$ 7,882,923.88
- 3 **Approve the allocation of \$500 to each of the following volunteer units that would ordinarily be recognised at the annual Emergency Service Volunteer Appreciation Evening:**
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 - Mandurah Volunteer Fire and Rescue Service
 - Mandurah Southern Districts Bush Fire Brigade
 - Port Bouvard Lifesaving Club
 - Mandurah Lifesaving Club
 - Mandurah Volunteer Marine Rescue Group
 - St John Ambulance
- 4 **Approves the following budget variations for 2020/21 annual budget:**
 - 4.1 **Decrease in capital expenditure of \$20,197* for Smart Street Mall.**
Decrease in capital expenditure of \$35,871* for Peel Street.
 - **Decrease in utilised loans of \$56,068***

- 4.2 Increase in capital expenditure of \$33,000* for DR Leighton Road/Halls Head Parade.
 - To be funded from DR Rainbow Way Swale Reinstatement \$33,000*
 - 4.3 Increase in capital expenditure of \$30,000* for TM Merlin St/Mistral St Roundabout.
 - To be funded from RR Thera Street \$30,000*
 - 4.4 Increase in capital expenditure of \$31,665* for Old Coast Road/Wilderness Drive – Playground Renewal.
 - To be funded from Yalgor Heights Reserve – Playground Renewal \$31,665*
 - 4.5 Increase in capital expenditure of \$6,500* for Louis Dawe Park.
 - To be funded from Pinjarra Road East – Median Stage 3 \$6,500*
 - 4.6 Increase in capital expenditure of \$40,000* for Duverney Park Picnic Facilities.
 - Increase in capital expenditure of \$5,000* for Templetonia Reserve.
 - To be funded from Grahame Heal Reserve \$45,000*
 - 4.7 Increase in operating expenditure of \$20,000* for CASM Education Programs.
 - To be funded from Arts and Culture Projects \$20,000*
 - 4.8 Increase in capital expenditure of \$35,000* for Reading Cinema Complex FIP.
 - To be funded from Site Main Switchboard Program \$35,000*
- 5 Approve the allocation of \$6,000 as a City of Mandurah donation to the end of school year awards (up to a value of \$200 for each school upon request), for the primary and secondary schools located in Mandurah.

ABSOLUTE MAJORITY REQUIRED

CARRIED: 13/0

Comment: Resolution point 5 was added for Council approving the allocation to donate to primary and secondary schools in support of end of school year awards.

G.12/9/20 WALGA ANNUAL GENERAL MEETING 2020 (REPORT 2)

Summary

The WA Local Government Association (WALGA) is holding the Annual General Meeting on 25 September 2020. Council resolved at its 28 July 2020 Ordinary Council Meeting, to appoint Mayor Williams and Deputy Mayor Knight as the City of Mandurah's voting delegates.

The WALGA Annual General Meeting has been released (<https://walga.asn.au/getattachment/About-WALGA/Structure/State-Council/Meetings-and-AGM/Agenda-AGM-2020.pdf?lang=en-AU>) and there are two items for consideration that the delegates have to vote on. Council are being asked to provide guidance to the delegates, in relation to whether Council supports or does not support the proposed motions.

Officer Recommendation

That Council approve the voting delegates to vote the following way for the motions outlined in part three, Consideration of Executive and Members Motions, of the WA Local Government Association Annual General Meeting to be held on 25 September 2020:

- 3.1 Drought in Western Australia – support
- 3.2 State Owned Unallocated Crown Land (UCL) House Blocks - support

Council Resolution

MOTION

Moved: Councillor J Green
Seconded: Councillor C Knight

That Council approve the voting delegates to vote the following way for the motions outlined in part three, Consideration of Executive and Members Motions, of the WA Local Government Association Annual General Meeting to be held on 25 September 2020:

- 3.1 Drought in Western Australia – support**
- 3.2 State Owned Unallocated Crown Land (UCL) House Blocks - support**

CARRIED: 13/0

G.13/9/20 AMENDMENT TO REGISTER OF DELEGATED AUTHORITY (REPORT 3)

Summary

In accordance with section 5.46 of the *Local Government Act 1995* (the Act), Council adopted the review of the Register of Delegated Authority at the Council Meeting of 23 June 2020. Council is now requested to consider an amendment to the following delegation to improve efficiencies in decision making and processes:

- Delegation DA-CPM 04 Rejecting and Accepting Expressions of Interests and Tenders: increase to the CEO's delegation to accept or decline to accept tenders under the value of \$3,000,000.00 exclusive of GST up to 30 June 2021; and

Council is requested to endorse the amendment to Delegation DA-CPM 04 Rejecting and Accepting Expressions of Interests and Tenders (refer Attachment 3.1).

Officer Recommendation

The Council adopt the amended Delegation DA-CPM 04 Rejecting and Accepting Expressions of Interests and Tenders as per Attachment 3.1

Council Resolution

MOTION

Moved: Councillor P Jackson
Seconded: Councillor P Rogers

The Council adopt the amended Delegation DA-CPM 04 Rejecting and Accepting Expressions of Interests and Tenders as per Attachment 3.1

CARRIED: 13/0

G.14/9/20 LOT 7 (NO 33-69) BAILEY BOULEVARD, DAWESVILLE STRUCTURE PLAN (REPORT 4)Summary

Council is requested to consider a Structure Plan for Lot 7, No 33-69 Bailey Boulevard, Dawesville. The Structure Plan provides for residential development at a density of R20 as well as the development of a 144-bed aged care facility.

The Structure Plan was advertised for a period of 35 days with one submission (in support of the proposal) being received from a residential landowner and four submissions from government agencies.

The applicant has worked with the City to address concerns raised during the assessment, however the following modifications to the design of the Structure Plan are recommended:

- A minimum 10% public open space (POS) being provided (currently proposed 7.98%);
- Inclusion of a 20m wide landscaped buffer along the eastern boundary adjacent to the Dawesville Bypass; and,
- Removal of a portion of residentially zoned land adjacent to the “Special Use – Nursing Home” site.

A local government report including any recommendations is required to be submitted to the Western Australian Planning Commission (WAPC) for a decision. It is recommended that Council provide this report to the WAPC outlining that the Structure Plan be approved subject to modifications.

Officer Recommendation

That Council under Clause 20(2) of *Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations 2015*, provides this report to the Western Australian Planning Commission for the Lot 7 Bailey Boulevard Structure Plan (Plan Dated 5 August 2020) recommending that the proposed Structure Plan should be approved subject to the following modifications and advice:

1. The public open space contribution shall be increased from 7.98% to a minimum of 10% of the gross subdivisible area as required by Liveable Neighbourhoods. Increased public open space shall ensure retention of native vegetation in “good condition”.
2. A 20m wide landscaped buffer shall be provided along the eastern boundary of the Structure Plan area, adjacent to the Dawesville Bypass; and that the noise wall required by the Noise Assessment is to be located on the western side of the landscape buffer.
3. The “Residential R20” zoning in the north-east corner of the site, adjacent to the “Special Use – Nursing Home” and Dawesville Bypass, shall be deleted from the Structure Plan and re-designated “Special Use – Nursing Home”.
4. The developer shall ensure that where proposed local streets connect to existing streets, they are designed to provide a low speed environment through traffic calming measures, pavement material and delineation.
5. The developer shall pay a pro-rata contribution towards the existing pedestrian underpass constructed under the Dawesville Bypass to the satisfaction of Main Roads WA, and shall be included under section 7 of the Structure Plan (Part One: Implementation).

6. The developer shall prepare a Fauna Management Plan as a condition of subdivision / development approval (whichever occurs sooner), and shall be included under section 7 of the Structure Plan (Part One: Implementation).
7. Prior to the final approval of the Structure Plan by the WAPC, the developer shall revise the Bushfire Management Plan in line with Department of Fire and Emergency Services referral comments dated 9 June 2020.
8. Prior to the final approval of the Structure Plan by the WAPC, the developer shall investigate their responsibilities under the EPBC Act to determine whether the Structure Plan warrants referral to the Federal Government, specifically in relation to the Western Ringtail Possum and Black Cockatoos species within the locality.

Council Resolution

MOTION

Moved: Mayor R Williams
Seconded: Councillor J Green

That Council under Clause 20(2) of Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations 2015, provides this report to the Western Australian Planning Commission for the Lot 7 Bailey Boulevard Structure Plan (Plan Dated 5 August 2020) recommending that the proposed Structure Plan should be approved subject to the following modifications and advice:

1. The public open space contribution shall be increased from 7.98% to a minimum of 10% of the gross subdivisible area as required by Liveable Neighbourhoods. Increased public open space shall ensure retention of native vegetation in “good condition”.
2. A 20m wide landscaped buffer shall be provided along the eastern boundary of the Structure Plan area, adjacent to the Dawesville Bypass; and that the noise wall required by the Noise Assessment is to be located on the western side of the landscape buffer.
3. The “Residential R20” zoning in the north-east corner of the site, adjacent to the “Special Use – Nursing Home” and Dawesville Bypass, shall be deleted from the Structure Plan and re-designated “Special Use – Nursing Home”.
4. The developer shall ensure that where proposed local streets connect to existing streets, they are designed to provide a low speed environment through traffic calming measures, pavement material and delineation.
5. The developer shall pay a pro-rata contribution towards the existing pedestrian underpass constructed under the Dawesville Bypass to the satisfaction of Main Roads WA, and shall be included under section 7 of the Structure Plan (Part One: Implementation).
6. The developer shall prepare a Fauna Management Plan as a condition of subdivision / development approval (whichever occurs sooner), and shall be included under section 7 of the Structure Plan (Part One: Implementation).
7. Prior to the final approval of the Structure Plan by the WAPC, the developer shall revise the Bushfire Management Plan in line with Department of Fire and Emergency Services referral comments dated 9 June 2020.

8. **Prior to the final approval of the Structure Plan by the WAPC, the developer shall investigate their responsibilities under the EPBC Act to determine whether the Structure Plan warrants referral to the Federal Government, specifically in relation to the Western Ringtail Possum and Black Cockatoos species within the locality.**

CARRIED: 12/1
FOR: Mayor R Williams, Councillors Knight, Jackson, Zilani, Lee, Rodgers, Pember, Darcy, Green, Di Prinzio, M Rogers, P Rogers
AGAINST: Councillor D Schumacher

Councillor P Rogers vacated the chambers at 6.29pm and returned at 6.30pm

G.15/9/20 WATERWAYS DATA ARRAY BUSINESS CASE (REPORT 5)

Summary

In October 2018 the Council approved *Mandurah and Murray - a Shared Economic Future* as the City of Mandurah's new Economic Development strategy and supported and endorsed the programs and projects suggested in that strategy. One of the Programs in that strategy targeted the Waterways as a recommended opportunity for economic growth and development around core comparative and competitive strengths of Mandurah and its waterways.

Two projects were recommended,

- The Waterways Data Array (WDA) - An online and open source digital representation of the Waterways and Estuary.
- Australian Waterways Centre of Excellence - A Centre of Excellence around Water and its related industries and opportunities.

In January 2020 the Council approved *Transform Mandurah - A Revitalisation Plan 2019* that presented a vision to inform and guide Mandurah towards renewal and growth. These two projects have continued to evolve in 2020 and were again presented as key elements in kick-starting and supporting a more formal industry cluster around water for the City of Mandurah.

In April 2020 the Department of Primary Industry and Regional Development (DPIRD) requested that the City write and develop the Waterways Data Array and to submit the business case for review and potential funding by State Government through Royalties for Regions funding.

In August 2020 the Business Case and concept paper for the Waterways Data Array was completed and has now been submitted to DPIRD. The City is seeking \$1,300,000.00 for the development and installation of the WDA from the State Government.

Council is requested to note the work and innovation around the development of the WDA and notes the project and its State funding request.

Officer Recommendation

That Council:

1. Notes the Waterways Data Array business case.

2. Approves of the Business Case being submitted for Royalties for Regions Funding and subsequent detailed planning and work required to implement the WDA should the funding be successful.

Council Resolution

MOTION

Moved: Councillor C Knight
Seconded: Councillor P Rogers

That Council:

1. **Notes the Waterways Data Array business case.**
2. **Approves of the Business Case being submitted for Royalties for Regions Funding and subsequent detailed planning and work required to implement the WDA should the funding be successful.**

CARRIED: 13/0

G.16/9/20 ARBORICULTURAL ASSESSMENT OF STREET TREES: COX BAY, FALCON (REPORT 6)

Summary

At its meeting held on 25 June 2019, Council considered the concerns raised by residents of Cox Bay, Falcon relating to the impact Norfolk Island Pine Trees were having within the residential estate.

The report identified 16 trees that were to be considered for removal based upon assessment by an independent Arborist. Officers were requested to provide a report to Council on the condition of the trees and the action to be taken.

Officers arranged to meet each property owner and negotiate agreed outcomes. This process resulted in the retention of 15 of the 16 trees.

Council is requested to note the outcomes of the negotiations with residents.

Officer Recommendation

That Council agree to retain the remaining 15 Norfolk Island Pine trees in Cox Bay, Falcon.

Officer Alternative Recommendation

That Council:

1. Agree to retain the remaining 15 Norfolk Island Pine trees in Cox Bay, Falcon.
2. Accept the additional information and updated table on 16 trees identified for removal.

Council Resolution

MOTION

Moved: Councillor P Jackson

Seconded: Councillor P Rogers

That Council:

3. **Agree to retain the remaining 15 Norfolk Island Pine trees in Cox Bay, Falcon.**
4. **Accept the additional information and updated table on 16 trees identified for removal.**

Comment: additional resolution point 2 was included. All 16 trees identified in the Arboricultural Report to be considered for removal have been reassessed by the City. The results from this assessment were detailed in the updated table which includes additional information including: property owners' comments during site visitation and works completed.

CARRIED: 13/0

MOTIONS OF WHICH NOTICE HAS BEEN GIVEN [AGENDA ITEM 20]

G.17/9/20 COUNCILLOR ZILANI: NORFOLK ISLAND PINE TREES

MOTION

Moved: Councillor A Zilani

Seconded: Councillor D Pember

1. **Direct Officers to undertake a review of the City of Mandurah Tree Management Policy (POL-RDS 06).**
2. **That the review consider the following:**
 - a. **Inclusion of the Norfolk Island Pine Tree within the 'inappropriate tree species' list**
3. **That the review be undertaken prior to the November 2020 Ordinary Council Meeting, with the policy to be considered by Council at that meeting.**
4. **That a workshop be held with Elected Members as part of the Tree Management Policy review.**

CARRIED: 13/0

Reason for the Motion:

Given the ongoing community concerns in relation to verge trees, and the current policy's ambiguity, it is appropriate for POL-RDS 06 to be reviewed.

A policy review will provide greater certainty to residents, and give clear direction to City of Mandurah Officers in relation to tree management.

Specifically, the consideration given to the inclusion of the Norfolk Island Pine Tree within the City's 'inappropriate tree species' list will address the community concerns in relation to the significant impact of this tree being used on street verges and median strips.

7.01pm: this juncture in the meeting Mayor Williams checked with each attendee and confirmed that all attendees remained connected and in attendance at the electronic meeting.

NOTICE OF MOTIONS FOR CONSIDERATION AT THE FOLLOWING MEETING [AGENDA ITEM 21]

Nil.

G.18/9/20 LATE AND URGENT BUSINESS ITEMS [AGENDA ITEM 22]

Mayor Williams advised that the following urgent items be considered as late business items and dealt with as part of the confidential items section of the meeting:

- Executive Committee Recommendations 21 September 2020
- Report 1: 2019/2020 Chief Executive Officer Performance Review
- Report 2: Chief Executive Officer – Annual Remuneration Review
- Report 3: Chief Executive Officer Contract

MOTION

Moved: Mayor R Williams
Seconded: Councillor C Knight

That Council accepts the confidential items of urgent business.

CARRIED: 13/0

G.19/9/20 CONFIDENTIAL ITEMS [AGENDA ITEM 23]

MOTION:

Moved: Councillor L Rodgers
Seconded: Councillor P Rogers

That the meeting proceeds with closed doors at 7.02pm in accordance with section 5.23(2)(d) of the *Local Government Act 1995*, to allow for the confidential discussion of an item.

CARRIED: 13/0

Members of the media, non-senior employees and persons in the gallery left the meeting at this point. The Chief executive Officer remained in the chamber with the Director Business Services, Director Strategy and Economic Development and Council.

THE MEETING PROCEEDED WITH CLOSED DOORS AT 7:02PM

Councillor L Rodgers vacated the chambers at 7:02pm and returned at 7.04pm

G.20/9/20 CONFIDENTIAL ITEM: APPOINTMENT OF DIRECTOR STRATEGY & ECONOMIC DEVELOPMENT (CONFIDENTIAL REPORT 1)Council Resolution**MOTION****Moved:** Councillor D Schumacher**Seconded:** Councillor D Pember**That Council:**

- 1 Approves the appointment of Applicant A on a five-year contract as Director Strategy and Economic Development.
- 2 Notes the Chief Executive Officer will negotiate the terms of the contract.

CARRIED 13/0

Chief Executive Officer, Mark Newman having declared a financial interest in the following items vacated the Chamber at 7:12pm.

RECOMMENDATIONS OF EXECUTIVE COMMITTEE [AGENDA ITEM 24]**G.21/9/20 CONFIDENTIAL LATE ITEM: 2019/2020 CHIEF EXECUTIVE OFFICER PERFORMANCE REVIEW (REPORT 1 – EX.4/9/20)**Council Resolution**MOTION****Moved:** Councillor C Knight**Seconded:** Councillor D Pember**That Council to:**

1. Accept the City of Mandurah Chief Executive Officer Performance Review Report September 2020 as prepared and submitted by the independent consultant, detailed in Amended Attachment 1.1.
2. Endorse the 2020/21 Chief Executive Officer Key Performance Indicators, detailed in Amended Attachment 1.2.
3. Review the Annual Performance Review Chief Executive Officer Council Policy and procedure by February 2021.
4. Review the functions and effectiveness of the Executive Committee and for Officers to provide Council with a recommendation in relation to its future as a Committee of Council by February 2021.
5. Quarterly review of CEO KPIs will be undertaken by the Executive Committee and presented to Council for consideration.

CARRIED: 12/1

FOR: Mayor R Williams, Councillors Knight, Jackson, Zilani, Lee, Rodgers, Pember, Darcy, Green, Di Prinzio, M Rogers, P Rogers
AGAINST: Councillor D Schumacher

Note: Point 5 of the resolution was added to provide an ongoing review of Key Performance Indicators during the financial year.

G.22/9/20 CONFIDENTIAL LATE ITEM: CHIEF EXECUTIVE OFFICER – ANNUAL REMUNERATION REVIEW (REPORT 2 – EX.5/9/20)

Council Resolution

MOTION

Moved: Councillor M Darcy
Seconded: Councillor D Schumacher

That Council to authorise the remuneration package for the Chief Executive Officer for 2020/21, effective 1 July 2020 remains the same as the 2019/20 financial year.

CARRIED: 13/0

G.23/9/20 CONFIDENTIAL LATE ITEM: CHIEF EXECUTIVE OFFICER CONTRACT (REPORT 3 – EX.6/9/20)

G.24/9/20 PROCEDURAL MOTION

Moved: Councillor D Pember
Seconded: Councillor Knight

That the motion be now put.

CARRIED: 12/1
FOR: Mayor R Williams, Councillors Knight, Jackson, Zilani, Lee, Rodgers, Pember, Darcy, Green, Di Prinzio, M Rogers, P Rogers
AGAINST: Councillor D Schumacher

Council Resolution

MOTION

Moved: Councillor P Rogers
Seconded: Councillor A Zilani

That Council:

- 1. To approve the process for negotiations of the Chief Executive Officer's extension term outlined in the report.**
- 2. To authorise the Mayor to commence negotiations with the Chief Executive Officer.**

- 3. That a report be presented to Council, at the next available Council Meeting after negotiations have concluded, for consideration to finalise the renewal of the Chief Executive Officer’s Employment Contract for the extension term.**

CARRIED: 12/1
FOR: Mayor R Williams, Councillors Knight, Jackson, Zilani, Lee, Rodgers, Pember, Darcy, Green, Di Prinzio, M Rogers, P Rogers
AGAINST: Councillor D Schumacher

G.25/9/20

MOTION

Moved: Councillor L Rodgers
Seconded: Councillor J Green

That the meeting proceeds with open doors.

CARRIED: 13/0

THE MEETING PROCEEDED WITH OPEN DOORS AT 7:40PM

G.26/9/20

MOTION

Moved: Councillor D Pember
Seconded: Councillor P Jackson

That Council endorses the resolutions taken with closed doors.

CARRIED: 13/0

CLOSE OF MEETING [AGENDA ITEM 25]

There being no further business, the Mayor declared the meeting closed at 7:40pm.

CONFIRMED (MAYOR)

Attachments to Council Minutes:**Committee Recommendations and Council Report Attachments**

Minute	Item	Page
G.10/9/20	Lakelands Community Garden (Report 7) Attachment 7.1	30
G.10/9/20	Lakelands Community Garden (Report 7) Attachment 7.2	31
G.10/9/20	Lakelands Community Garden (Report 7) Attachment 7.3	32 - 43
G.11/9/20	Financial Report August 2020 (Report 1) Attachment 1.1	44 - 67
G.11/9/20	Financial Report August 2020 (Report 1) Attachment 1.2	Electronic only
G.13/9/20	Amendment to Register of Delegated Authority (Report 3) Attachment 3.1	68
G.14/9/20	Lot 7 (No 33-69) Bailey Boulevard, Dawesville Structure Plan (Report 4) Attachment 4.1	69
G.14/9/20	Lot 7 (No 33-69) Bailey Boulevard, Dawesville Structure Plan (Report 4) Attachment 4.2	70 - 72
G.15/9/20	Waterways Data Array Business Case (Report 5) Attachment 5.1	73 - 115

Confidential Attachments

Minute	Item	Page
G.3/9/20	Strategic Internal Audit Update and Progress Update on Regulation 17 Review (AR.4/9/20) Attachment 1.1	NA
G.4/9/20	Office of The Auditor General – Local Government Systems Performance Audit (AR.5/9/20) Attachment 2.1	NA
G.5/9/20	Office of The Auditor General: Regulation of Consumer Food Safety by Local Government Entities (AR.6/9/20) Attachment 3.1	NA
G.6/9/20	Office of The Auditor General: Working with Children Checks - Managing Compliance (AR.7/9/20) Attachment 4.1	NA
G.7/9/20	Occupational Safety and Health (OSH) 2019-2020 Annual Review (AR.8/9/20) Attachment 5.1	NA

G.8/9/20	2020 Local Government Insurance Services 3 Steps to Safety Program (AR.9/9/20) Attachment 6.1	NA
G.15/9/20	Waterways Data Array Business Case (Report 5) Attachment 5.1	NA
G.20/9/20	Appointment of Director Strategy & Economic Development Attachment 1.1	NA

Confidential Minutes Attachments – Elected Members and CEO Access only

Minute	Item	Page
G.21/9/20	2019/2020 Chief Executive Officer Performance Review Report 1 (Ex.4/9/20) Attachment 1.1	NA
G.21/9/20	2019/2020 Chief Executive Officer Performance Review Report 1 (Ex.4/9/20) Attachment 1.2	NA
G.23/9/20	Chief Executive Officer Contract Report 3 (Ex.6/9/20) Attachment 3.1	NA

Visual Context of Proposed Site – Reserve 49971 Catalina Drive, Lakelands



Entrance to proposed site



Cleared space for Community Garden



Cleared site with access to utility services



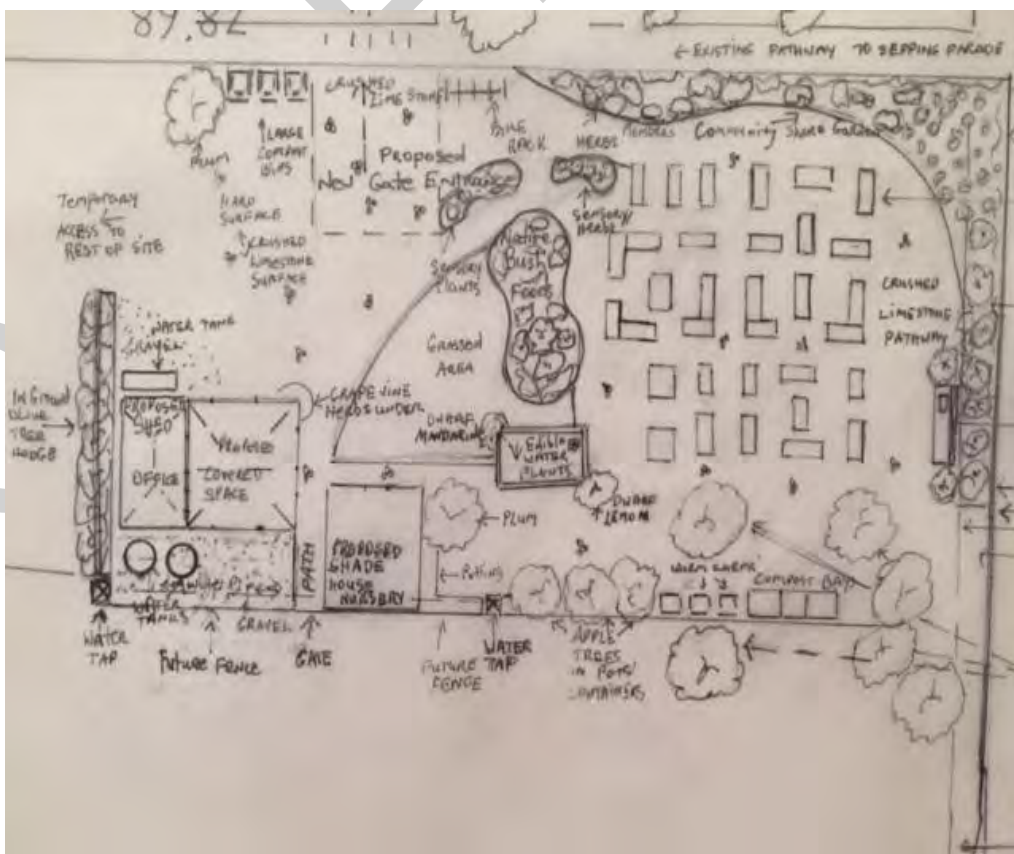
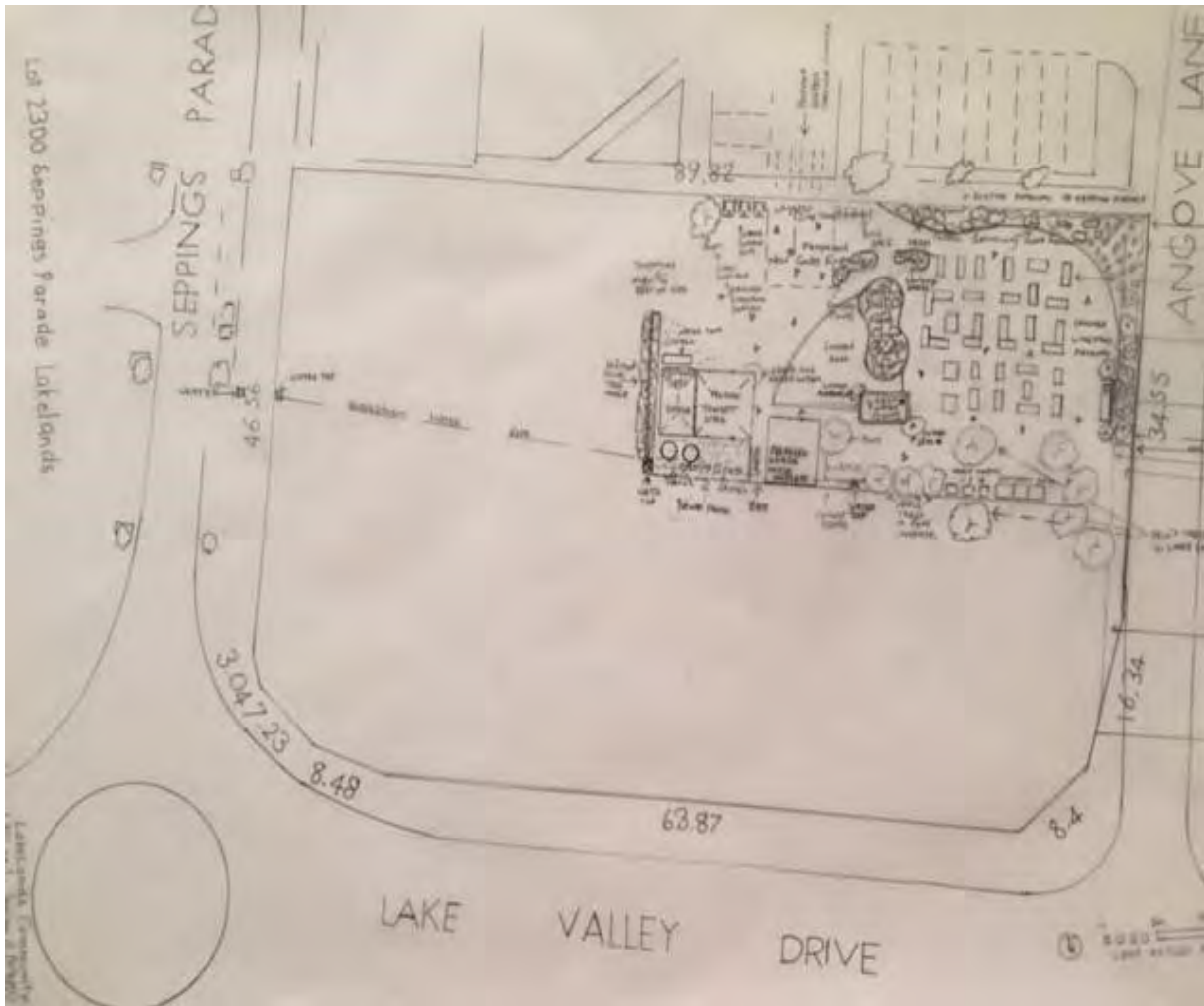
Fringing vegetation with school site in background.
Vegetation planted by developer.



Potential carpark for use by patrons. Access from Catalina Drive.

Stage 1 Design – Lakelands Community Garden

ATTACHMENT 7.2





Embrace a Space
Community Gardens Guide



Contents

3 Introduction

- What is a community garden?
- What is a community garden group?
- How does this guide work?

4 Getting your garden started

- Forming a group
- Researching your project
- Clarifying aims and objectives
- [Guide: Site selection guidelines](#)
- [Template: Workshopping your community garden](#)

6 Creating your community garden

- Draw up a concept plan
- Considering the costs
- Funding
- [Guide: Designing a concept plan](#)

9 Future Planning

- Insurance
- Management Plan
- Guidelines
- Networks
- Local Community Gardens
- [Notes](#)

Introduction

Community gardens provide important opportunities for communities to come together, share and grow. They bring people together from all walks of life to share knowledge, socialise, be in nature, grow food and ultimately develop stronger, more resilient communities.

What is a community garden?

For the purpose of this guide, a community garden is defined as a garden that is

- Established on City-owned and/or managed land, or on privately owned land with the permission of the landholder; and
- Is managed by a community garden group that is either an incorporated body or auspiced by an incorporated body; and
- Involves the participation of the wider community and/or a specific community (e.g. retirement village) in the day to day operation of the garden; and
- Encourages the involvement of local residents and community groups; and
- Has a primary activity of growing fruit, vegetables and herbs, for the personal or shared use of its members.

What is a community garden group?

Each community garden will be managed by a Community Garden Group.

Community Garden Groups are to:

- Be a not-for-profit community group;
- Be incorporated associations under the *Associations Incorporations Act 2015*; or
- Have an auspice arrangement with an existing incorporated association with the appropriate insurance cover;
- Have the necessary insurance cover and public liability cover that indemnifies the City; and
- Set up a Memorandum of Understanding (MoU) with the City. This MoU is to define the community garden site and tenure, the relationship expectations and code of conduct of group members, and the expectations, requirements and responsibilities of both parties.

How does this guide work?

This guide outlines the general principles of starting a community garden in the City of Mandurah. This guide is designed to be used in conjunction with the [Embrace a Space Guide and Template Kit](#) and has references to the material included in the main document.

Getting your garden started

Forming a group

A community garden cannot succeed without the enthusiasm of a committed group of people. Forming a group with a range of skills and experience is the first step. The size of the group will depend on the project, but may be as large as twenty people or as small as five.

We recommend hosting a community conversation to identify who in your community is interested in being part of your community garden group. This is also a great opportunity to determine what features your community would like to see in a community garden. For more information on hosting a community conversation, head to [Preparing to Engage with Community](#) on p.5 and [Having a Community Conversation](#) on p.10 of the Embrace a Space Guide and Template Kit.

Choosing a site

It's possible that you already have a site in mind that you think would be perfect for a community garden. Each community will have a different idea of what the best garden for their space will be, depending on the needs and resources available. We've included our [Site Consideration Guidelines](#) on p. 5 to assist you when you're exploring potential community garden sites.

We strongly recommend having a preferred site and two back-up sites in mind, in case there are existing arrangements that mean your first site cannot be used.

Researching your project

Visit or contact existing community gardens for support and ideas on developing a successful garden. Some questions you may wish to ask include:

- How did the garden start and what type of structure works for your group?
- How do you manage public liability insurance?
- Where do you obtain resources, e.g. mulch, compost, seeds etc.?
- What are your links to local government?
- How are you funded?
- How do you make decisions, solve problems and resolve conflict?
- How do you pass on new skills to gardeners, or improve their existing skills?
- How did you build a sense of community around the garden?

Once you've investigated the setup of other community gardens, use this information and the list of features you developed at your community discussion to complete the [Workshopping your Community Garden template](#) on p. 6.

Site Consideration Guidelines

Here are some important points to consider when assessing potential community garden sites. Run through this list for your preferred and back up sites to ensure they're all suitable.

Land

- **Ownership, Zoning and Purpose** | Consider who owns the land you're interested in for your community garden. The zoning and purpose of the land will determine whether it can be used for a community garden. It's important to note that Crown Land managed by the City will require the support of the Minister for Lands and other users before anything can go ahead.
- **Ground Levels** | It is best to select a site that is fairly level, as that will reduce the need for earthworks.
- **Existing Services** | Consider electricity, water, phone, sewers, stormwater drains and lighting.
- **Structures** | Consider existing or planned buildings, seating, walls, fences, paving or gardens.
- **Wind** | Consider if the direction and strength of wind in the space will affect plant growth. Look into whether wind turbulence will be caused by nearby buildings or walls.
- **Sun** | Consider how many hours of sun the site gets each day and any large trees or buildings that may shade the area.
- **Soil type** | Examine any previous use of the site and determine if soil testing has been previously undertaken or is required.
- **Water** | Determine how water moves through the site and any drainage requirements.
- **Existing Plants and Weeds** | Consider what plants grow well in the local area and whether there are areas of weed infestation.
- **Size** | Assess whether the available land is of suitable size for a community garden.

Community and Surrounds

- **Public Amenities** | Evaluate the proximity of the site to public toilets and other social infrastructure.
- **Accessibility** | Consider if the site would be accessible for all community members, including those with mobility issues or people with a disability.
- **Security** | Assess opportunities for passive surveillance of the site, including proximity to other community facilities, houses or shopping areas.
- **Current Uses** | Consider what the land is currently used for (e.g. community shortcuts, dog walk area, weekend sport) and whether the community garden would conflict with these uses.
- **Roads** | Think about any nearby roads and whether they create noise and air pollution, or would make the site unsafe for young children.
- **Surrounding Uses** | It's important to consider whether a community garden would complement the surrounding environment.
- **Community Support** | Consider if this location has engaged community groups and businesses nearby that might support/partner or object to the project.

Workshopping your Community Garden

The goal of our Community Garden is to

Our preferred site is:

Our back up sites are:

Our vision of the community garden space is

The features our community would like to see in the community garden

Use the boxes below to rank the popular features listed below in order of importance. Start with 1 (most important) and leave boxes blank if they don't relate to your garden.

- | | |
|---|--|
| <input type="checkbox"/> Shady or covered areas | <input type="checkbox"/> Signs and/or notice boards |
| <input type="checkbox"/> Seating areas | <input type="checkbox"/> Bike parking spaces |
| <input type="checkbox"/> Workshop delivery space | <input type="checkbox"/> Storage area for materials |
| <input type="checkbox"/> Tool shed or work area | <input type="checkbox"/> Bush tucker trail |
| <input type="checkbox"/> Sensory garden | <input type="checkbox"/> Butterfly or bird garden |
| <input type="checkbox"/> Composting area | <input type="checkbox"/> Fruit trees |
| <input type="checkbox"/> Rainwater tanks | <input type="checkbox"/> Herb garden |
| <input type="checkbox"/> Plots for individual use | <input type="checkbox"/> Shared garden areas |
| <input type="checkbox"/> Propagation area | <input type="checkbox"/> Stall to sell plants |
| <input type="checkbox"/> Fencing around garden | <input type="checkbox"/> Pizza oven or barbeque area |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |

Local businesses and community groups to approach for feedback on the community garden

Creating your Community Garden

By now you'll have a connected group of passionate people, know your preferred and back up sites and also have an idea of what your community would like to see included in the community garden.

Draw up a concept plan

Getting your ideas out on paper in the form of a concept plan is an important step in creating your garden.

Developing a scaled design will ensure that all the elements of your garden will fit within your desired space, and allows you to observe how your garden will complement the existing space.

Be prepared for your site concept plan to change throughout the planning process as new ideas are raised by community members, or different issues arise.

Check out our top tips in the [Guide to Drawing up a Concept Plan](#) on p.10.

Considering the costs

Community gardens require significant resources and funding for the initial setup as well as their ongoing operation and management.

It will be important to establish a list of expected costs for your community garden and secure funding to meet them. Some common costs include:

Primary set up costs

- Site works
- Reticulation / irrigation / water source
- Soil / soil conditioners
- Waste management systems
- Seeds, seedlings
- Fruit trees
- Garden tools

Other potential set up costs

- Fees to become an incorporated entity
- Advertising / promotion
- Logo and website design and hosting
- Energy infrastructure, e.g. solar panels
- Rainwater tank
- Shelter / covered areas
- Seating / tables
- Accessible paths
- Garden signage
- Notice board
- Nursery for plant propagation
- Food preparation area / BBQ / pizza oven
- Sink to wash produce and hand washing
- Fencing / security
- Professional expertise e.g. garden design, community consultation, construction labour
- Garden beds, including raised beds for accessibility

Ongoing maintenance costs

- Water use
- Soil conditioners
- Infrastructure maintenance
- Insurance
- Financial administration
- Communication and promotion

Creating your Community Garden

Funding

There are a number of potential funding sources that community gardens can explore. Setting a fee schedule will be an important part of your Management Plan, and it will be important to consider what will work best for your garden's situation.

Local Government

The City may assist by providing advice and assistance to establish community gardens. Please contact the City to discuss what support is available.

Private partnerships

Local businesses may be interested in partnerships with your community garden. Businesses may be able to advertise on the garden website or on a piece of infrastructure at the garden which they supply for free or at a discounted cost.

Fees and charges

It is common for community gardens to charge a small annual membership fee to ploholders. If the garden is offering activities to the community, for example community workshops or programs for schools and other groups, you may also consider charging a small fee to participants.

Donations

Donations can be an important income stream for community gardens.

'Our Community' offers a free online donation facility for Australian not-for-profit groups through GiveNow.com.au.

Registering for this service would mean the garden could take credit card donations. The Community Garden Group would need to apply to the Australian Taxation Office to be recognised as a Deductible Gift Recipient for supporters to be able to receive an income tax deduction for donations to the garden.

Grants

There are number of state and federal grants programs that community gardens may be eligible for. Visit the Department of Local Government Grants Directory to find out more.

www.grantsdirectory.dlg.wa.gov.au.

In addition to sourcing funding for a community garden project, reducing costs should also be an ongoing goal. Some actions that reduce costs and promote sustainable practices are:

- Tap into the existing skills and knowledge of your members and supporters;
- Access in-kind support and donated materials;
- Choose materials for the construction of your garden that don't have high ongoing maintenance costs; and
- Reuse 'waste' resources in your garden. Community gardens are great places to demonstrate the reuse of materials, e.g. using decommissioned fridges to make worm farms.

Designing a Concept Plan

Here are five tips for drawing up a community garden concept plan.

1. Ensure you have a scaled map

The most important starting point for your site concept plan is a scaled map of your preferred site. Contact the City of Mandurah Environmental Services team for a copy of a scaled map.

2. Have clear measurements

Ensure that you have clear measurements for the most important elements of your garden. These would have been identified when you workshopped your space. The dimensions of the plot area (if you intend to have one), pots or garden beds, pathways, sheds or shipping containers, barbeques, seating areas, tables and chairs.

Developing an accurate concept plan based on clear and defined measurements is a good way to avoid disappointment and frustration when development of the garden begins.

3. Make it a team exercise

We recommend bringing your community garden group together to workshop the concept plan. This is a great team building activity and ensures that all group members feel included in the process. It will also mean that all members have the 'buy-in' to explain and support the site concept plan when it's out in the community for feedback. Most importantly, having a number of people in the room is a simple way to get instant feedback on everyone's ideas.

4. Get some professional support

If possible, approach landscape design students or professionals to support you throughout the design process. You may choose to approach them at the start of the planning journey, and have them facilitate workshops or planning sessions with your group or community. Alternatively, you might like to take a draft that your group has worked on to a landscape designer and ask them to provide advice on a final version for community feedback.

5. Seek feedback from your community

Getting the opinion of the residents that your community garden will serve and support is vital. It will help you to shape a useful and user-friendly garden and could act as a way to promote available plots, or upcoming activities, workshops and volunteer opportunities.

Contact your local government, shopping centre or school to see if there are opportunities to have a feedback stall at local events, fetes or in shopping centres during school holidays.

More information about developing a concept plan can be found on the Australian City Farms and Community Gardens Network website: <https://communitygarden.org.au/6-designing-the-garden/>

Future Planning

Insurance

A community garden should have the following insurances:

- Workers compensation insurance (may not be required if there are no paid staff);
- Insurance to cover the committee (may not be required, depending on the structure of the community group, under the *Volunteers (Protection from Liability) Act 2002*);
- Public liability insurance;
- Volunteer insurance; and
- Any other insurance necessary and applicable to the community garden in relation to the activities taking place on the site or the function of the community garden.

It would also be worthwhile considering site insurance to cover theft, vandalism, fire, etc.

Management Plans

A management plan will support your group in developing clear policies and procedures for the management of the garden. A management plan also demonstrates to the landowner and potential funding bodies that an appropriate level of thought and research has been undertaken before implementing the project.

A template for a Community Garden Management Plan can be found at the Australian City Farms and Community Gardens Network website:

<https://communitygarden.org.au/management-plan-template/>

The management plan should include:

- The proposed legal and organisational structure of the community garden group (including membership fees if applicable);
- Identification of a liaison person for the garden;
- Hours of operation;
- Details of public liability insurance and other necessary insurances;
- An estimated budget and timelines for establishment and maintenance, including sources of funding;
- The process for the community garden members and/or committee to make decisions, solve problems and resolve conflict;
- The training and induction process for new gardeners, committee members and volunteers;
- What external support will be required;
- Gardening method(s), including mowing and maintenance requirements, weed and pest control, and composting;
- Methods to address safety, security and vandalism, including fencing;
- Structures and storage requirements;
- Aesthetics and tidiness;
- Signage, including information such as the garden's purpose, contact details and operating hours; and
- Noise and odour control.



Embrace a Space is supported by the City of Mandurah and delivered by the community. For more information about the program and how to get involved, please contact: City of Mandurah Environmental Services team.

P: (08) 9550 3941

E: environmental.services@mandurah.wa.gov.au

Monthly Financial Report

August 2020



City of Mandurah August 2020

\$735,915

Estimated Deficit at 30 June 2021 with proposed budget amendments

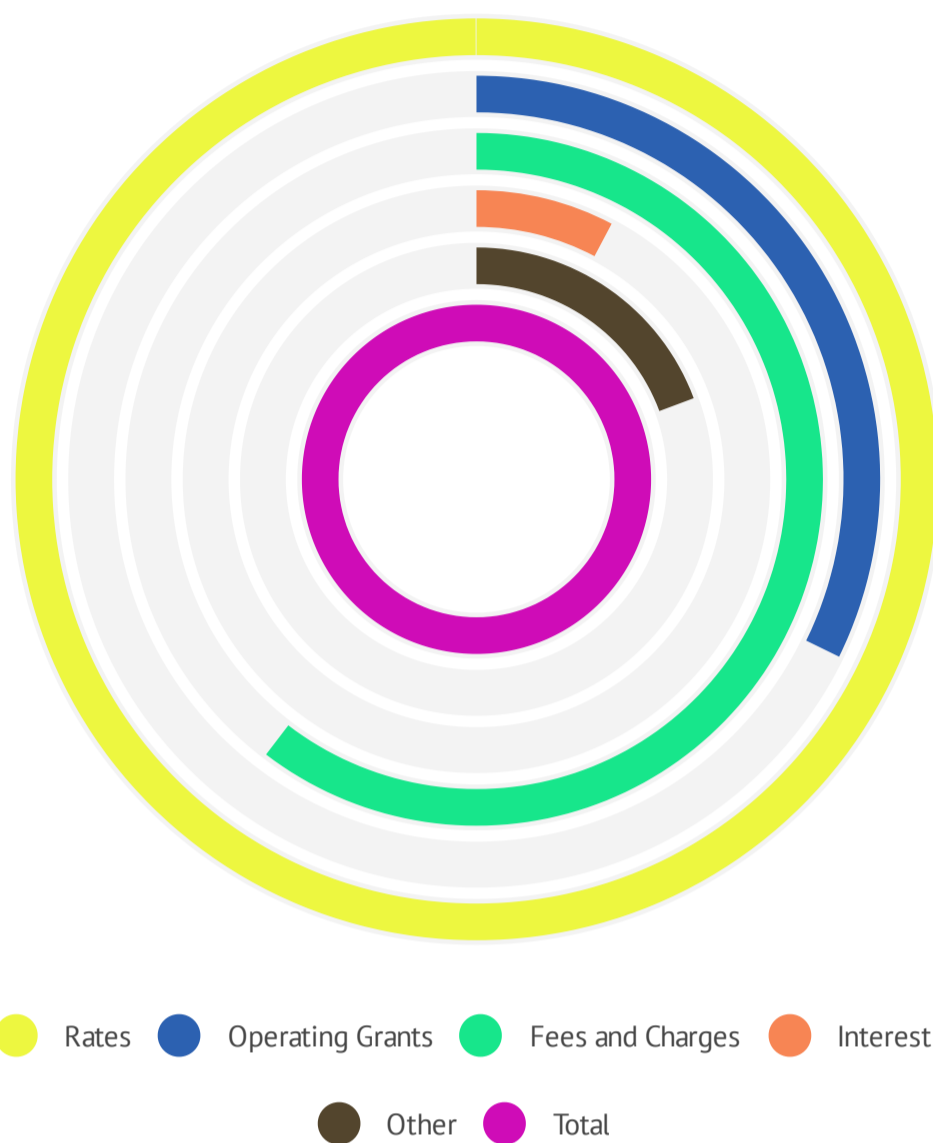
\$85.5 million

Year to Date Actual Surplus

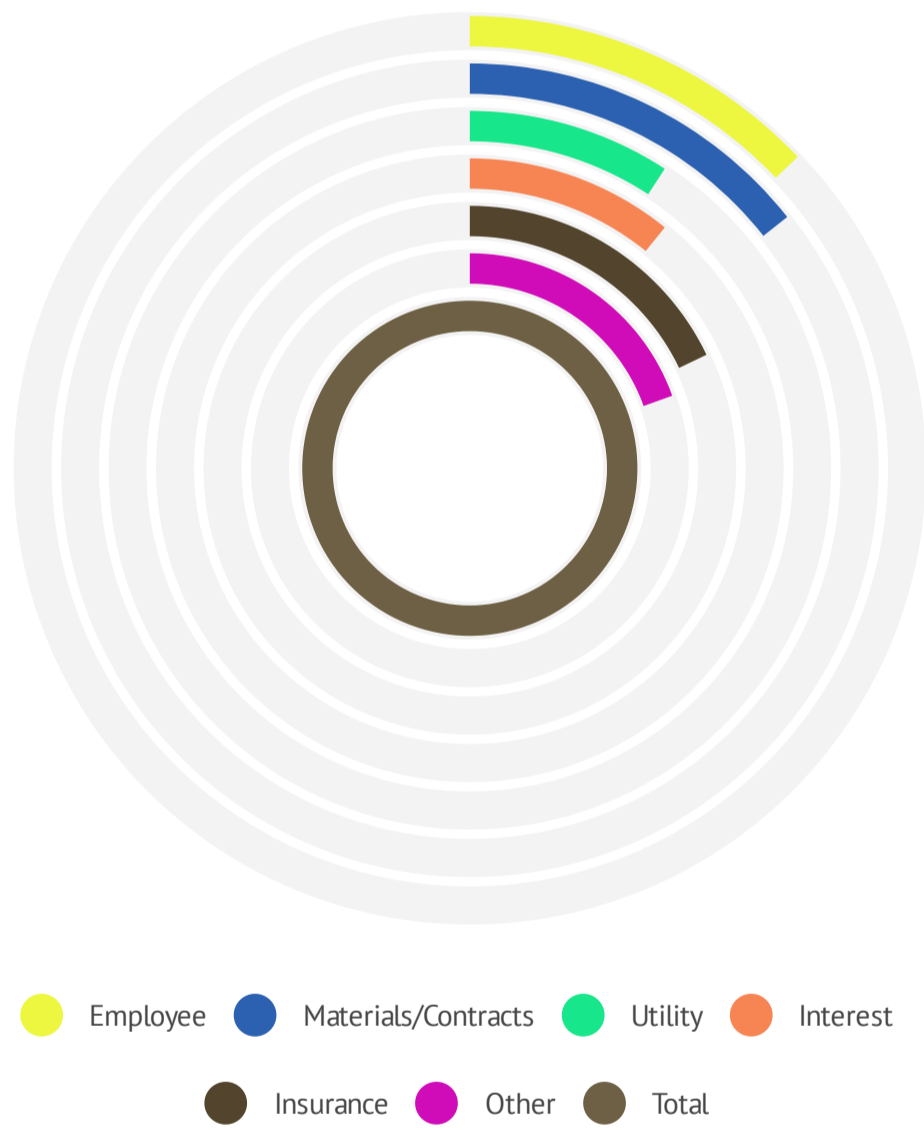
Summary

- Actual Rates Raised \$80.17M
- Actual Rates Received \$20.11M (24.1% collected)
- Actual Operating Revenue \$96.77M
- Actual Capital Revenue \$3.32M
- Actual Operating Expenditure \$19.30M
- Actual Capital Expenditure \$2.65M
- Actual Proceeds from Sale of Assets \$599,876

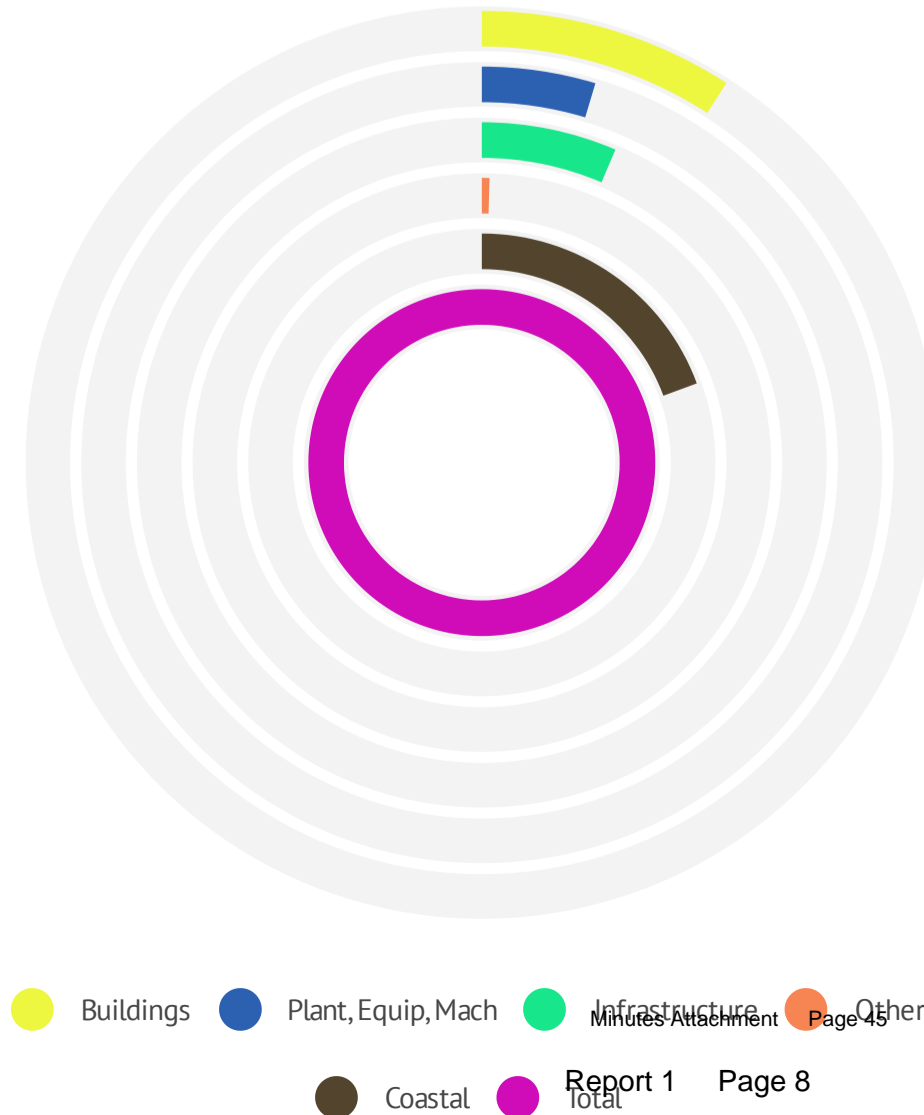
Year to Date Revenue Actuals Compared to Current Budget



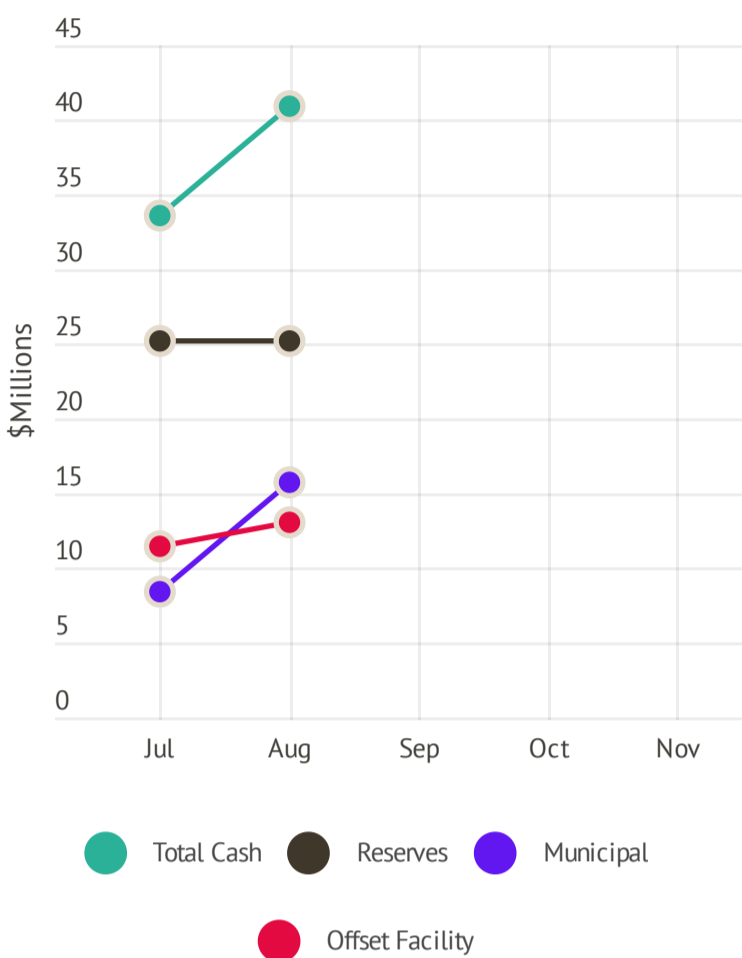
Year to Date Expenditure Actuals Compared to Current Budget



Year to Date Capital Actuals Compared to Current Budget



Investments



Loans

- Actual Principal Outstanding \$25.35M
- Actual Principal Repayments Made \$0.87M
- Actual Interest Paid \$76.06K
- Actual New Loans Drawdown \$0M
- Amount of Interest Saved from Loan Offset Facility \$28.6K

Rates Outstanding

- 30** Properties with >\$10K outstanding
- 220** Properties \$3K to \$10K outstanding
- 4** Properties commenced legal action in 20/21
- \$1.99M** Rates Exemptions

Sundry Debtors Outstanding

- 183** accounts due (\$1.26M)
- 235** accounts overdue i.e >30 days (\$461K)

Budget Proposed Amendments

- Smart street mall (\$20k) and Peel Street (\$36k) from unutilised loans
- Leighton road/Halls Head Parade from Rainbow Way Swale Reinstatement (33K)
- Merlin St/Mistral St Roundabout from Thera Street (\$30k)
- Old Coast Rd/Wilderness Drive from Yalgor Heights Reserve (\$32k)
- Louise Dawe Park from Pinjarra Road East (\$6.5k)
- Duverney Park Picnic Facilities and Templetonia Reserve from Grahame Heal Reserve (\$45k)
- CASM Education Programs from Arts and Culture Projects (\$20k)
- Reading Cinema Complex (\$35k)

- 0** Tenders awarded during the month through CEO delegation
- 27.35%** Grants received for the 20/21 year

CITY OF MANDURAH
MONTHLY FINANCIAL REPORT
For the Period Ended 31 August 2020

TABLE OF CONTENTS

Statement of Financial Activity by Program	2
Statement of Financial Activity by Nature or Type	3
Note 1 Statement of Financial Activity Information	4
Note 2 Cash and Investments	5
Note 3 Receivables	6
Note 4 Disposal of Assets	7
Note 5 Tenders Awarded	9
Note 6 Capital Acquisitions	10
Note 7 Borrowings	15
Note 8 Operating Grants and Contributions	17
Note 9 Non Operating Grants and Contributions	18
Note 10 Approved Budget Amendments	19
Note 11 Proposed Budget variations for Council Approval	21
Note 12 Explanation of Material Variances	22

**STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

STATUTORY REPORTING PROGRAMS

	Ref Note	Annual Budget	YTD Budget (a)	YTD Actual (b)	Var. \$ (b)-(a)	Var. % (b)-(a)/(a)	Var.
		\$	\$	\$	\$	%	
Opening Funding Surplus / (Deficit)	1(c)	2,197,002	2,197,002	2,197,002			
Revenue from operating activities							
Governance		2,025	92	(36)	(128)	(139.13%)	▼
General Purpose Funding - Rates		80,192,181	79,717,181	80,166,619	449,438	0.56%	
General Purpose Funding - Other		3,320,549	333,247	191,278	(141,969)	(42.60%)	▼
Law, Order and Public Safety		1,033,710	117,136	219,880	102,744	87.71%	▲
Health		319,825	33,992	39,770	5,778	17.00%	▲
Education and Welfare		406,544	46,927	71,194	24,267	51.71%	▲
Community Amenities		14,585,709	11,886,837	12,716,041	829,204	6.98%	
Recreation and Culture		6,752,589	994,843	1,324,846	330,003	33.17%	▲
Transport		2,394,436	1,461,665	1,493,557	31,892	2.18%	
Economic Services		1,550,854	258,006	414,183	156,177	60.53%	▲
Other Property and Services		334,933	59,625	134,498	74,873	125.57%	▲
		110,893,355	94,909,551	96,771,830	1,862,279	1.96%	
Expenditure from operating activities							
Governance		(6,772,496)	(1,086,675)	(1,149,755)	(63,080)	(5.80%)	
General Purpose Funding		(2,151,554)	(385,352)	(427,977)	(42,625)	(11.06%)	▼
Law, Order and Public Safety		(4,382,640)	(707,941)	(624,350)	83,591	11.81%	▲
Health		(2,092,102)	(345,416)	(400,493)	(55,077)	(15.95%)	▼
Education and Welfare		(4,853,633)	(751,361)	(622,594)	128,767	17.14%	▲
Community Amenities		(18,850,409)	(3,098,988)	(2,777,201)	321,787	10.38%	▲
Recreation and Culture		(47,207,553)	(7,259,906)	(5,976,123)	1,283,783	17.68%	▲
Transport		(30,476,529)	(4,987,784)	(4,363,381)	624,403	12.52%	▲
Economic Services		(7,395,251)	(1,252,575)	(1,041,061)	211,514	16.89%	▲
Other Property and Services		(10,880,405)	(2,277,954)	(1,922,811)	355,143	15.59%	▲
		(135,062,572)	(22,153,952)	(19,305,746)	2,848,206	12.86%	▲
Non-cash amounts excluded from operating activities	1(a)	35,775,661	5,932,347	5,747,044	(185,303)	(3.12%)	
Amount attributable to operating activities		11,606,444	78,687,946	83,213,128	4,525,182	(5.75%)	
Investing Activities							
Non-operating grants, subsidies and contributions	9	12,162,222	1,887,455	3,316,245	1,428,790	75.70%	▲
Proceeds from disposal of assets	4	1,020,562	170,094	599,876	429,782	252.67%	▲
Purchase of property, plant and equipment	6	(45,378,016)	(7,972,967)	(2,649,081)	5,323,886	66.77%	▲
Amount attributable to investing activities		(32,195,232)	(5,915,418)	1,267,040	7,182,458	121.42%	
Financing Activities							
Proceeds from New Debentures	7	27,500,000	-	-	0	0.00%	
Unspent Loans		1,256,679	-	-	0	0.00%	
Payment of lease liability		(807,905)	(201,976)	(266,817)	(64,841)	32.10%	▼
Proceeds from community loans		100,000	16,667	666	(16,001)	(96.00%)	▼
Transfer from Reserves		18,950,348	-	-	0	0.00%	
Repayment of Debentures	7	(25,410,640)	(901,773)	(872,388)	29,385	3.26%	
Transfer to Reserves		(3,932,611)	-	-	0	0.00%	
Amount attributable to financing activities		17,655,871	(1,087,083)	(1,138,539)	(51,456)	(4.73%)	
Closing Funding Surplus / (Deficit)	1(c)	(735,915)	73,882,447	85,538,631	11,656,184	15.78%	

KEY INFORMATION

▲ ▼ Indicates a variance between Year to Date (YTD) Actual and YTD Budget data as per the adopted materiality threshold.

Refer to Note 12 for an explanation of the reasons for the variance.

The material variance adopted by Council for the 2020-21 year is 10.00%

This statement is to be read in conjunction with the accompanying Financial Statements and notes.

**STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

BY NATURE OR TYPE

	Ref Note	Annual Budget	YTD Budget (a)	YTD Actual (b)	Var. \$ (b)-(a)	Var. % (b)-(a)/(a)	Var.
		\$	\$	\$	\$	%	
Opening Funding Surplus / (Deficit)	1(c)	2,197,002	2,197,002	2,197,002			
Revenue from operating activities							
Rates		80,192,181	79,717,181	80,166,619	449,438	0.56%	
Operating grants, subsidies and contributions		3,778,982	610,571	1,218,475	607,904	99.56%	▲
Fees and charges		25,208,293	14,280,928	15,224,749	943,821	6.61%	
Interest earnings		1,460,000	243,236	112,952	(130,284)	(53.56%)	▼
Other revenue		235,500	39,236	49,035	9,799	24.97%	▲
Profit on disposal of assets		18,399	18,399	-	(18,399)	(100.00%)	▼
		110,893,355	94,909,551	96,771,830	1,862,279	1.96%	
Expenditure from operating activities							
Employee costs		(48,378,390)	(7,316,095)	(6,245,830)	1,070,265	14.63%	▲
Materials and contracts		(44,462,231)	(7,564,217)	(6,377,029)	1,187,188	15.69%	▲
Utility charges		(4,120,720)	(619,817)	(378,234)	241,583	38.98%	▲
Depreciation on non-current assets		(35,440,869)	(5,904,448)	(5,906,812)	(2,364)	(0.04%)	
Interest expenses		(1,234,093)	(205,598)	(133,675)	71,923	34.98%	▲
Insurance expenses		(870,578)	(145,028)	(155,716)	(10,688)	(7.37%)	
Other expenditure		(202,500)	(45,558)	(108,450)	(62,892)	(138.05%)	▼
Loss on disposal of assets		(353,191)	(353,191)	-	353,191	100.00%	▲
		(135,062,572)	(22,153,952)	(19,305,746)	2,848,206	12.86%	
Non-cash amounts excluded from operating activities	1(a)	35,775,661	5,932,347	5,747,044	(185,303)	(3.12%)	
Amount attributable to operating activities		11,606,444	78,687,946	83,213,128	4,525,182	(5.75%)	
Investing activities							
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Proceeds from disposal of assets	4	1,020,562	170,094	599,876	429,782	252.67%	▲
Payments for property, plant and equipment	6	(45,378,016)	(7,972,967)	(2,649,081)	5,323,886	66.77%	▲
Amount attributable to investing activities		(32,195,232)	(5,915,418)	1,267,040	7,182,458	121.42%	
Financing Activities							
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Unspent Loans Utilised		1,256,679	-	-	0	0.00%	
Payment of lease liability		(807,905)	(201,976)	(266,817)	(64,841)	(32.10%)	▼
Proceeds from community loans		100,000	16,667	666	(16,001)	(96.00%)	▼
Transfer from reserves		18,950,348	-	-	0	0.00%	
Repayment of debentures	7	(25,410,640)	(901,773)	(872,388)	29,385	3.26%	
Transfer to reserves		(3,932,611)	-	-	0	0.00%	
Amount attributable to financing activities		17,655,871	(1,087,083)	(1,138,539)	(51,456)	(4.73%)	
Closing Funding Surplus / (Deficit)	1(c)	(735,915)	73,882,447	85,538,631	11,656,184	15.78%	

KEY INFORMATION

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Refer to Note 12 for an explanation of the reasons for the variance.

This statement is to be read in conjunction with the accompanying Financial Statements and Notes.

**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

**NOTE 1
STATEMENT OF FINANCIAL ACTIVITY INFORMATION**

(a) Non-cash items excluded from operating activities

The following non-cash revenue and expenditure has been excluded from operating activities within the Statement of Financial Activity in accordance with Local Government (Financial Management) Regulation 1996.

	Notes	Annual Budget	YTD Budget (a)	YTD Actual (b)
Non-cash items excluded from operating activities				
		\$	\$	\$
Adjustments to operating activities				
Less: Profit on asset disposals		(18,399)	(1,533)	-
Movement in pensioner deferred rates (non-current)		-	-	(175,707)
Movement in employee benefit provisions (non-current)		-	-	15,939
Add: Loss on asset disposals		353,191	29,433	-
Add: Depreciation on assets		35,440,869	5,904,448	5,906,812
Total non-cash items excluded from operating activities		35,775,661	5,932,347	5,747,044

(b) Adjustments to net current assets in the Statement of Financial Activity

The following current assets and liabilities have been excluded from the net current assets used in the Statement of Financial Activity in accordance with regulation 32 of the Local Government (Financial Management) Regulations 1996 to agree to the surplus/(deficit) after imposition of general rates.

		Budget Closing 30 Jun 2020	Budget Closing 30 Jun 2021	Year to Date 31 Aug 2020
Adjustments to net current assets				
Less: Reserves - restricted cash		(29,281,962)	(23,396,745)	(36,912,397)
Less: Unspent loans		-	(431,591)	-
Less: ESL debtors		185,905	-	(7,007,958)
Less: Prepaid Rates		(2,455,879)	(2,455,879)	(287,009)
Less: Clearing accounts		(919,021)	-	(1,854,168)
Add: Borrowings	7	5,410,639	7,499,999	3,914,369
Add: Lease liability		1,416,287	608,382	(1,930,396)
Add: Provisions - employee		4,944,527	5,041,426	4,944,527
Add: Loan Facility offset		-	-	13,000,000
Total adjustments to net current assets		(20,699,504)	(13,134,408)	(26,133,031)

(c) Net current assets used in the Statement of Financial Activity

Current assets				
Cash and cash equivalents	2	39,407,751	26,474,376	40,846,782
Rates receivables	3	4,019,116	3,519,116	63,254,120
Receivables	3	4,444,928	3,644,928	21,825,073
Other current assets		428,974	428,974	737,176
Less: Current liabilities				
Payables		(1,224,232)	(1,474,231)	(3,559,036)
Borrowings	7	(5,410,639)	(7,499,999)	(3,914,369)
Contract liabilities		(8,731,145)	(3,464,329)	-
Lease liabilities		(1,416,287)	(608,382)	1,930,396
Provisions		(8,621,960)	(8,621,960)	(9,448,480)
Less: Total adjustments to net current assets	1(b)	(20,699,504)	(13,134,408)	(26,133,031)
Closing Funding Surplus / (Deficit)		2,197,002	(735,915)	85,538,631

CURRENT AND NON-CURRENT CLASSIFICATION

In the determination of whether an asset or liability is current or non-current, consideration is given to the time when each asset or liability is expected to be settled. Unless otherwise stated assets or liabilities are classified as current if expected to be settled within 12 months, being the Council's operational cycle.

NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020

	Total Amount	Interest rate	Total calculated interest Earnings	Institution	S&P rating	Deposit Date	Maturity Date	Term days
	\$	\$	\$	\$				
Cash on hand								
Westpac Municipal Bank Account	9,190,444	Variable		Westpac	AA-	NA	NA	
	9,190,444							
Municipal Investments								
Muni 10 - 9652-46197	29,695	1.05%	309	ANZ	AA-	1/10/2019	1/10/2020	366
MNS 31 - 582058	6,098,484	1.00%	2,958	Westpac	AA-	31/07/2020	31/08/2020	31
MNS 60 - 582007	338,398	1.05%	302	Westpac	AA-	31/07/2020	31/08/2020	31
	6,466,578							
Reserve Investments								
Reserve 30 - 78-911-3263	3,038,679	0.65%	3,351	NAB	AA-	7/07/2020	7/09/2020	62
Reserve 31 - 78-920-6945	3,039,785	0.65%	3,353	NAB	AA-	24/07/2020	24/09/2020	62
Reserve 32 - 33713404	3,017,573	48.00%	3,607	Commonwealth	AA-	24/08/2020	23/11/2020	91
Reserve 33 - 93-656-8445	3,036,962	0.85%	6,422	NAB	AA-	2/07/2020	1/10/2020	91
Reserve 34 - 72-684-2987	3,035,448	0.66%	3,399	NAB	AA-	22/07/2020	22/09/2020	62
RNS 31 - 581565	6,817,976	1.00%	5,786	Westpac	AA-	31/07/2020	31/08/2020	31
RNS 60 - 581573	3,203,336	1.05%	2,854	Westpac	AA-	31/07/2020	31/08/2020	31
	25,189,760							
Total	40,846,782		32,341					

Interest revenue

Investment Interest Accrued	32,341
Investment Interest Matured	22,555
Rates Interest	58,056

Interest Earned**\$112,952****112,952****Total Municipal and Reserve Funds****40,846,782**

	Amount	Interest rate on loans	Interest Saved	YTD Interest Saved
Loan Offset Facility				
Westpac	13,000,000	1.95%	20,746	28,675

KEY INFORMATION

Cash and cash equivalents include cash on hand, cash at bank, deposits available on demand with banks and other short term highly liquid investments highly liquid investments with original maturities of twelve months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value and bank overdrafts. Bank overdrafts are reported as short term borrowings in current liabilities in the statement of net current assets.

The local government classifies financial assets at amortised cost if both of the following criteria are met:

- the asset is held within a business model whose objective is to collect the contractual cashflows, and
- the contractual terms give rise to cash flows that are solely payments of principal and interest.

Total Municipal Cash	Unrestricted
\$53.85 M	\$28.66 M

**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

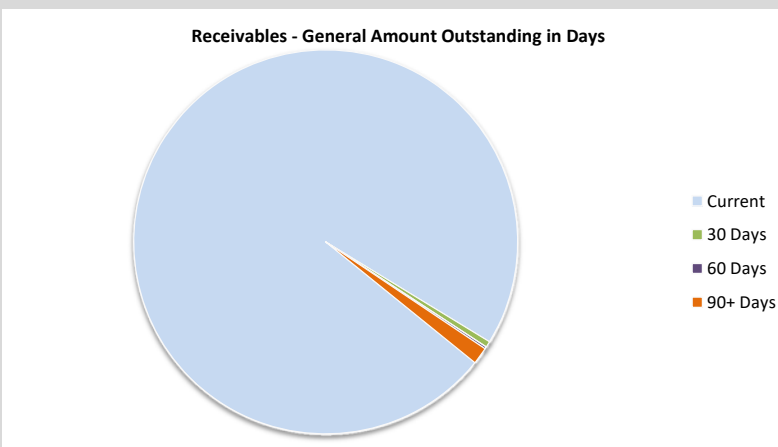
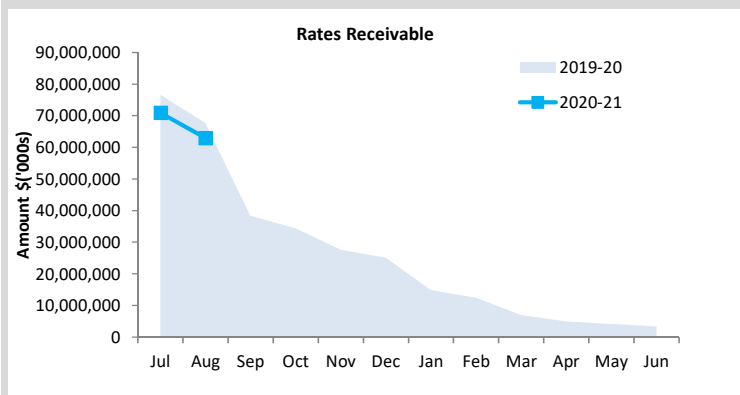
**OPERATING ACTIVITIES
NOTE 3
RECEIVABLES**

Rates Receivable	30-Jun-20	31-Aug-19	31 Aug 20
	\$		\$
Opening Arrears Previous Years	2,873,789	2,873,789	3,317,555
Rates levied	80,212,522	78,487,059	80,045,904
Less - Collections to date	(79,768,756)	(13,701,843)	(20,109,339)
Equals Current Outstanding	3,317,555	67,659,005	63,254,120
Net Rates Collectable	3,317,555	67,659,005	63,254,120
% Collected	96%	16.8%	24.1%
No. of Legal Proceedings Commenced for the 2020/21 year			4
No. of properties > \$10,000 outstanding			30
No. of properties between \$3,000 and \$10,000 outstanding			220
Value of Rates Concession			73,427
Value of Rates Exemptions			1,988,179

Receivables - General	Credit	Current	30 Days	60 Days	90+ Days	Total
	\$	\$	\$	\$	\$	\$
Balance per Trial Balance						
Sundry receivable		476,185	111,586	36,831	313,125	937,727
Recreation Centres		120,892				120,892
Mandurah Ocean Marina		428,246				428,246
GST receivable		236,826				236,826
Allowance for impairment of receivables						0
Infringements		1,000,786				1,000,786
Pensioners rates and ESL deferred		5,784,342				5,784,342
Other Receivables		13,316,254				13,316,254
						0
Total Receivables General Outstanding		21,363,531	111,586	36,831	313,125	21,825,073
Percentage		97.9%	0.5%	0.2%	1.4%	

KEY INFORMATION

Rates and other receivables include amounts due from ratepayers for unpaid rates and service charges and other amounts due from third parties for goods sold and services performed in the ordinary course of business. Receivables expected to be collected within 12 months of the end of the reporting period are classified as current assets. All other receivables are classified as non-current assets. Collectability of rates and other receivables is reviewed on an ongoing basis. Other receivables that are known to be uncollectible are written off when identified. An allowance for doubtful debts is raised when there is objective evidence that they will not be collectible.



Debtors Due
\$21,825,073
Over 30 Days
2%
Over 90 Days
1%

Collected	Rates Due
24.1%	\$63,254,120

**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

**OPERATING ACTIVITIES
NOTE 4
DISPOSAL OF ASSETS**

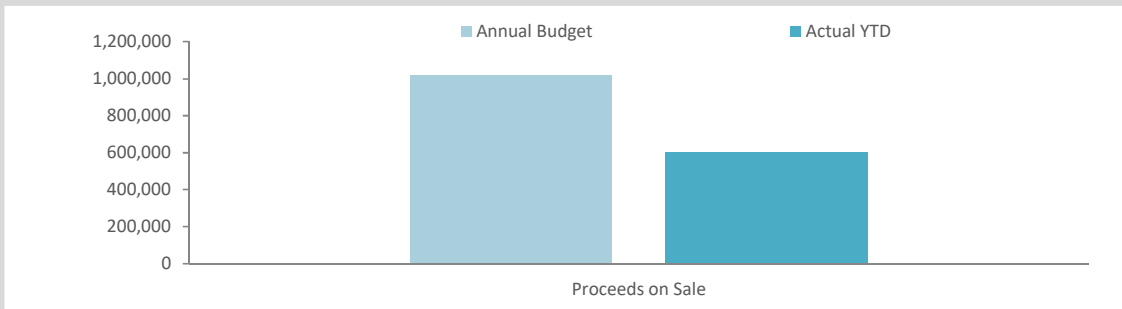
Asset	Asset Description	Budget	YTD Actual
		Proceeds	Proceeds
		\$	\$
	Sale of Land - Shearwater L102, L105, L109	0	365,847
<u>Light Passenger Vehicles - Replacement</u>			
MAZDA CX-5 - C00316	SUSTAINABLE DEVELOPMENT	15,502	
MAZDA CX-5 - C00816	WORKS AND SERVICES	13,669	
MAZDA CX-5 - C01016	SUSTAINABLE DEVELOPMENT	11,419	
MAZDA CX-5 - C01117	MAYORS OFFICE	24,367	
MAZDA CX-5 - C02217	WORKS AND SERVICES	11,574	
MAZDA CX-5 - C02817	SUSTAINABLE DEVELOPMENT	13,467	
MAZDA CX-5 - C03717	WORKS AND SERVICES	11,924	
MAZDA CX-5 - C03917	WORKS AND SERVICES	15,975	
MAZDA CX-5 - C04016	WORKS AND SERVICES	16,150	
MAZDA CX-5 - C04217	PEOPLE AND COMMUNITIES	11,815	
MAZDA CX-5 - C04516	SUSTAINABLE DEVELOPMENT	15,917	
MAZDA CX-5 - C04617	SUSTAINABLE DEVELOPMENT	16,460	
MAZDA CX-5 - C04916	SUSTAINABLE DEVELOPMENT	14,438	
MAZDA CX-5 - C05117	SUSTAINABLE DEVELOPMENT	14,002	
MAZDA CX-5 - C05216	PEOPLE AND COMMUNITIES	15,502	
MAZDA CX-5 - C05317	SUSTAINABLE DEVELOPMENT	16,460	
MAZDA CX-5 - C05517	STRATEGY AND BUSINESS PERFORMANCE	16,460	
MAZDA CX-5 - C06716	WORKS AND SERVICES	19,159	
MAZDA CX-5 - C072	WORKS AND SERVICES	9,939	
MAZDA CX-5 - C07317	WORKS AND SERVICES	16,460	
MAZDA CX-5 - C07718	WORKS AND SERVICES	8,662	
<u>Light Commercial Vehicles - Replacement</u>			
FORD RANGER - U00116	PARKS-SOUTHERN	18,762	
FORD RANGER - U00517	PARKS PROJECTS	13,650	
FORD RANGER - U00916	PARKS ASSETS	15,169	
FORD RANGER - U01116	WASTE MANAGEMENT	19,283	
FORD RANGER - U01417	PARKS CENTRAL	18,915	
FORD RANGER - U01517	PARKS MAINTENANCE - RETIC	13,839	
FORD RANGER - U01617	PARKS MAINTENANCE - RETIC	18,450	
FORD RANGER - U01716	PARKS MAINTENANCE - RETIC	16,157	
FORD RANGER - U01816	PARKS PROJECTS	19,630	
FORD RANGER - U02617	PARKS NORTHERN	16,100	
FORD RANGER - U03017	PARKS MAINTENANCE - RETIC	13,839	
FORD RANGER - U03317	RANGERS	16,822	
FORD RANGER - U03716	MARINA AND DEPOT	18,607	
FORD RANGER - U04116	HEALTH SERVICES	18,809	
FORD RANGER - U04417	PARKS CENTRAL	14,715	
FORD RANGER - U04617	PARKS MAINTENANCE - RETIC	16,588	
FORD RANGER - U05517	PARKS MAINTENANCE - RETIC	15,760	
FORD RANGER - U05617	LANDSCAPING SERVICES	15,544	
FORD RANGER - U06017	WORKS CONSTRUCTION	19,430	
FORD RANGER - U06118	SURVEYING SERVICES	17,356	
FORD RANGER - U06217	RECREATION SERVICES COORDINATOR	16,100	
FORD RANGER - U06317	CIVIL MAINTENANCE	19,720	
FORD RANGER - U06417	PARKS-SOUTHERN	16,315	
FORD RANGER - U06517	PARKS ASSETS	18,408	
FORD RANGER - U06617	EMERGENCY MANAGEMENT SDBFB	19,720	
<u>Trucks & Buses Replacements</u>			
TOYOTA HIACE 12 SEAT BUS - T028	EMERGENCY MANAGEMENT	23,876	
<u>Trailers</u>			
FLAT TOP 1500KG - P016	WORKS CONSTRUCTION	700	
MOWING 4500KG - V003	PARKS-SOUTHERN	3,040	
MOWING 4500KG - V004	PARKS NORTHERN	3,040	
MOWING 4500KG - V005	PARKS-SOUTHERN	3,040	
BOXTOP 2000KG - V022	WORKS CONSTRUCTION	700	
BOXTOP 2000KG - V025	CIVIL CONSTRUCTION(DRAINAGE)	700	
BOXTOP 1500KG - V026	CITYBUILD	750	
3T TANDEM TIPPER - V033	CIVIL MAINTENANCE	1,660	
2T TANDEM TIPPER - V034	CIVIL CONSTRUCTION (DRAINAGE)	1,330	
LUGGAGE TRAILER SINGLE AXLE 2000KG - V040	PARKS ASSETS	1,090	
WASTECH SEMI TRAILER - V050		35,327	
WASTECH SEMI TRAILER - V051		35,327	
WASTECH CONVERTED DOLLY TRAILER - V052			

**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

**OPERATING ACTIVITIES
NOTE 4
DISPOSAL OF ASSETS**

Asset	Asset Description	Budget	YTD Actual
		Proceeds	Proceeds
<u>Parks & Mowers</u>			
TORO REELMASTER 7000D - M02517	PARKS ASSETS	18,252	
KUBOTA OFD 72 INCH - CAB+TRAILER - M01516	PARKS ASSETS	7,500	
KUBOTA ZERO TURN 72 INCH - M01916	PARKS SOUTH	6,000	
KUBOTA OFD 72 INCH - M03416	PARKS NORTH	7,500	
TURF CUTTER - P302	PARKS SOUTH	1,000	
<u>Miscellaneous Equipment >\$1500</u>			
ROBIN TRASH PUMP - S107	CIVIL CONSTRUCTION (DRAINAGE)	890	
EARLEX ELECTRIC SPRAY UNIT - P021	CITYBUILD	640	
VERTI MOWER - M008	PARKS ASSETS	400	
<u>Construction Vehicles - Replacement</u>			
KOMATSU WA250PZ-6 WHEEL LOADER - G006	WORKS CONSTRUCTION	79,405	
BOMAG BW24R MULTI TYRE ROLLER - R002	WORKS CONSTRUCTION	45,900	
<u>Plant Disposed from 2019/20 budget</u>			
FORD RANGER - U043	WORKS CONSTRUCTION	0	15,509
FORD RANGER - U05216	PARKS ASSETS	0	24,600
FORD RANGER - U0516	PARKS CENTRAL	0	23,918
DEUTSCHER H660-11 ROTARY MOWER - AM100	PARKS ASSETS	0	667
HYUNDAI I30 HATCH - C00116	MARINA AND DEPOT	0	12,782
MITSUBISHI OUTLANDER - C02316	ASSET MANAGEMENT	0	17,782
HOLDEN COLORADO - U03216	RANGERS	0	21,418
ROADSWEEPER - T051	CIVIL MAINTENANCE	0	65,613
TRALIER SINGLE AXLE - V01716	PARKS CENTRAL	0	2,312
FORD RANGER - U05916	PARKS ASSET	0	20,282
FORD RANGER - U00316	HEALTH SERVICES	0	29,145
		1,020,562	599,876

KEY INFORMATION



**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

NOTE 5

TENDERS AWARDED FOR THE MONTH

CEO delegation – accepted tenders during the month
Delegation over \$250,000

Tender code	Tender Description	Company Awarded to	Contract Term	Contract Amount
				\$

CONFIRMED

**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

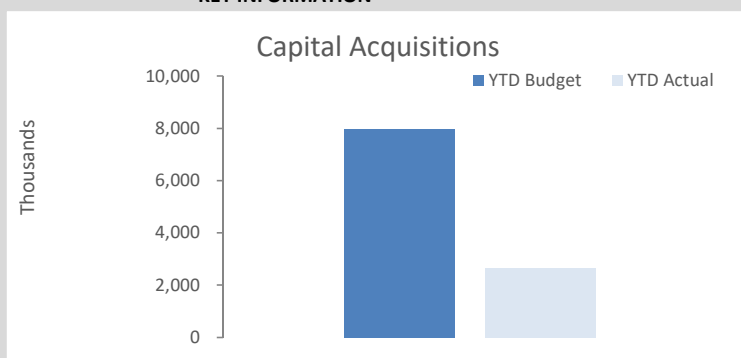
**INVESTING ACTIVITIES
NOTE 6
CAPITAL ACQUISITIONS**

Capital Acquisitions	Adopted Budget	Annual Budget	YTD Budget	YTD Actual	YTD Actual Variance
	\$		\$	\$	\$
Buildings	3,271,990	3,066,454	508,710	297,990	(210,720)
Equipment	336,820	336,820	50,264	44,306	(5,958)
Machinery	3,506,697	3,506,697	529,577	133,516	(396,061)
Infrastructure - Roads	10,964,511	12,255,627	2,736,370	981,205	(1,755,165)
Bridges	400,000	750,000	58,310	0	(58,310)
Parks	19,901,580	21,103,852	3,574,242	1,045,575	(2,528,667)
Drainage	1,118,523	1,104,700	236,628	51,081	(185,547)
Coastal & Estuary	422,601	499,600	134,150	81,916	(52,234)
Other Infrastructure	3,143,492	2,754,266	144,716	13,492	(131,224)
Capital Expenditure Totals	43,066,214	45,378,016	7,972,967	2,649,081	(5,323,886)
Capital Acquisitions Funded By:					
	\$		\$	\$	\$
City of Mandurah Contribution	8,553,048	8,829,336	6,057,163	(1,267,040)	(7,324,203)
Capital grants and contributions	11,279,174	12,162,222	1,887,455	3,316,245	1,428,790
Borrowings	7,931,591	8,756,679		0	0
Other (Disposals & C/Fwd)	1,020,562	1,020,562	28,349	599,876	571,527
Cash Backed Reserves					
Building Reserve	2,161,990	2,069,292		0	0
Asset Management Reserve	1,404,778	1,348,816		0	0
Property Acquisition Reserve	1,830,000	1,480,000		0	0
Sustainability Reserve	229,180	229,180		0	0
Sanitation Reserve	756,471	756,471		0	0
Traffic Bridge Reserve	400,000	400,000		0	0
Waterways Reserve	40,990	40,990		0	0
Unspent Grants & Contributions Reserve	5,258,590	6,084,628		0	0
City Centre Land Acquisition Reserve	2,000,000	2,000,000		0	0
Plant Reserve	199,841	199,841		0	0
Capital Funding Total	43,066,214	45,378,016	7,972,967	2,649,081	(5,323,886)

SIGNIFICANT ACCOUNTING POLICIES

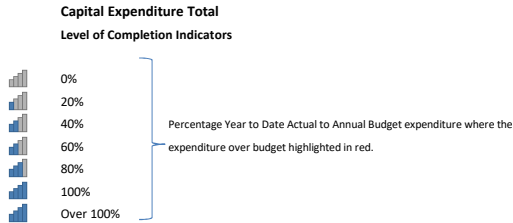
All assets are initially recognised at cost. Cost is determined as the fair value of the assets given as consideration plus costs incidental to the acquisition. For assets acquired at no cost or for nominal consideration, cost is determined as fair value at the date of acquisition. The cost of non-current assets constructed by the local government includes the cost of all materials used in the construction, direct labour on the project and an appropriate proportion of variable and fixed overhead. Certain asset classes may be revalued on a regular basis such that the carrying values are not materially different from fair value. Assets carried at fair value are to be revalued with sufficient regularity to ensure the carrying amount does not differ materially from that determined using fair value at reporting date.

KEY INFORMATION



Acquisitions	Annual Budget	YTD Actual	% Spent
	\$45.38 M	\$2.65 M	6%
Capital Grant	Annual Budget	YTD Actual	% Received
	\$12.16 M	\$3.32 M	27%

NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020



Level of completion indicator, please see table at the end of this note for further detail.

Account Description	Adopted Budget	Annual Budget	YTD Budget	YTD Actual	Remaining Unspent Funds	Comment
Buildings						
1632.750588. Owen Avenue Ablution	298,889	298,889	12,466	0	298,889	Construction to commence Q3.
1632.750619. Community Sport and Recreation Facility Fund Program - Sm	160,119	54,556	0	0	54,556	Funding allocated to Peel Hockey Assoc Floodlighting \$95,443 and Sth Mh Tennis Club Resurfacing \$10,120.
1632.750620. Solar Plan	64,048	64,048	0	0	64,048	Construction to commence Q4.
1632.750621. Milgar St Reserve Water Service Replacement	21,350	21,350	14,092	0	21,350	Construction to commence Q2.
1632.750622. Installation of Air Conditioning at Halls Head Parade Commu	48,035	48,035	0	0	48,035	Quotes being assessed. Construction to commence Q2.
1632.750623. Administration Building - Foyer Security	80,059	80,059	0	0	80,059	Working with architect on design.
1632.750624. Seniors Centre Heating Cooling System Upgrade	48,035	48,035	31,704	0	48,035	Assessing quotations.
1632.750625. Mandurah Community Museum Roof Replacement.	160,119	160,119	0	0	160,119	Construction to commence Q3.
1632.750626. Site Main Switchboard Program	53,373	53,373	0	0	53,373	Out to quote.
1632.750627. Administration Centre External Painting Project	84,329	84,329	0	0	84,329	Construction to commence Q3.
1632.750628. Civic Building-Mayors Office Reconfiguration	53,373	53,373	0	3,373	50,000	Design in progress.
1632.750629. Health & Safety Improvements at Pottery Place	16,011	16,011	0	0	16,011	Construction to commence Q1.
1632.750630. Mandurah Ocean Marina Chalets - External Refurbishment	160,119	160,119	0	0	160,119	Construction to commence Q3.
1632.750631. Mandurah Bowling & Recreation Club - Bar Repairs	21,350	21,350	0	0	21,350	Structural assessment being undertaken.
1632.750632. Falcon Pavilion Re Roofing Project	77,924	77,924	0	0	77,924	Request for quotation progressing.
1632.750633. Stage 2 of Upgrades to Peelwood Reserve Changerooms	106,746	106,746	0	0	106,746	Construction to commence Q4.
1632.750634. MARC - Hardstands for Pool Blankets	10,674	10,674	0	0	10,674	Construction to commence Q2.
1632.750635. MARC - Aquatic Plant Rooms Automatic Pool Acid Feed System	5,337	5,337	0	0	5,337	Construction to commence Q2.
1632.750636. WMC - Upgrade Alarm System	30,000	30,000	19,800	0	30,000	Construction to commence Q1.
1632.750567. South Mandurah Football Club Changeroom Project	106,746	106,746	0	0	106,746	Construction to commence Q2.
1632.750638. Ablution Bortolo Reserve	213,492	213,492	0	0	213,492	Construction to commence Q3.
1632.750579. Mh Mustangs FC - Facility Development	176,131	176,131	0	0	176,131	Construction to commence Q3.
1632.750580. Peelwood Res - Changeroom Upgrade	21,350	21,350	0	0	21,350	Construction to commence Q4.
1632.750510. CASM Ablution Upgrade	47,020	47,020	31,034	0	47,020	Completed.
1632.750589. Admin Building First Floor Carpet	38,535	38,535	0	0	38,535	Out to quote.
1632.750516. Change Rooms Upgrade Program	213,487	213,487	140,902	21,135	192,352	Construction has commenced on Falcon Pavilion changeroom upgrade.
1632.750454. MARC/Waste Transfer Station - Solar Plan Phase 5	309,414	159,411	105,212	161,278	(1,867)	Construction complete. Finances to be finalised.
1632.750609. Site Main Switchboards	89,133	95,133	0	0	95,133	Out to quote.
1632.750603. Southern Ops Transportable Meeting Room	79,832	79,832	25,546	13,575	66,257	Design complete. Construction to commence Q2.
1632.750591. Civic Chamber Meeting Rooms	64,403	16,510	10,896	5,622	10,888	Construction complete. Finances to be finalised.
1632.750532. Civic Building - Tuckey Room	121,177	91,705	60,524	90,189	1,516	Construction 95% complete.
1632.750584. Peel Community Kitchen	247,200	248,200	0	2,818	245,382	Construction to commence Q2.
1632.750586. MARC LED & Lighting Control	44,180	59,012	38,948	0	59,012	Construction to commence Q2.
1632.750639. Peel Hockey Association - Floodlighting	0	95,443	15,900	0	95,443	Construction to commence Q3.
1632.750640. South Mnd Tennis Club - Resurfacing	0	10,120	1,686	0	10,120	Construction to commence Q2.
Bridges						
1634.880001. Old Mandurah Bridge	400,000	400,000	0	0	400,000	Construction to commence Q2.
1634.880012. Lakelands-Madora Bay Pedestrian Bridge	0	350,000	58,310	0	350,000	Construction to commence Q2.
Parks						
1635.700439. Enclosed Dog Park	213,492	213,492	0	16,055	197,437	Construction to commence Q3.
1635.700440. Major Public Artworks	125,000	125,000	20,826	0	125,000	Ongoing Program 2020/21.
1635.700441. Bortolo Reserve - Shade Sail	33,926	33,926	0	0	33,926	Construction to commence Q3.

Attachment to Council Minutes - 22 September 2020

Level of completion indicator, please see table at the end of this note for further detail.

Account Description	Adopted Budget	Annual Budget	YTD Budget	YTD Actual	Remaining Unspent Funds	Comment
1635.700471. Hermitage Park - Shade Sail	45,234	45,234	0	0	45,234	Construction to commence Q3.
1635.700472. Country Club Drive - Shade Sail	33,926	33,926	0	0	33,926	Construction 75% complete.
1635.700442. Shade Sail Renewal Program	56,544	56,544	0	6,544	50,000	Ongoing Program 2020/21 to commence in Q2.
1635.700443. Falcon Bay Upgrade - Stage 4 of 5	339,261	339,261	0	57,496	281,765	Construction to commence Q2.
1635.700444. Novara Foreshore Stage 4	452,348	452,348	0	1,098	451,250	Construction to commence Q3.
1635.700445. Wittenoom Reserve - Drinking Fountain	9,047	9,047	0	0	9,047	Construction to commence Q2.
1635.700466. Calypso Reserve - Drinking Fountain	9,047	9,047	0	0	9,047	Construction to commence Q2.
1635.700467. Halls Head Foreshore - Drinking Fountain	9,047	9,047	0	0	9,047	Construction to commence Q2.
1635.700468. Lord Hobart Reserve - Drinking Fountain	16,963	16,963	0	0	16,963	Construction to commence Q2.
1635.700469. Mogum Reserve - Drinking Fountain	12,440	12,440	0	0	12,440	Construction to commence Q2.
1635.700446. BBQ Caterpillar Park	26,687	26,687	0	0	26,687	Construction to commence Q2.
1635.700470. BBQ Templetonia Reserve, Coodanup	26,687	26,687	0	0	26,687	Construction to commence Q2.
1635.700447. Rakoa Reserve and Bridgewater South Replace Fencing	33,926	33,926	0	0	33,926	Construction to commence Q4.
1635.700448. Melaleuca Tce - Replace broken pine fencing	67,852	67,852	0	0	67,852	Construction to commence Q4.
1635.700449. Pump Station Replacement of Pumps	46,599	46,599	7,764	0	46,599	Ongoing Program 2020/21 to commence in Q2.
1635.700450. San Remo deck modifications	11,308	11,308	0	1,308	10,000	Construction to commence Q2.
1635.700451. Halls Cottage Fencing	53,373	53,373	0	0	53,373	Construction to commence Q4.
1635.700452. Seascape Village Precinct - Shade Structure Refurbishment	32,024	32,024	0	0	32,024	Construction to commence Q3.
1635.700453. Falcon Reserve Activation Plan - Stage 2	226,173	226,173	0	0	226,173	Construction to commence Q2.
1635.700454. Cemetery - Upgrade of lakes	96,125	96,125	0	0	96,125	Construction to commence Q4.
1635.700455. Lakes Cemetery Fencing - renewal	35,058	35,058	23,140	0	35,058	Construction to commence Q2.
1635.700456. Old Coast Road/Wilderness Drive - Playground Renewal	31,665	31,665	0	0	31,665	Construction to commence Q3. Project scope has increased due to drainage issues. Funding will be increased by \$31,665 from deferred project at Yalgor Heights Reserve.
1635.700457. BMX Track Renewal Program	56,544	56,544	0	0	56,544	Construction to commence Q3.
1635.700458. Yalgor Heights Reserve - Playground Renewal	31,665	31,665	0	0	31,665	Project has been deferred. Budget to be reallocated to Old Coast Road/Wilderness Drive - Playground Renewal.
1635.700459. War Memorial - Redesign and replace reticulation	22,618	22,618	0	0	22,618	Construction to commence Q2.
1635.700438. Riverside Gardens Boardwalk	22,416	22,416	0	0	22,416	Construction to commence Q2.
1635.700460. Westbury Way Reserve Revegetation Plan (Offset) Capital	21,486	21,486	0	0	21,486	Construction to commence Q4.
1635.700461. Hexham Wetland Fencing	20,340	20,340	13,424	20,852	(512)	Completed.
1635.700462. Madora Bay Beach	113,087	113,087	0	0	113,087	Construction to commence Q4.
1635.700463. Madora Bay Shade Shelters	67,852	67,852	0	0	67,852	Construction to commence Q3.
1635.700464. Shade Sails Over Playgrounds	226,173	226,173	0	0	226,173	Construction to commence Q3.
1635.700465. Dawesville Channel SE Foreshore Upgrade	226,173	226,173	0	0	226,173	Construction to commence Q3
1635.700395. Falcon Reserve Activation Plan	209,035	203,365	65,078	103,495	99,870	Construction 75% complete.
1635.700399. Lakelands Community Garden	30,000	30,000	0	0	30,000	Construction to commence Q3.
1635.700406. Pebble Beach Boulevard Res 46649	156,945	156,945	50,224	16,039	140,906	Construction 25% complete.
1635.700403. Grahame Heal Reserve	67,177	81,882	0	12,858	69,024	Construction 25% complete. Budget Variation to allocate \$40k to Duverney Park Picnic Facilities and \$5k to Templetonia Reserve.
1635.700422. Louis Dawe Park	46,212	44,718	29,514	51,280	(6,562)	Construction complete. Finances to be finalised. Projected overspend of \$6.5k to be funded from underspend at Pinjarra Road East - Median Stage 3.
1635.700377. MARC improvement to car park area	10,000	10,820	7,142	9,791	1,029	Construction 95% complete.
1635.700396. Falcon Skate Park Upgrade	160,000	161,791	106,782	129,998	31,793	Construction complete. Finances to be finalised.
1635.700421. Eastern Foreshore Softfall Renewal		9,091	9,091	9,091	0	Completed.
1635.700423. Mogum Reserve Softfall Renewal		23,400	23,400	23,400	0	Completed.
1635.700430. Kerosene Tank Bunding		6,071	6,071	6,451	(380)	Construction complete and financially complete.
1635.700413. Duverney Park Picnic Facilities		0	0	4,367	(4,367)	Budget Variation to be processed to allocate \$40k from Grahame Heal Reserve.
Roads						
1636.501036. RS Aldgate Street	97,535	97,535	64,374	0	97,535	Project being deferred until 2021/22 due to Black Spot Funding application. Budget to be reallocated to other resurfacing projects within the Roads Renewal - Reseal Program in September.
1636.501066. RS Castlewood Place	17,340	17,340	0	0	17,340	Construction to commence Q3.
1636.501067. RS Mississippi Drive Stage 2	232,999	232,999	0	0	232,999	Construction to commence Q3.
1636.501068. RS Oakmont Avenue Cool Seal	97,535	97,535	0	0	97,535	Construction to commence Q4.
1636.501069. RS Oakmont Avenue	86,697	86,697	57,220	0	86,697	Construction to commence Q1.
1636.501070. RS Perie Banou Close	92,116	92,116	0	0	92,116	Construction to commence Q2.
1636.501071. RS Sedgemere Terrace	24,925	24,925	0	0	24,925	Construction to commence Q3.
1636.501072. RS Valley Road	27,093	27,093	0	0	27,093	Construction to commence Q2.
1636.501073. RS Valley Road	70,442	70,442	0	0	70,442	Construction to commence Q2.
1636.501074. Donnelly Gardens	205,906	205,906	0	0	205,906	Construction to commence Q2.
1636.501075. Westbourn Pass	28,177	28,177	0	0	28,177	Construction to commence Q3.
1636.501026. Bortolo Reserve - Shared Use Parking and Fire Track Facility	417,233	417,233	275,374	0	417,233	Construction to commence Q2.
1636.501027. RR Pinjarra Road Stage 1	812,789	1,625,578	0	68,069	1,557,509	Construction to commence Q3.
1636.501028. RR Peel Street	812,789	812,789	536,440	64,691	748,098	Construction to commence Q1.

Attachment to Council Minutes - 22 September 2020

Level of completion indicator, please see table at the end of this note for further detail.

Account Description	Adopted Budget	Annual Budget	YTD Budget	YTD Actual	Remaining Unspent Funds	Comment
1636.501029. RR Pinjarra Road Stage 2	812,789	0	0	0	0	Construction to commence Q4.
1636.501030. RR Leslie Street	812,789	812,789	260,092	0	812,789	Construction to commence Q2.
1636.501031. RR Catalina Dr/Badgerup Ave Roundabout	596,045	596,045	0	0	596,045	Construction to commence Q3.
1636.501032. RR Thera St Stage 2	184,233	184,233	121,594	46,688	137,545	Construction 50% complete.
1636.501033. RR Old Coast Road/Albany Drive	140,883	140,883	0	0	140,883	Construction to commence Q2.
1636.501034. RR Old Coast Rd - Cossack Way to Shoshone View	270,930	270,930	0	0	270,930	Construction to commence Q4.
1636.501035. CP Halls Head Parade - Roberts Point	88,865	88,865	58,650	22,758	66,107	Construction 25% complete.
1636.501025. SP Halls Head Parade PSP	21,674	21,674	0	0	21,674	Design to commence Q4.
1636.501055. SP Casuarina Drive	16,256	16,256	0	0	16,256	Construction to commence Q3.
1636.501056. SP Eldora Crescent	54,186	54,186	35,764	14,012	40,174	Construction 95% complete.
1636.501057. SP First Avenue	34,679	34,679	0	0	34,679	To be combined with SP Lanyon Street to improve project efficiencies within the Shared Paths Program.
1636.501058. SP Lanyon Street	70,442	70,442	0	7,545	62,897	Construction to commence Q2.
1636.501059. SP Melita Street	45,516	45,516	30,042	24,537	20,979	Construction 95% complete.
1636.501060. SP Murdoch Drive	91,032	91,032	0	0	91,032	Construction to commence Q2.
1636.501061. SP Pinjarra Road	81,279	81,279	0	0	81,279	Construction to commence Q4.
1636.501062. SP Pinjarra Road Park	72,609	72,609	0	0	72,609	Construction has been brought forward to Q1.
1636.501063. SP Wanjeep Street	102,953	102,953	0	0	102,953	Construction to commence Q4.
1636.501064. Mulberry Close PAW	26,009	26,009	0	2,185	23,825	Construction to commence Q3.
1636.501065. Missing Links	33,595	33,595	0	0	33,595	Ongoing program 2020/21 to commence in Q2.
1636.501037. SP Cox Bay Footpath Renewal	117,041	117,041	77,248	63,712	53,329	Construction is 95% complete.
1636.501038. SP Stingray Point Footpath Replacement	146,302	146,302	0	0	146,302	Construction to commence Q4.
1636.501039. SL Street Lighting New Program	162,558	162,558	27,082	12,558	150,000	Ongoing Program 2020/21.
1636.501040. SL Upgrade of the older lighting Poles on Peelwood Reserve C	53,373	53,373	0	0	53,373	Assessment to be undertaken. Construction to commence Q3.
1636.501041. SL Rushton Sports Flood Lighting - Replacement	106,746	106,746	0	0	106,746	Report has been presented to Council in August 2020 seeking approval to apply for additional funding and for the LTFP to be amended.
1636.501042. SL Light pole replacement	53,373	38,541	0	0	38,541	Construction to commence Q3.
1636.501043. SL Mandurah Marina canal light pole rectification	53,373	53,373	0	0	53,373	Construction to commence Q3.
1636.501044. SL Carpark Lighting Replacement Program	58,711	58,711	0	0	58,711	Construction to commence Q3.
1636.501045. SL Mandurah Scoop Lighting Replacement	18,147	18,147	0	0	18,147	Construction to commence Q2.
1636.501046. SL Parks and Reserves LED Program	80,059	80,059	0	0	80,059	Ongoing Program 2020/21.
1636.501047. Pinjarra Road East - Median Stage 3	33,926	33,926	22,392	16,860	17,066	Construction complete. Finances to be finalised. Projected underspend of \$6.5k to be allocated to overspend at Louis Dawe Park.
1636.501048. TM Discretionary Traffic Management Program	162,558	162,558	27,084	16,286	146,272	Ongoing Program 2020/21.
1636.501049. TM Merlin St/Mistral St Roundabout	243,837	243,837	78,028	0	243,837	Construction to commence Q2. Projected \$33k overspend to be funded from underspend at RR Thera Street.
1636.501050. Mandurah Road Median	169,631	169,631	0	0	169,631	Construction to commence Q3.
1636.501051. SF Street Furniture New Program	65,024	65,024	10,832	0	65,024	Ongoing Program 2020/21.
1636.500950. Smart Street Mall	2,000,000	2,372,136	395,198	230,053	2,142,083	Works commenced for below ground services and footings. Construction of planter walls to commence in October with paving to follow.
1636.501052. WMC Loading Area - Column Protection	35,000	35,000	0	0	35,000	Construction to commence Q2.
1636.501053. SL MARC Carpark Additional Lights	21,675	21,675	0	0	21,675	Construction to commence Q3.
1636.501054. Waste Transfer Station Road Construction	108,371	108,371	0	0	108,371	Construction to commence Q3.
1636.500953. Peel Street	250,000	531,158	350,564	237,570	293,588	Construction is 75% complete.
1636.500894. Coodanup Drive	111,930	111,930	73,874	42,171	69,759	Construction to commence Q1.
1636.500963. TM Discretionary Traffic Mgmt	46,628	40,881	26,980	45,657	(4,776)	Construction complete. Once finances are finalised and overspend amount is confirmed, funding will be sought from savings in other capital projects.
1636.500962. RR Thera Street	80,000	188,206	124,216	49,319	138,887	Construction 50% complete. Projected underspend of \$33k to be allocated to overspend at TM Merlin St/Mistral St Roundabout.
1636.501019. WMC Recovery Facility Hardstand	205,907	205,907	0	0	205,907	Construction to commence Q2.
1636.500990. SP Cox Bay	0	22,672	14,964	16,534	6,138	Construction complete. Finances to be finalised.
1636.501076. Guava Way	0	351,000	58,476	0	351,000	Construction to commence Q4.
1636.501077. SP Harbord Avenue	0	59,331	9,882	0	59,331	Construction to commence Q3.
1636.501078. SP Sandforth Crescent	0	66,131	0	0	66,131	Construction to commence Q3.
1636.501079. Pallas Way - Troy Place PAW	0	13,531	0	0	13,531	Construction to commence Q3.
1636.501080. Boundary Road PAW	0	37,531	0	0	37,531	Construction to commence Q3.
Drainage						
1637.600171. DR Leighton Road/Halls Head Parade	27,093	27,093	17,882	0	27,093	Construction to commence Q1. \$30k increase in scope to be funded from projected underspend at DR Rainbow Way Swale Reinstatement.
1637.600172. DR Rainbow Way Swale Reinstatement	81,278	81,278	53,646	0	81,278	Construction to commence Q2. Projected underspend of \$30k to be allocated to overspend at Leighton Road/Halls Head Parade.
1637.600173. DR Koolinda Street	162,558	162,558	0	0	162,558	Construction to commence Q2.
1637.600174. DR Yeedong Road	108,371	108,371	0	0	108,371	Construction to commence Q2.
1637.600175. DR 294 Estuary Road	81,278	81,278	53,646	0	81,278	Construction to commence Q2.
1637.600176. DR Northport Boulevard	81,278	81,278	0	0	81,278	Construction to commence Q3.
1637.600177. DR Discretionary Drainage	92,116	92,116	15,348	10,130	81,986	Ongoing Program 2020/21.
1637.600178. DR Halls Head Parade - Roberts Point	73,693	73,693	48,640	30,662	43,031	Construction 95% complete.
1637.600179. DR Estuary View Road Flooding Stage 2	65,024	65,024	42,916	10,138	54,886	Construction to commence Q1.

Attachment to Council Minutes - 22 September 2020

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Account Description	Adopted Budget	Annual Budget	YTD Budget	YTD Actual	Remaining Unspent Funds	Comment
1637.600180. Bortolo Sump - Water Sensitive Urban Design	325,116	325,116	0	0	325,116	Construction to commence Q3.
1637.600164. DR Orion Rd Park Stage 2	20,719	6,895	4,550	150	6,745	Construction 75% complete.
Coastal & Estuary						
1639.910106. Keith Holmes Reserve POS Upgrade	97,307	97,307	64,224	21,195	76,112	Construction 30% complete.
1639.910107. Marina Pens WIFI	20,000	20,000	0	0	20,000	Construction to commence Q2.
1639.910108. South Harbour Paving Upgrade Stage 2	183,801	183,801	0	15,346	168,455	Construction 5% complete.
1639.910109. Cambria Island abutment walls repair	32,435	32,435	21,408	0	32,435	Consultant works commenced.
1639.910105. Parkridge Boat Ramp	62,060	62,060	0	0	62,060	Grant application for RBFS Round 25 submitted. Notification of outcome in April 2021.
1639.910095. Avalon Foreshore	27,000	63,211	41,724	13,557	49,654	Construction 75% complete.
1639.910102. South Harbour Paving Replacement	0	40,786	6,794	31,818	8,968	Project added as a 2019/20 carryover as part of the 2019/20 Carryover Reconciliation.
Equipment						
1640.820175. MARC Pool Covers Program Pool	37,361	37,361	0	0	37,361	Construction to commence Q2.
1640.820176. Sign / sticker printer	37,930	37,930	37,930	33,481	4,449	Construction complete. Finances to be finalised.
1640.820177. MARC CCTV Aquatic Facilities	32,024	32,024	0	0	32,024	Construction to commence Q2.
1640.820178. CCTV Upgrade at Meadow Springs Sports Facility	21,350	21,350	0	0	21,350	Construction to commence Q2.
1640.820179. MARC Pool Covers Leisure Exercise Pool	24,552	24,552	0	0	24,552	Construction to commence Q2.
1640.820180. Furniture & Equipment Renewal Program	55,508	55,508	12,334	0	55,508	Construction to commence Q1.
1640.820174. MPAC Orchestra Lift	128,095	128,095	0	10,825	117,270	Request for quotation being prepared.
Plant & Machinery						
1641.770001. Light Passenger Vehicles - Replacement	672,651	672,651	112,064	64,430	608,221	
1641.770002. Light Commercial Vehicles - Replacement	981,185	981,185	163,466	(0)	981,185	
1641.770005. Light Passenger Vehicles - New	0	0	0	0	0	
1641.770018. Light Commercial Vehicles - New	36,000	36,000	5,998	0	36,000	
1641.770006. Trucks & Buses Replacements	72,893	72,893	6,072	0	72,893	
1641.770007. Trailers	743,550	743,550	123,876	0	743,550	
1641.770009. Parks & Mowers	285,438	285,438	47,554	39,980	245,458	
1641.770011. Miscellaneous Equipment >\$1500	131,919	131,919	21,978	29,106	102,813	
1641.770008. Construction Vehicles	583,061	583,061	48,569	0	583,061	
Other Infrastructure						
1643.930033. Christmas Decorations 2020	213,492	213,492	140,904	13,492	200,000	Project has commenced.
1643.930034. Waste Transfer Station increase hardstand area with concrete	100,000	100,000	0	0	100,000	Construction to commence Q3.
1643.930035. Restart Mandurah - Other	2,785,000	2,435,000	0	0	2,435,000	Remaining Restart Mandurah funding available.
1643.930032. Road Sweeper Spoil	45,000	5,774	3,812	0	5,774	Construction complete. Finances to be finalised.
1646.750496. Lakelands DOS Clubroom Facility	200,000	762,524	244,008	237,248	525,276	Construction 100% complete. Defects to be completed. Landscaping around building to commence early September.
1646.700352. Lakelands DOS	1,000,000	1,143,257	365,842	0	1,143,257	Refer to Financial Report, Key Capital Projects table.
1646.500885. Lakelands DOS Parking	0	3,594	598	900	2,694	Refer to Financial Report, Key Capital Projects table.
1646.700350. Lakelands DOS - Irrigation	0	26,125	4,352	0	26,125	Refer to Financial Report, Key Capital Projects table.
1646.700353. Lakelands DOS - Sports Specific Infr	0	23,763	3,958	0	23,763	Refer to Financial Report, Key Capital Projects table.
1646.750495. Lakelands DOS - Water Provision Infr	0	311,941	51,970	0	311,941	Refer to Financial Report, Key Capital Projects table.
1647.920027. Eastern Foreshore South Precinct	6,870,103	6,936,603	1,155,636	40,471	6,896,132	Refer to Financial Report, Key Capital Projects table.
1647.920028. Western Foreshore Recreation Precinct	8,300,000	8,315,856	1,385,422	296,834	8,019,022	Refer to Financial Report, Key Capital Projects table.
Grand Total	43,066,214	45,378,016	7,972,967	2,649,081	42,728,935	

**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

FINANCING ACTIVITIES

NOTE 7

BORROWINGS

Repayments - Borrowings

Information on Borrowings Particulars	1 July 2020	New Loans		Principal Repayments		Principal Outstanding		Interest Repayments	
		Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Law, order, public safety									
Port Bouvard Surf Life Saving Club [WTC 316(v)]	0		0		110		(110)		0
Health									
Community amenities									
Compactor Waste Trailers and Dolly [336]	240,815	0		9,469	54,610	231,346	186,205	983	8,102
Waste Water Reuse [349]	146,255	0		3,692	20,376	142,563	125,879	578	5,244
Halls Head Ablution Block [350]	97,505	0		2,461	13,580	95,044	83,925	385	3,496
Halls Head Recycled Water 2019/20	200,051	0		2,959	17,389	197,092	182,662	793	5,891
Ablutions 2020/21	0		200,000	-	17,344	0	182,656	0	5,935
Recreation and culture									
Allnutt Reserve Community Facility [316(iii)]	0	0		-	513	0	(513)	0	0
Town Beach Ablutions [316(vii)]	0	0		-	220	0	(220)	0	0
Rushton Park Redevelopment [318(ii)]	334,327	0		15,593	83,095	318,734	251,232	299	10,917
Meadow Springs Recreation Facility [318(iii)]	250,493	0		11,713	63,310	238,780	187,183	225	8,317
Mandurah Rugby Club [320]	42,468	0		6,897	39,316	35,571	3,152	155	763
Mandurah Cricket Club [321]	14,145	0		2,300	13,094	11,845	1,051	52	254
Mandurah Football & Sporting Club [324]	165,129	0		13,274	78,869	151,855	86,260	656	4,711
Mandurah Rugby Club [325]	12,698	0		1,022	6,070	11,676	6,628	50	362
Bowling Club Relocation [326]	1,092,880	0		92,319	537,467	1,000,561	555,413	2,609	32,101
Ablutions - Netball Centre [329(i)]	88,582	0		7,051	41,873	81,531	46,709	345	2,501
Parks Construction [329(v)]	87,089	0		7,051	41,873	80,038	45,216	345	2,501
Halls Head Bowling Club upgrade [331]	310,795	0		5,959	32,228	304,836	278,567	1,285	11,236
Parks - Falcon Bay Reserve [333(i)]	72,390	0		3,893	22,739	68,497	49,651	286	2,339
MARC Redevelopment [338]	763,964	0		26,333	144,275	737,631	619,689	2,217	27,025
MARC Redevelopment Stage 1 [340]	503,911	0		13,256	72,790	490,655	431,121	1,876	18,002
MARC Redevelopment Stage 2 [341]	1,277,816	0		35,616	187,831	1,242,200	1,089,985	3,432	46,457
Eastern Foreshore Wall [344]	835,933	0		23,122	121,623	812,811	714,310	2,162	30,081
MARC Stage 2 [345]	1,228,894	0		33,254	174,502	1,195,640	1,054,392	3,120	43,742
Falcon Bay Seawall [351]	244,836	0		6,170	34,049	238,666	210,787	968	8,779
MARC Solar Plan [353]	173,490	0		3,288	17,759	170,202	155,731	718	6,277
Novara Foreshore Development [355]	346,980	0		6,577	35,518	340,403	311,462	1,435	12,554
Falcon Bay Foreshore Upgrades [356]	346,980	0		6,577	35,518	340,403	311,462	1,435	12,554
Mandjar Square Development [358]	433,630	0		8,221	44,391	425,409	389,239	1,793	15,693
Lakelands DOS [360]	2,365,997	0		53,065	248,575	2,312,932	2,117,422	3,011	87,881
Mandjar Square Stage 3 and 4	458,859	0		7,409	82,410	451,450	376,449	1,731	27,270
Falcon Seawall	908,175	0		15,560	41,205	892,615	866,970	2,720	13,635
Novara Foreshore Stage 3	183,582	0		2,963	16,482	180,619	167,100	693	5,454
Smart Street Mall Upgrade 2019/20	500,127	0		8,141	43,460	491,986	456,667	1,983	14,728
Falcon Bay Foreshore Stage 3 of 4	300,076	0		4,438	26,083	295,638	273,993	1,190	8,837
Mandjar Square Final Stage	300,076	0		4,438	26,083	295,638	273,993	1,190	8,837
Falcon Skate Park Upgrade	120,030	0		1,954	10,433	118,076	109,597	476	3,535
Westbury Way North side POS Stage 3	200,051	0		2,953	17,389	197,097	182,662	799	5,891
Eastern/ Western Foreshore 2020/21	0	2,770,000		-	240,145	0	2,529,855	0	82,211
Smart Street Mall 2020/21	0	2,000,000		-	173,382	0	1,826,618	0	59,358
Novara Foreshore Stage 4	0	400,000		-	34,676	0	365,324	0	11,872
Bortolo Reserve - Shared Use Parking and Fire Track Facility	0	350,000		-	30,352	0	319,648	0	10,387
Falcon Bay Upgrade - Stage 4 of 5	0	300,000		-	26,016	0	273,984	0	8,904
Enclosed Dog Park	0	200,000		-	17,344	0	182,656	0	5,936
South Harbour Paving Upgrade Stage 2	0	50,000		-	4,336	0	45,664	0	1,484
Falcon Skate Park Upgrade 2020/21	0	80,000		-	7,521	0	72,479	0	1,816
Transport									
Road Construction [316(ii)]	0	0		-	1,642	0	(1,642)	0	0
Car Parking [316(iv)]	0	0		-	121	0	(121)	0	0
Drainage [318(iv)]	83,835	0		38,946	19,784	44,889	64,051	748	2,599
Road Construction [318(v)]	836,324	0		3,880	213,672	832,444	622,652	74	28,071
Road Construction [329(ii)]	188,410	0		15,346	91,136	173,064	97,274	750	5,443
Drainage Construction [329(iii)]	63,624	0		4,977	29,557	58,647	34,067	243	1,765
Peelwood Oval - Parking [329(iv)]	24,957	0		2,074	12,316	22,883	12,641	101	736
Path Construction [329(vi)]	13,856	0		1,244	7,389	12,612	6,467	61	441
Street Lighting [329(viii)]	18,102	0		1,659	9,852	16,443	8,250	81	588
Road Construction [333(ii)]	320,984	0		17,737	103,588	303,247	217,396	1,304	10,654
New Pedestrian Bridge Construction [335]	481,195	0		19,152	110,329	462,043	370,866	1,964	16,367
New Road Construction [339]	544,949	0		18,102	102,919	526,847	442,030	2,234	19,313
New Road Construction [342]	651,651	0		17,755	93,915	633,896	557,736	1,769	23,229
WMC Tims Thicket [343]	98,545	0		2,524	14,096	96,021	84,449	406	3,484
Road Construction [346]	385,053	0		9,720	53,646	375,333	331,407	1,522	13,806
MARC Carpark [347]	292,521	0		7,384	40,752	285,137	251,769	1,156	10,488
MPAC Forecourt [348]	121,886	0		3,076	16,978	118,810	104,908	482	4,370
Mandurah Marina [352]	173,490	0		3,288	17,759	170,202	155,731	718	6,277
MARC Carpark [354]	260,243	0		4,932	26,632	255,311	233,611	1,076	9,416
Mandurah Foreshore Boardwalk Renewal [357]	390,262	0		7,398	39,948	382,864	350,314	1,614	14,124
New Road Construction [359]	1,191,883	0		26,017	125,617	1,165,866	1,066,266	2,321	44,411
Smoke Bush Retreat Footpath [361]	86,736	0		1,645	8,886	85,091	77,850	359	3,138
New Boardwalks 18/19	458,859	0		7,409	41,205	451,450	417,654	1,731	13,635
Coodanup Drive - Road Rehabilitation	91,791	0		1,482	8,241	90,309	83,550	346	2,727
Pinjarra Road Carpark	183,582	0		2,963	16,482	180,619	167,100	693	5,454
New Road Construction 2018/19	1,497,356	0		27,304	135,963	1,470,052	1,361,891	2,856	30,997
New Road Construction 2019/20	900,229	0		15,364	78,226	884,865	822,003	2,860	26,510
South Harbour Upgrade 2019/20	230,058	0		3,402	19,997	226,657	210,061	912	6,774
New Roads 2020/21	0	1,150,000		-	99,693	0	99,693	0	34,131

**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

**FINANCING ACTIVITIES
NOTE 7
BORROWINGS**

Repayments - Borrowings

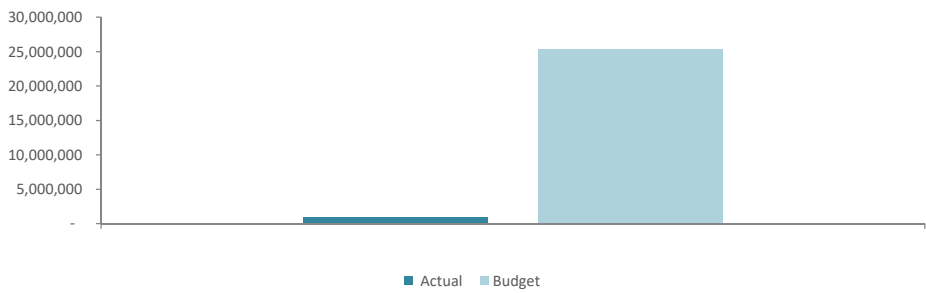
Information on Borrowings Particulars	1 July 2020	New Loans		Principal Repayments		Principal Outstanding		Interest Repayments	
		Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget
Other property and services									
Office Building [272]	215,016		0	41,937	195,631	173,078	19,385	759	3,140
Information Systems [316(i)]	0		0	-	110	1	(110)	0	0
IT Server Room Upgrade [316(vi)]	0		0	-	296	0	(296)	0	0
IT Communications Equipment [318(i)]	67,470		0	3,075	15,828	64,395	51,642	59	2,079
IT Equipment [329(vii)]	25,700		0	2,074	12,316	23,626	13,384	101	736
Land Purchase [330]	1,223,995		0	104,126	606,689	1,119,869	617,306	3,028	36,235
Civic Building - Tuckey Room Extension	458,859		0	7,409	41,205	451,450	417,654	1,731	13,634
Short term loan COVID-19	0		20,000,000	-	20,000,000	0	0	0	35,000
Total	26,230,451	0	27,500,000	872,388	25,410,640	25,358,063	28,319,811	76,056	1,127,642
Total	26,230,451	0	27,500,000	872,388	25,410,640	25,358,063	28,319,811	76,056	1,127,642
Current borrowings	25,410,640		27,500,000	872,388	25,410,640	3,914,369	25,410,640	76,056	1,127,642
Non-current borrowings	819,811					21,443,694	2,909,171		
	26,230,451					25,358,063	28,319,811		

All debenture repayments were financed by general purpose revenue.

KEY INFORMATION

All loans and borrowings are initially recognised at the fair value of the consideration received less directly attributable transaction costs. After initial recognition, interest-bearing loans and borrowings are subsequently measured at amortised cost using the effective interest method. Fees paid on the establishment of loan facilities that are yield related are included as part of the carrying amount of the loans and borrowings.

2020/21 Principal Repayments



Principal Repayments	\$872,388
Interest Expense	\$76,056
Loans Due	\$25.36 M

**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

NOTE 8**OPERATING GRANTS AND CONTRIBUTIONS****Operating Grants, Subsidies and Contributions Revenue**

Provider	Adopted Budget	Budget Variations	Annual Budget	YTD Revenue Actual
	\$	\$	\$	\$
Operating Grants and Subsidies				
General purpose funding				
Financial Assistance Grant - General Purpose	845,000		845,000	219,247
Financial Assistance Grant - Local Roads	670,000		670,000	150,650
Law, order, public safety				
Lifeguard Service Funding	100,000		100,000	95,667
DFES Bushfire Mitigation Funding	0	318,600	318,600	159,300
Operating Grant SES	64,233		64,233	0
Education and welfare				
Waterwise Verge Grant	10,000		10,000	0
NAIDOC	3,038		3,038	0
International Disability Day Grant	1,013	5,000	6,013	5,000
Recreation and culture				
Gnoonie Youth Football Cup 2019	1,013		1,013	0
CHRMAP	37,500		37,500	0
Lotterywest (Childrens Festival Grant)	8,859		8,859	0
Lotterywest (Christmas Pageant)	10,125		10,125	0
Tourism WA (Crabfest Sponsorship)	141,742		141,742	0
Every Club Funding	20,250		20,250	0
Friday Night Skillz - DLGSCI	14,485		14,485	0
Transport				
PTA - Annual Bus Shelter Maintenance Assistance Scheme	15,000		15,000	0
	1,942,258	323,600	2,265,858	629,864
TOTALS	1,942,258	323,600	2,265,858	629,864

**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

NOTE 9

NON-OPERATING GRANTS AND CONTRIBUTIONS

Non Operating Grants, Subsidies and Contributions Revenue

Provider	Adopted Budget Revenue	Budget Variations	Annual Budget	YTD Revenue Actual (b)
	\$	\$	\$	\$
Non-Operating Grants and Subsidies				
Community amenities				
: Donnelly Gardens	111,716	0	111,716	0
Recreation and culture				
: Eastern Foreshore South Precinct	2,500,000	0	2,500,000	2,000,000
: Eastern Foreshore South Precinct	1,228,250	0	1,228,250	0
: Western Foreshore Recreation Precinct	3,771,750	0	3,771,750	0
: Parkridge Boat Ramp	16,410	0	16,410	0
: Falcon Skate Park Upgrade	80,000	6,338	86,338	0
: Lakelands DOS Clubroom Facility	50,000	0	50,000	0
: Lakelands DOS	325,000	0	325,000	0
Transport				
: RR Pinjarra Road Stage 1	500,000	0	500,000	400,000
: Peel Street	100,000	0	100,000	100,000
: RR Peel Street	500,000	0	500,000	100,000
: RR Pinjarra Road Stage 2	500,000	0	500,000	0
: RR Leslie Street	500,000	0	500,000	200,000
: RR Catalina Dr/Badgerup Ave Roundabout	550,000	0	550,000	0
: RR Thera St Stage 2	170,000	0	170,000	170,000
: RR Old Coast Road/Albany Drive	120,708	0	120,708	110,905
: RR Old Coast Road/Albany Drive	215,000	(814)	214,186	215,000
: Lakelands-Madora Bay Pedestrian Bridge	0	350,000	350,000	0
: Guava Way	0	351,000	351,000	0
: SP Harbord Avenue	0	176,524	176,524	0
Economic services				
: SP Halls Head Parade PSP	20,000	0	20,000	4,000
	11,258,834	883,048	12,141,882	3,299,905
Non-Operating Contributions				
Recreation and culture				
: Hexham Wetland Fencing	20,340	0	20,340	20,340
	20,340	0	20,340	20,340
Total Non-operating grants, subsidies and contributions	11,279,174	883,048	12,162,222	3,320,245

**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

**NOTE 10
BUDGET AMENDMENTS APPROVED**

Amendments to original budget since budget adoption. Surplus/(Deficit)
A positive number in the amended budget running balance represents an estimated closing surplus.
A negative number in the amended budget running balance represents an estimated closing deficit

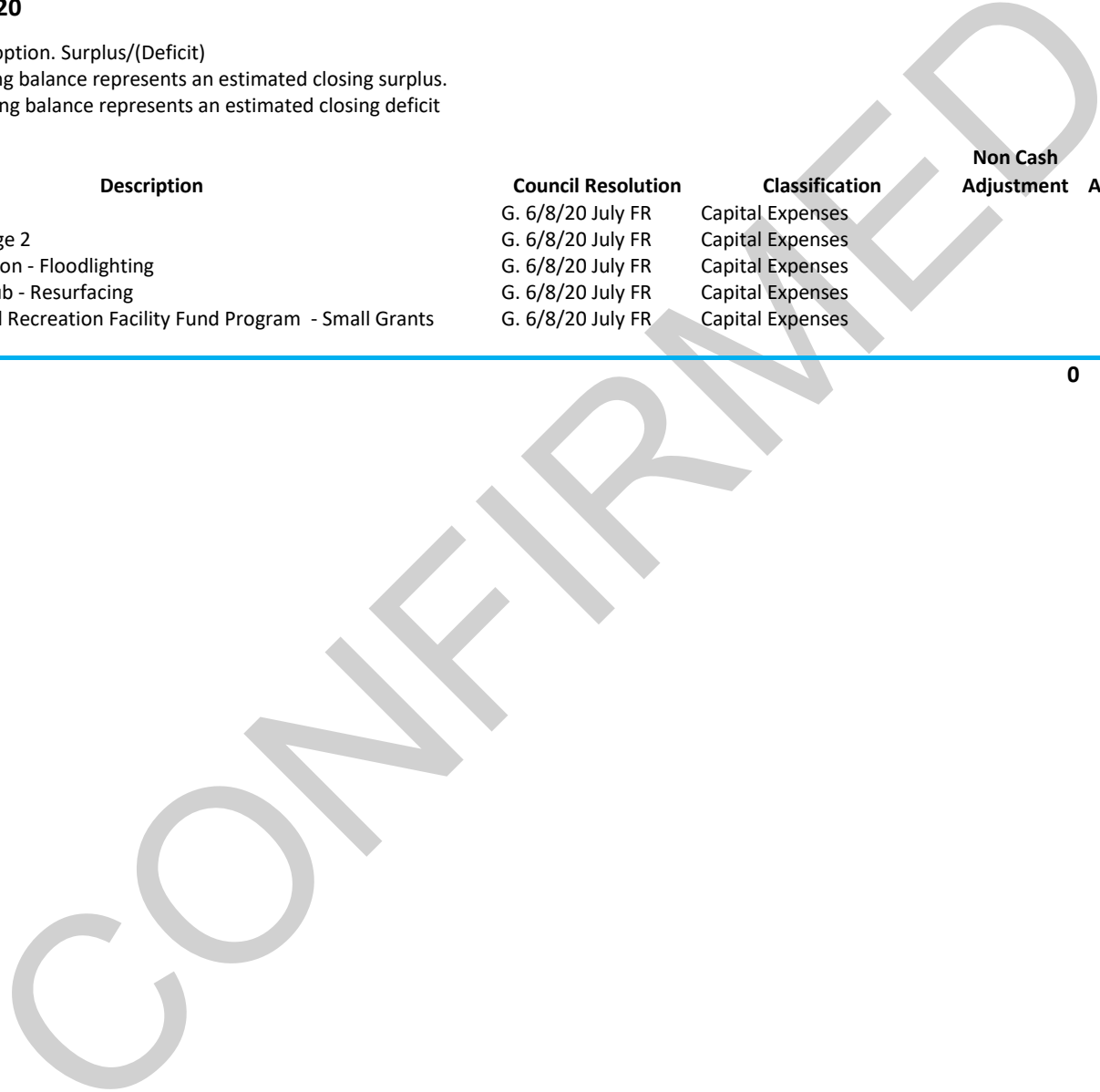
GL Code	Description	Council Resolution	Classification	Non Cash Adjustment	Increase in Available Cash	Decrease in Available Cash	Amended Budget Running Balance
				\$	\$	\$	\$
	Budget Adoption		Opening Surplus/(Deficit)				(358,718)
1643.930035.20501.13	Restart Mandurah Other	G. 10/7/20 June FR	Capital Expenses		150,000		(208,718)
9624.102249.14000.13	Mandurah CBD Revitalisation Project	G. 10/7/20 June FR	Operating Expenses			(150,000)	(358,718)
1643.930035.20501.13	Restart Mandurah Other	G. 10/7/20 June FR	Capital Expenses		100,000		(258,718)
9555.101010.14000.10	Community Services: Comm Assitant Grants	G. 10/7/20 June FR	Operating Expenses			(100,000)	(358,718)
1643.930035.20501.13	Restart Mandurah Other	G. 10/7/20 June FR	Capital Expenses		100,000		(258,718)
	Transfer to Unspent Grant Reserve	G. 10/7/20 June FR	Other: Transfer Into Reserve			(100,000)	(358,718)
1635.700421.20501.13	Eastern Foreshore Softfall Renewal	G. 10/7/20 June FR	Capital Expenses			(9,091)	(367,809)
1635.700423.20501.13	Mogum Softfall Renewal	G. 10/7/20 June FR	Capital Expenses			(23,400)	(391,209)
1635.700430.20501.10	Kerosene Tank Bunding	G. 10/7/20 June FR	Capital Expenses			(6,071)	(397,280)
1636.500990.20501.13	SP Cox Bay	G. 10/7/20 June FR	Capital Expenses			(22,672)	(419,952)
9676.138750.14000.10	WSUD	G. 10/7/20 June FR	Operating Expenses			(52,859)	(472,811)
308810.9200.10	Corp Comms: Corp Projects	G. 10/7/20 June FR	Operating Expenses			(22,250)	(495,061)
308810.9058.10	Corp Comms: General Advertising	G. 10/7/20 June FR	Operating Expenses			(19,500)	(514,561)
9655.163032.10058.13	Emergency Management: Bushfire Mitigation	G. 10/7/20 June FR	Operating Expenses			(318,600)	(833,161)
318910.0050.55	Emergency Management Grants	G. 10/7/20 June FR	Operating Revenue		318,600		(514,561)
	Capital Works 2019/20 Carryovers Reconciliation	G. 6/8/20 July FR	Capital Expenses			(1,723,043)	(2,237,604)
	Capital Works 2019/20 Carryovers Reconciliation	G. 6/8/20 July FR	Capital Revenue	6,338			(2,231,266)
	Capital Works 2019/20 Carryovers Reconciliation	G. 6/8/20 July FR	Other: Unutilised Loans	825,088			(1,406,178)
	Capital Works 2019/20 Carryovers Reconciliation	G. 6/8/20 July FR	Other: Transfer Out of Reserve	677,377			(728,801)
1634.880012.	Lakelands-Madora Bay Pedestrian Bridge	G. 6/8/20 July FR	Capital Expenses			(350,000)	(1,078,801)
1636.501076.	Guava Way	G. 6/8/20 July FR	Capital Expenses			(351,000)	(1,429,801)
Various	Shared Paths	G. 6/8/20 July FR	Capital Expenses			(176,524)	(1,606,325)
386915.0070.60	Bridge Mtce Grants & Subs Non-op	G. 6/8/20 July FR	Capital Revenue		350,000		(1,256,325)
381915.0070.60	Road Planned Mtce Grants & Subs Non-op	G. 6/8/20 July FR	Capital Revenue		351,000		(905,325)
394915.0070.60	Footpath Mtce Grants & Subs Non-op	G. 6/8/20 July FR	Capital Revenue		176,524		(728,801)
1636.501027.	RR Pinjarra Road Stage 1	G. 6/8/20 July FR	Capital Expenses			(812,789)	(1,541,590)
1636.501029.	RR Pinjarra Road Stage 2	G. 6/8/20 July FR	Capital Expenses		812,789		(728,801)
9564.102701.14000.10	Cultural Development: Arts & Culture Group Grants	G. 6/8/20 July FR	Operating Expenses		30,375		(698,426)
9555.101010.14000.10	Community Services: Comm Assitant Grants	G. 6/8/20 July FR	Operating Expenses			(30,375)	(728,801)
9637.102608.14000.05	Community Safety Projects: ADF Grant Expenditure	G. 6/8/20 July FR	Operating Expenses			(6,300)	(735,101)
9555.101012.10057.10	Community Services: In Day for People with a Disability	G. 6/8/20 July FR	Operating Expenses			(5,000)	(740,101)
0555.101012.31012.55	Community Services Revenue: Operating Grant	G. 6/8/20 July FR	Operating Revenue	5,000			(735,101)
381915.0070.60	Road Planned Mtce Grants & Subs Non-op	G. 6/8/20 July FR	Capital Revenue				(905,915)
1632.750586.	MARC LED & Lighting Control	G. 6/8/20 July FR	Capital Expenses			(14,832)	(750,747)
1636.501042.	SL Light Pole Replacement Program	G. 6/8/20 July FR	Capital Expenses				(735,915)

**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

**NOTE 10
BUDGET AMENDMENTS APPROVED**

Amendments to original budget since budget adoption. Surplus/(Deficit)
A positive number in the amended budget running balance represents an estimated closing surplus.
A negative number in the amended budget running balance represents an estimated closing deficit

GL Code	Description	Council Resolution	Classification	Non Cash Adjustment	Increase in Available Cash	Decrease in Available Cash	Amended Budget Running Balance
1639.910095.	Avalon Foreshore	G. 6/8/20 July FR	Capital Expenses			(10,000)	(745,915)
1637.600164.	DR Orion Rd Park Stage 2	G. 6/8/20 July FR	Capital Expenses		10,000		(735,915)
1632.750639.	Peel Hockey Association - Floodlighting	G. 6/8/20 July FR	Capital Expenses			(95,443)	(831,358)
1632.750640.	South Mnd Tennis Club - Resurfacing	G. 6/8/20 July FR	Capital Expenses			(10,120)	(841,478)
1632.750619.	Community Sport and Recreation Facility Fund Program - Small Grants	G. 6/8/20 July FR	Capital Expenses		105,563		(735,915)
				0	4,033,486	(4,410,683)	



**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

NOTE 11

PROPOSED BUDGET VARIATIONS FOR COUNCIL APPROVAL

The following are for consideration for Council to approve as budget variations

GL Code	Description	Council Resolution	Classification	Non Cash Adjustment	Increase in Available Cash	Decrease in Available Cash	Amended Budget Running Balance
				\$	\$	\$	\$
	Budget Adoption		Opening Surplus/(Deficit)				(735,915)
1636.500950.	Smart Street Mall		Capital Expenses		20,197		(715,718)
1636.500953.	Peel Street		Capital Expenses		35,871		(679,847)
			Other: Unutilised Loans			(56,068)	(735,915)
1637.600171.	DR Leighton Road/Halls Head Parade		Capital Expenses			(33,000)	(768,915)
1637.600172.	DR Rainbow Way Swale Reinstatement		Capital Expenses		33,000		(735,915)
1636.501049.	TM Merlin St/Mistral St Roundabout		Capital Expenses			(30,000)	(765,915)
1636.500962.	RR Thera Street		Capital Expenses		30,000		(735,915)
1635.700456.	Old Coast Road/Wilderness Drive - Playground Renewal		Capital Expenses			(31,665)	(767,580)
1635.700458.	Yalgor Heights Reserve - Playground Renewal		Capital Expenses		31,665		(735,915)
1635.700422.	Louis Dawe Park		Capital Expenses			(6,500)	(742,415)
1636.501047.	Pinjarra Road East - Median Stage 3		Capital Expenses		6,500		(735,915)
1635.700413.	Duverney Park Picnic Facilities		Capital Expenses			(40,000)	(775,915)
TBA	Templetonia Reserve		Capital Expenses			(5,000)	(780,915)
1635.700403.	Grahame Heal Reserve		Capital Expenses		45,000		(735,915)
9564.102734.	CASM Education Programs		Operating Expenses			(20,000)	(755,915)
9564.102707.	Arts and Culture Projects		Operating Expenses		20,000		(735,915)
TBA	Reading Cinema Complex FIP		Capital Expenses			(35,000)	(770,915)
1632.750626.	Site Main Switchboard Program		Capital Expenses		35,000		(735,915)
				0	257,233	(257,233)	

**NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 AUGUST 2020**

**NOTE 12
EXPLANATION OF MATERIAL VARIANCES**

The material variance thresholds are adopted annually by Council as an indicator of whether the actual expenditure or revenue varies from the year to date Actual materially.

The material variance adopted by Council for the 2020-21 year is 10.00%

Reporting Program	Var. \$	Var. %	Timing/ Permanent	Explanation of Variance
	\$	%		
Revenue from operating activities				
Operating grants, subsidies and contributions	607,904	99.56%	▲ Timing	Received Lifeguard Service funding and 50% DFES Bushfire Mitigation funding earlier than expected.
Interest earnings	(130,284)	(53.56%)	▼ Timing	Interest earnings not yet received.
Other revenue	9,799	24.97%	▲ Timing	Early receipt of other revenue and will be monitored as year progresses.
Profit on disposal of assets	(18,399)	(100.00%)	▼ Timing	Non-cash variance from disposal of assets to be monitored throughout the year.
Expenditure from operating activities				
Employee costs	1,070,265	14.63%	▲ Timing	Expenditure to increase as projects pick up during the year mainly in Cityparks, Cityworks and MARC.
Materials and contracts	1,187,188	15.69%	▲ Timing	Expenditure to increase as projects pick up during the year.
Utility charges	241,583	38.98%	▲ Timing	Invoices have been received later than expected and will be monitored throughout the year.
Interest expenses	71,923	34.98%	▲ Permanent	Favourable variance an indication of interest savings from loan off-set facility. This will be reviewed as part of budget review.
Other expenditure	(62,892)	(138.05%)	▼ Timing	Payment made in August for the Peel Mosquito Management program 2020/21 season.
Loss on disposal of assets	353,191	100.00%	▲ Timing	Non-cash variance from disposal of assets to be monitored throughout the year.
Investing Activities				
Non-operating Grants, Subsidies and Contributions	1,428,790	75.70%	▲ Timing	\$2m received in August from Department of Health for claim 1 of the Mandurah Waterfront Pool - Eastern Foreshore Project.
Proceeds from Disposal of Assets	429,782	252.67%	▲ Permanent	Favourable variance as a result of unbudgeted land sales and unbudgeted proceeds on sale of plant that were not sold in 2019/20. This will be reviewed at budget review.
Capital Acquisitions	5,323,886	66.77%	▲ Timing	Refer to note 4.
Financing Activities				
Proceeds from community loans	(16,001)	(96.00%)	▼ Timing	Will be monitored throughout the year.
Payment of lease liability	(64,841)	(32.10%)	▼ Timing	Paid in July for Qtr. 1.

Delegation	DA-CPM 04 - Rejecting and Accepting Expressions of Interests and Tenders
Category	Corporate Management
Delegator	Council
Express power to delegate	<i>Local Government Act 1995:</i> s.5.42 Delegation of some powers and duties to CEO
Express power or duty delegated	<i>Part 4 of the Local Government (Functions and General) Regulations 1996:</i> <ul style="list-style-type: none"> • Regulation 18 Rejecting and accepting tenders • Regulation 23 Rejecting and accepting expressions of interest to be an acceptable tenderer
Function	To consider Expressions of Interest which have not been rejected and determine those capable of satisfactorily supplying the goods and services. To accept or decline to accept any tender.
Delegates	Chief Executive Officer
Conditions	<ol style="list-style-type: none"> 1. The CEO is delegated to accept or decline to accept any tenders where the consideration is, or is expected to be, \$3,000,000 (GST exclusive) or less, up to 1-October-2020<u>30 June 2021</u>. 2. The CEO is delegated to accept or decline to accept any tenders where the consideration is, or is expected to be, \$600,000 (GST exclusive) or less, from 2-October-2020<u>1 July 2021</u> onwards. 3. The powers and duties under this delegation must not be sub-delegated. 4. This delegation must be exercised in accordance with any relevant and current Council or CEO Policies.
Statutory framework	<i>Local Government Act 1995</i> s. 3.57 <i>Local Government (Functions and General) Regulations 1996</i> Division 2
Policy	POL-CPM 02 Procurement POL-CPM 01 Regional Price Preference
Date adopted	23 June 2020
Adoption references	G.21/6/20
Last reviewed	30 June 2020



LEGEND

- Subject Site
- Residential R20
- Local Recreation
- Special Use (Nursing Home)
- Local Roads



ATTACHMENT 4.2

Lot 7 Bailey Boulevard Road Structure Plan Submissions Table

Owner / Address	Submission (Summarised comments)	Comment
1. J Depiazzi (received via email)	a. Supports a nursing home – location is close to amenities. b. Employment opportunities. c. Local families can utilise nursing home. d. Impact on native vegetation minor.	a. Noted b. Noted c. Noted d. Noted, the City recommends additional POS to facilitate further tree retention.
2. Department of Fire and Emergency Services	Not supported, modifications to BMP required: a. BMP does not adequately address the policy requirements of SPP3.7 and the Guidelines. b. Several issues need to be addressed before DFES can support the proposal.	a. Noted, applicant made aware of DFES comments – recommend amendments to be made prior to WAPC determination. b. As above (a).
3. Department of Water and Environmental Regulation	No objection to proposal subject to: a. Noise assessment technical review undertaken – mitigation measures generally acceptable. b. Native vegetation – advice from DBCA should be obtained. c. Southwest Coastal groundwater area – DWER would not support final approval until a non-potable water source is secured to irrigate POS. d. Local water management strategy – detailed comments provided.	a. Noted, measures to be applied through subdivision approval (noise wall) and application of LDP's (architectural treatments). b. Noted. c. Noted, advice provided to applicant. d. As above (c).
4. Main Roads WA	No objection to proposal subject to: a. At subdivision stage – subdivider required to pay a pro-rata contribution towards pedestrian underpass constructed under Dawesville Deviation (Mandurah Rd).	a. Noted, the City recommends a modification to the Structure Plan to highlight this requirement at subdivision stage.

	<p>b. Noise mitigation measures outlined in the Noise Assessment Report (ref: 19054973-01a, dated October 2019) being applied (including noise walls and quiet house requirements).</p> <p>c. The following amendment shall be made to the Noise Assessment Report: Figure 5-1A needs to be renamed "Proposed Noise Mitigation Option 1: Ground Floor".</p>	<p>b. Noted, measures to be applied through subdivision approval (noise wall) and application of LDP's (architectural treatments).</p> <p>c. Noted, advice provided to applicant.</p>
<p>5. Department of Biodiversity Conservation and Attractions</p>	<p>a. Vegetation communities:</p> <ul style="list-style-type: none"> • Rescoring quadrants and statistical analysis of quadrant data insufficient. • Floristic community type 24 incorrectly labelled as not a Priority Ecological Community. • Intention to clear all native vegetation, includes 4ha of FCT24 which is a Priority 3 PEC. • None of the native vegetation in good condition is proposed to be retained. <p>b. Fauna:</p> <ul style="list-style-type: none"> • Fauna survey undertaken assesses habitat type only, has little information on why it is suitable for the species that may occur. • A targeted survey should be undertaken for the Critically Endangered Western ringtail possum, and to inform relocation requirements. • There is foraging habitat (Carnaby's, Baudin's and Forest Red-Tailed Black Cockatoo's) but little explanation of the foraging value, plant species, quantity, condition etc. No mention of hollows. • Proponent should consider requirements to refer to Federal Government under EPBC Act. • Department expects fauna displacement to be addressed at structure planning and subdivision stages. • Errors in environmental report highlighted in submission. 	<p>a. Noted, advice highlighted in report and provided to applicant. The City recommends that additional POS be provided (minimum 10%) to facilitate further native vegetation retention. A revised Structure Plan was submitted which increased POS allocation and moved further north in an attempt to retain vegetation in "good condition" – however further retention should be done.</p> <p>b. Noted, advice highlighted in report and provided to applicant. It is recommended that a Fauna Management Plan be required as a condition of subdivision / approval (whichever occurs sooner). The City's recommendation encourages the applicant to seek confirmation of their responsibilities under the EPBC Act with respect to a referral to the Federal Government, specially relating to the Western Ringtail Possum and Black Cockatoo species present.</p>

	<p>c. Other comments:</p> <ul style="list-style-type: none">• Previous assessment of an ODP in 2011, the Department suggested that further review be undertaken to determine whether the 20m wide wildlife corridor abutting Dawesville Bypass was effective, and whether a more consolidated area could be achieved.• Bushland on Lot 7 is mapped as Local Natural Area in the City's Biodiversity Strategy, which includes retention targets for Priority Ecological Communities.	<p>c. Noted, the City recommends the provision of the 20m wide buffer as well as an increase in POS to facilitate increased native vegetation retention.</p>
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**Primary Industries and
Regional Development**

BUSINESS CASE

2020-2021

FOR

Waterways Data Array

City of Mandurah

\$1,300,000

TABLE OF CONTENTS

TABLE OF CONTENTS	2
Glossary of terms	5
1. EXECUTIVE SUMMARY	6
2. PROJECT SCOPE AND EVALUATION	8
2.1. PROJECT PURPOSE	8
2.2. STATE GOVERNMENT FUNDING AMOUNT	8
2.3. PROJECT DESCRIPTION	8
2.4. BACKGROUND	28
2.5. POLICY AND STRATEGIC FRAMEWORK	34
2.6. PROJECT DELIVERABLES	39
2.7. STAKEHOLDER ENGAGEMENT	42
2.8. CRITICAL ASSUMPTIONS	44
2.9. ECONOMIC AND FINANCIAL ANALYSES	44
2.10. ASSESSMENT OF OPTIONS	45
2.11. FUNDING STRATEGY - PROVIDED IN CONFIDENTIAL ATTACHMENT	46
2.12. TOTAL BUDGET - PROVIDED IN CONFIDENTIAL ATTACHMENT	46
2.13. STATE GOVERNMENT FUNDING AMOUNT - PROVIDED IN CONFIDENTIAL ATTACHMENT	46
2.14. SUSTAINABILITY AND ONGOING VIABILITY	46
2.15. PROJECT TIMEFRAME AND KEY MILESTONES	47
2.16. RISK ANALYSIS	48
2.17. LOCAL CONTENT	51
2.18. ABORIGINAL PARTICIPATION	51
2.19. STATE FUNDED INFRASTRUCTURE AND APPRENTICESHIP PARTICIPATION	52
3. IMPLEMENTATION STRATEGY	52
3.1. COMMUNICATION PLAN	52
3.2. PROJECT MANAGEMENT	53
3.3. PROJECT GOVERNANCE	53
3.4. PROCUREMENT STRATEGY	54
4. SIGNING OF BUSINESS CASE	55
4.1. SIGN-OFF	55
5. REFERENCES	56

List of Tables

Table 1: Summary of expanded sensor network.....	13
Table 2: Features of the Landsat and Sentinel-2 satellite programs.....	16
Table 3: Proposed variables to be derived from satellite imagery for water quality monitoring.	17
Table 4: Raw and Market value of the Peel-Harvey Fishery (2017-18).....	29
Table 5: Tourism Research Australia – Mandurah Statistics (2018). (Tourism Research Australia 2018).....	30
Table 6: Project Deliverables.....	39
Table 7: Project Outputs.....	40
Table 8: Project options.....	45
Table 9: Project budget.....	Error! Bookmark not defined.
Table 10: Project State Government funding.....	Error! Bookmark not defined.
Table 11: Project timeframe and milestones.....	47
Table 12: Risk analysis and mitigation measures.....	48

List of Figures

Figure 1: Conceptual model of a waterways data array (observatory) from Hipsey et al. (2015).	10
Figure 2: Existing sensor network: examples of multi-sensor stations (a to c) and a tide gauge (d).	12
Figure 3: Buoy to be used for housing monitoring stations in open water.....	13
Figure 4: Landsat (left) and Sentinel-2 (right) imagery over the Peel-Harvey catchment area.	16
Figure 5: Chlorophyll-a abundance images over a subset of the Peel Harvey Estuary. Clockwise from upper-left: original satellite image, NDCI, OC-2 and CI.	18
Figure 6: Example of suspended sediment produce derived from Sentinel-2 imagery from (Liu et al. 2017).	19
Figure 7: Example of surface nitrate content analysis using Landsat imagery, taken from (Joo et al. 2018).	20
Figure 8: Time series analysis of vegetation condition over a 30-year time period using the modified soil adjusted vegetation index (MSAVI) derived from Landsat imagery.....	21
Figure 9: Monthly average modified soil adjusted vegetation index (MSAVI) values for a riparian vegetation community.	22
Figure 10: Example display from Aqua Monitor that shows areas where land has become water (blue pixels) and where water has become land (green pixels) across the period 1991 to 2017 selected on the slider.	23
Figure 11: An overview of the design of the Waterways Data Array Project.	24

Figure 12: The Eagle.io component of the Waterways Data Array platform.25

Figure 13: Eagle.io dashboard displaying data for one of several offshore marine sea pens.
.....26

Figure 14: Examples of visualisations created to communicate model outputs in a waterways
context (courtesy of Deltares).27

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Department of Primary Industries and Regional Development

Glossary of terms

In the context of this document:

Agency means a Western Australian State Government Agency.

Applicant means the Organisation or Agency preparing a Business Case requesting State Government Funding for a Project.

Business Case means the information prepared by the Applicant demonstrating the merits of the Project and substantiating the case for Funding the Project.

Deliverables means the expected activities or outputs from the Project.

Department means the Department of Primary Industries and Regional Development.

Industry Participation Plan means a clear statement of the Applicant's commitment to The Building Local Industry Policy and an indication of how local industry participation will be maximised.

Innovation is the implementation of a new or significantly improved product (good or service) process, new marketing method or a new organisational method in business practices, or external relations (Organisation for Economic Cooperation and Development and Development Statistical Office of the European Communities 2005).

Leveraged Funding is the additional cash Funding obtained for the Project from other sources.

Option means a feasible, alternative delivery mechanism to the Project which was considered by the Applicant when preparing the Business Case Proposal.

Organisation means an incorporated entity that is not an Agency. An organisation may be a not-for-profit entity, government trading enterprise or local government.

Project means the specific activities, works or services proposed in the Business Case for which State Government Funding is being sought.

Project Outcome means the intended impact (the benefits, change or difference in the community, region or State) that is expected as a result of undertaking the Project.

Project Output means the tangible end product(s) or service of the Project. For example, an infrastructure asset or the services delivered.

Royalties for Regions means the Western Australian State Government's Royalties for Regions program.

Stakeholder means a party with an interest in or who is affected by the Project.

Sustainability refers to the financial viability of a Project and the means of support for the Project beyond the life of funding for this Project.

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1. EXECUTIVE SUMMARY

The health of the Peel-Harvey Estuary has been in a deteriorating state, with poor water quality resulting in algal blooms and fish kill events, the declining health of the waterways presents a significant risk to Mandurah and the Peel region. This Business Case prepared by the City of Mandurah seeks \$1.3 million in funding over the next three years (2020/21 to 2022/23) to deliver an advanced real-time monitoring network (the Waterways Data Array) to improve water quality within the Peel-Harvey Estuary (the Estuary). The City of Mandurah will contribute an additional \$200,000 to the project, bringing the total funding to \$1.5 million. Funding the Waterways Data Array is part of the CoM's commitment to the Estuary, its waterways, the local economy and its long-term sustainability. It is also a core element of the vision to establish the Peel region as an exemplar waterways research hub with a Waterways Centre for Excellence

Reliable and consistent monitoring is at the heart of the on ongoing sustainability of the Estuary. The Waterways Data Array will feature a connected network of sensors (IoT) linked to a publicly available platform that publishes water quality data (as a dashboard), informs and engages the public and provides raw data and analytical tools for government and research agencies. The Waterways Data Array will also be linked to earth observing satellite platforms for historical and contemporary, whole of Estuary data and imagery. Not only will the project assist in Estuary management and research, it will attract local, state and national interest as a leading-edge solution to managing critical environmental assets. It is envisaged the Waterways Data Array will catalyse further research and development into the region's waterways and stimulate greater collaboration and community participation in understanding and managing the Estuary.

Preserving the health of the waterways is central to local community values and significant economic benefits currently supported by the waterways through local tourism, commercial fisheries and recreational activities. The following economic values are dependent on the condition of the waterways:

- \$217 million in annual expenditure on recreational fishing activities
- \$40 million in annual expenditure on boat maintenance and operations in the Peel
- \$1.8 million in annual revenue generated through storing boats in Marinas
- Between \$0.9 million and \$1.7 million in annual catch from commercial fishing
- \$318.2 million in annual tourism expenditure spent in Mandurah
- \$3.15 million derived from the value of 9 commercial fishing licenses

Remplan economic modelling indicates that a 1% reduction to the value on key industries that are reliant on the waterways (tourism, fishing and recreation) over 5 years would result in the loss of 39 jobs, \$2.17 million in wages and a broader negative economic impact worth \$45.6 million.

The Waterways Data Array project will be managed by the City of Mandurah. A pilot IoT sensor network has been established and maintained by the City of Mandurah for over 12 months. The Waterways Data Array will build upon this pilot network. The City of Mandurah will utilise existing staff to coordinate this project during the funding period. Beyond the 3-year funding period, existing staff and resources of the City will be used to manage, maintain and oversee further expansion and continuous improvement of the Data Array.

The Waterway Data Array will be an asset for the Estuary, Mandurah and the broader Peel region. Its establishment and ongoing operation aligns closely with Department of Primary

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Industries and Regional Development strategic objectives of sustainability, research development and innovation, enabling environment and regional opportunities. The project will help secure the health of the Estuary and the regionally significant 'water economy' that is dependent upon it.

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2. PROJECT SCOPE AND EVALUATION

2.1. Project Purpose

Reliable and consistent monitoring and measurement is at the heart of the on ongoing sustainability of the Peel-Harvey Estuary (herein referred to as the Estuary). The development of a wide area, scientific grade, permanent data collection program will provide business, scientists and researchers, local, state and federal Governments the ability to better monitor and manage the ongoing sustainability of the Estuary.

Remplan economic modelling indicates that a 1% reduction to the value on key industries that are reliant on the waterways (tourism, fishing and recreation) over 5 years would be significant. Resulting in the loss of 39 jobs, \$2.17 million in wages and a broader economic impact of \$45.6 million.

Improving our understanding of the system through data collection and research will inform effective decision-making and management activities that maintain and improve the catchment's condition. The Ramsar listed Peel-Harvey Estuary and nearby waterways (the waterways) are ecologically significant and their condition underpins significant economic activity through local tourism, commercial fisheries and expenditure on recreational activities. The waterways have a long history of water quality issues relating to the discharge of nutrients from the Swan Coastal Plain. This has resulted in eutrophication, manifested as algal bloom and fish kill events and declines in productivity and economic activity.

The declining state of the waterways presents a significant risk for Mandurah and the Peel region. Preventing ongoing catchment deterioration through well-informed management and decision-making will maintain the ecological, recreational, industrial and commercial benefits that are heavily reliant on the condition of the system and provide substantial economic benefit to the Peel region.

2.2. State Government Funding Amount

The City of Mandurah (COM) is seeking \$1,300,000 allocation from Royalties for Regions to deliver the Waterways Data Array (WDA).

2.3. Project Description

2.3.1. Introduction

Opportunities for new and improved approaches to managing water resources have emerged over the last decade with the coming together of:

- the Internet of Things (IoT) revolution enabling ubiquitous networks of sensors to deliver data in real time
- big data management and utilisation (e.g. machine learning), enabling data from sensor networks and above earth remote sensing to direct better and faster decision-making by resource managers
- a shift in focus by resource management agencies to delivering outcomes and increasing recognition of market-based approaches in the efficient delivery of environmental outcomes (e.g. air pollution emissions, carbon sequestration and biodiversity).

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The WDA will deliver infrastructure in the form of a web-based information platform connected to other online resources, a multi-scale sensor network and a large and diverse community of participants from within the catchment and beyond. Focusing on the Estuary, the project aims to improve and maintain water quality in the waterways. It will do this by integrating environmental data from multiple sources and by providing open access to the data and analytical functionality to extract maximum value from the data. Importantly, it will also harness the power of a large and diverse community of individuals and organisations to collaborate and develop solutions that improve the health of the waterway. The project therefore seeks to fully utilise the potential of integrating both data and activities (education, research, conservation and management) to achieve environmental and economic outcomes. Once operational, it is envisaged that the project will foster new connections and increased collaboration between industry, government, community and research organisations within the waterways catchment and further afield.

The WDA is an extension of the 'observatory' approach to environmental research and monitoring that is gaining increasing traction globally. Observatories are built to advance the understanding of ecosystems under study. As such, they require infrastructure of sufficient power and scale to collect comprehensive data across space and time (including wherever possible in real time). Observatories may be set up for pure research purposes. Examples include the Australian Acoustic Observatory established for environmental sound recordings (<https://acousticobservatory.org/>) and the TERN observatory of terrestrial ecosystems across Australia (<https://www.tern.org.au/The-Observatory-pg32601.html>). However, the purpose of observatories can be extended beyond simply research to encompass education, stakeholder engagement and resource management. Examples of multifunctional observatories include the Great Lakes Observatory in the United States (<https://www.glos.us/>) and the Great Barrier Reef e-reefs program (<https://ecos.csiro.au/ocean-monitoring/>). A conceptual observatory for waterways that this project will seek to align towards is illustrated in Figure 1.

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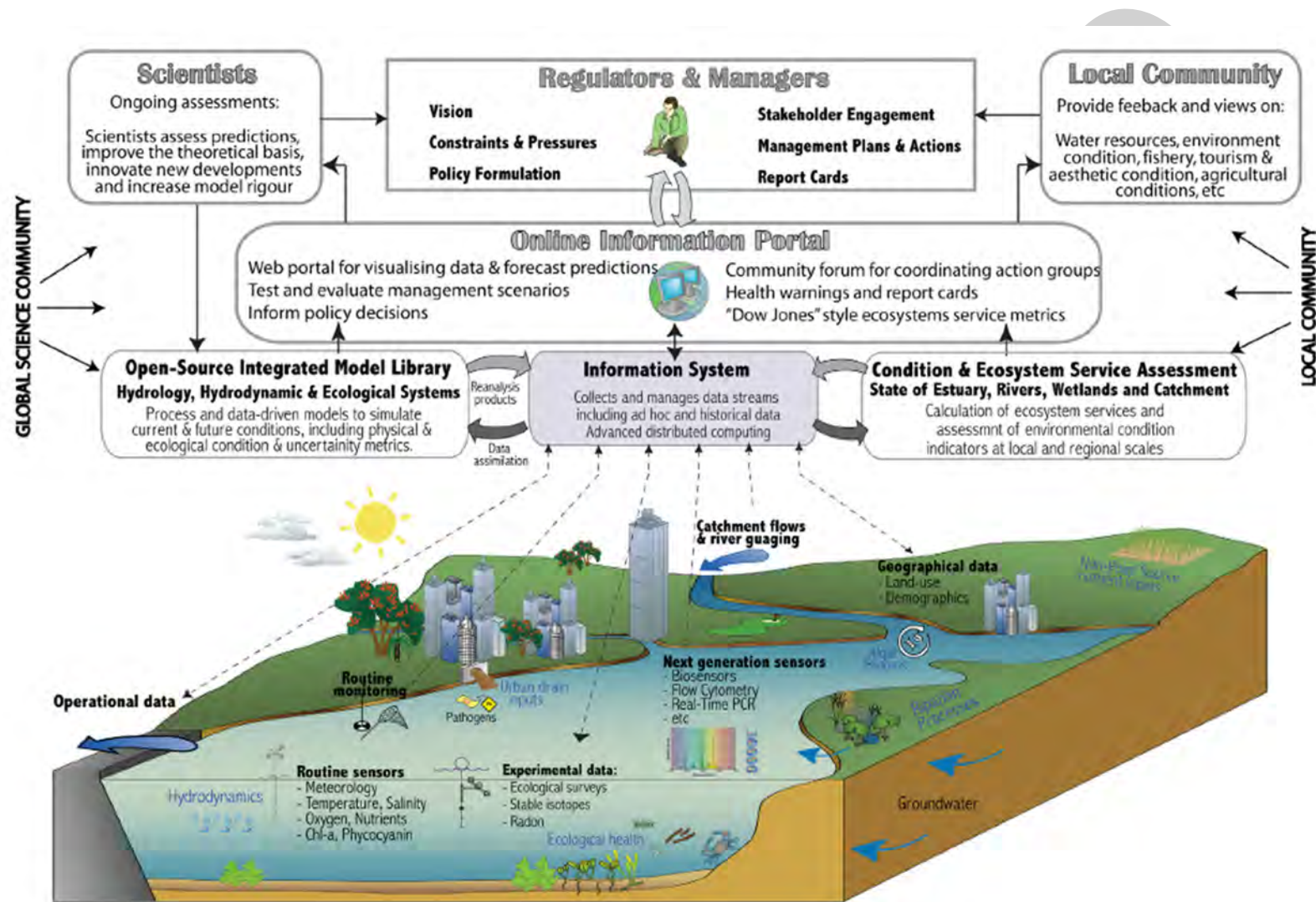


Figure 1: Conceptual model of a waterways data array (observatory) from Hipsey et al. (2015).

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Observatories also encourage innovation and research collaboration. This is achieved by the establishment of advanced technological infrastructure that is not readily available elsewhere and which draws interest to the area from academic researchers and industry. The establishment of the project will generate new and exciting partnerships and innovation focused on improved water quality outcomes for the Estuary. It will also provide valuable exposure to technology and learning opportunities for educational institutions and the local community.

An additional opportunity from building the WDA could be the formation a water quality market. Increasingly, market-based systems are proposed as a new way forward for improved management of the environment, complementing or bettering traditional approaches that rely on regulation or ongoing government subsidies. Markets for environmental services such as water quality can be intertwined within regulatory regimes (regulatory-based trading) or exist separately as purely voluntary programs. A relevant example of a voluntary market for water quality is the 'Reef Credits' currently in operation for the Great Barrier Reef and its catchment (Reef Credit Scheme 2019). Reef Credits are issued to projects according to expertly designed methodologies that calculate or model the reduction of pollutants flowing onto the Great Barrier Reef due to land management activities such as revegetation, riverbank stabilisation, reduction of nitrogen runoff and general system repair (Reef Credit Scheme 2019). One of the keys to operating a market such as this is putting in place a measurable, verifiable and audited system that guarantees environmental and investor outcomes. A monitoring network of sensors and a web-based reporting platform provides a means to evaluate the and communicate up-to-date, spatially explicit trends in water quality. A central platform is critical for the supply of information to the market, maintaining support within the community and attracting participants within the market. While the value of the WDA as necessary architecture for a water quality market is highlighted, the inclusion of functionality within the platform for water quality trading does not represent a component of this phase of the project.

The WDA will involve building upon the existing fixed sensor network (pilot network) within the waterways, establishing connections to historic and ongoing image data from earth observation sensors, establishing connections to other online data sources and developing the platform. These components are outlined in turn below.

2.3.2. Data Inputs

The Fixed Sensor Network

A pilot sensor network was established around the Estuary in 2019 by the CoM. The network comprises three multi-sensor stations that monitor temperature, dissolved oxygen, turbidity and salinity within the water column and four tide gauging stations (Figure 2). Multi-sensor stations have been mounted on existing structures (jetties and bridges). The sensors have been maintained and operated for approximately one year, providing the CoM with data for trends in water quality within sections the waterway. The tide gauges generate data that inform mosquito management (spraying times). The pilot project has demonstrated the capacity of the CoM to install maintain and utilise sensor networks to monitor and manage waterway health.

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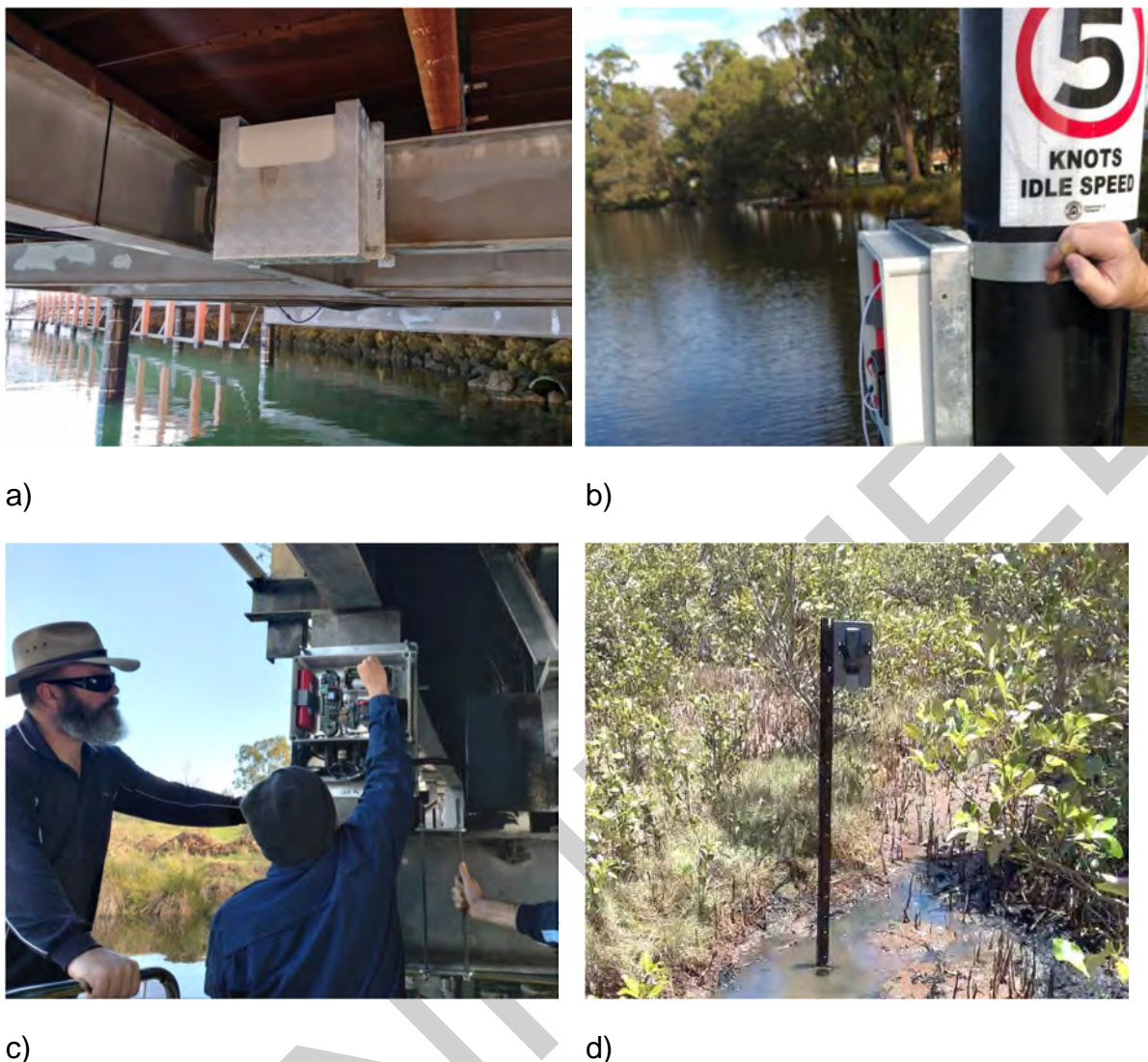


Figure 2: Existing sensor network: examples of multi-sensor stations (a to c) and a tide gauge (d).

The WDA will extend the geographic spread of the sensor network across the Estuary (Table 1). This will focus on establishing eight additional multi-sensor stations comprising the suite of sensors currently in operation at three sites plus the inclusion of chlorophyll/algal sensors at the three existing and the eight new locations. These sensors will be valuable for monitoring nutrient dynamics and algal blooms. To ensure that the array of sensor stations is well dispersed and occur in areas of open water, a buoy system will be used. These buoys will be suitably constructed and equipped to be vandal proof and navigation compliant.

The mobile telephone network will continue to be used remote operation of sensors and for data transfer from sensors. A mobile network exists across the full extent of the Estuary.

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Figure 3: Buoy to be used for housing monitoring stations in open water.

Table 1: Summary of expanded sensor network.

Item	Quantity	Data	Notes
1. Chlorophyll sensors added to the three existing stations	3	chlorophyll/algae	-
2. Multi sensor stations on buoys	5	Temperature, dissolved oxygen, turbidity, salinity and chlorophyll/algae	See figure 3 for buoy
3. Weather station	1	Temperature, humidity, rainfall, wind speed and direction as a minimum	Located within a securely fenced site. Consideration given to location in proximity to a timelapse camera and/or the terrestrial acoustic recorder
4. Timelapse camera	3	Still images captured on an hourly or more frequent basis during daylight hours. Video capability to enable periodic short video streams.	One to be focused on a section of the intertidal zone frequented by migratory waders. Mounted on pole with solar panel
5. Terrestrial acoustic recorder	1	Capable of audio streaming and recording audio files – downloaded manually	Located in proximity to a timelapse camera to enable a coordinated audio-visual experience
6. Underwater acoustic recorder	1	Capable of audio streaming and recording audio files – downloaded manually	Location to be determined

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Additional sensors will be added to the existing array to collect data for chlorophyll content and weather and to collect audio-visual data (Table 1). Acoustic devices and timelapse cameras will generate hard data suitable for analysis as well as media that informs or engages the broader community.

Timelapse cameras will provide up to date information on conditions for recreational users; for example, the Department of Transport (DoT) provides regular imagery via camera installations at various coastal locations across Western Australia (<https://www.transport.wa.gov.au/imatech/coast-cams.asp>). One camera will be focused on a section of intertidal zone frequented by migratory waders. This camera will assist in the monitoring of wader populations as well as provide a resource of interest to naturalists and interested members of the public. Two other cameras will be positioned in areas to enable general conditions on the water to be monitored in a similar fashion to DoT cameras.

The PHCC's business case for the Peel Waterways Research Infrastructure Project also includes the setup of cameras specifically for monitoring dolphins. These dolphin cameras could be linked into the sensor network and imagery published on the WDA platform in real time.

Ecoacoustics is an emerging ecological discipline that investigates the relationships between the sounds and ecological processes that occur within an environment. Non-invasive, automated acoustic recorders are used to capture the sounds at a particular location, which may originate from biological activity, from human activity and from the physical environment. Ecoacoustic techniques are then applied to the recordings to analyse and interpret them for a variety of applications, including long term ecological monitoring, biodiversity assessment, habitat health assessment and citizen science and education (Farina 2018).

In Western Australia, there are a few examples of the use of ecoacoustics for environmental applications in urban estuarine environments. Acoustic data have been used to investigate the abundance and behavior of vocalising fish species in the Swan River (Parsons 2009), to capture baseline information about biological and anthropogenic sound sources prior to dredging (Marley et al. 2016), and to investigate the impact of anthropogenic activities on dolphins (Marley et al. 2017).

Long-term acoustic datasets are currently being captured and made available in Australia through two networks of acoustic observatories. The Australian Acoustic Observatory (<https://acousticobservatory.org>) is a network of more than 90 sites distributed across Australia's seven major terrestrial ecoregions. Each site includes four acoustic sensors that will record sound over a five-year period, and the recorded sound is freely available online. Until December 2017, Australia's Integrated Marine Observing System also included a network of underwater acoustic observatories (<http://imos.org.au/facilities/nationalmooringnetwork/acousticobservatories/>).

Live streaming of audio from terrestrial and aquatic environments to websites and mobile phone applications has great potential for public education and engagement, and a number of Raspberry Pi-based hardware and software systems have been developed specifically for this purpose. For example, Locus Sonus, a French Arts research group have developed streaming software and the Locustream Soundmap website (<http://locusonus.org/soundmap/051/>), where visitors can stream live audio from a network

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of mainly terrestrial microphones from around the world. Similarly Orcasound, a network of organisations and individuals which includes research and citizen scientists, have established a network hydrophone nodes that stream live underwater audio from Orca habitat <http://live.orcasound.net>.

A weather station will be established to provide weather data for an area of the Estuary that is distant from existing weather stations. Data from this station will help to improve the description of weather across the Estuary. This will prove particularly valuable for modelling and forecasting projects.

The establishment of an expanded fixed sensor network will be important for harnessing the full potential of Earth Observation (EO) sensor platforms (discussed in the following sections). Data from the fixed sensors will be used to validate EO data and/or build models that relate fixed sensor and EO derived data. This will then effectively allow some of the variables measured by fixed sensors to be extrapolated across the waterways.

Manual field measurement

WDA infrastructure will also be built to accommodate data collected using manual on-ground field techniques. Data from future surveys, studies and monitoring of the physical and biological variables will have the potential to be stored in a database and made available via the platform. Protocols for data capture and handling will be developed to enable all future data collected in the field to be ingested and disseminated by the platform.

A mobile application (app) will also be developed for citizen scientists to standardise data collection and assist with quality control. This app will be preconfigured to guide the user to record data against several themes (e.g. dolphin sightings, algal blooms, migratory birds) as well as allow photographs with captions as a means for recording any type of observation.

The Earth Observation Network

Earth Observation is broadly defined as the collection of observations about the earth's physical, biological and chemical processes using remote monitoring techniques. It includes monitoring with imagery captured by sensors on board satellite, aerial and remotely piloted platforms. EO has a long history of applications in environmental sciences. One of its core strengths is the ability to provide continuous information across large geographical areas. Within the project, EO will be used to augment the IoT sensor network, and to provide a means of expanding the scope of analysis across the entire catchment area. Satellite-based methods will be used for broad-scale monitoring. Targeted surveys with Unmanned Aerial Vehicles (UAVs) are valuable for more detailed analysis of priority areas; while such surveys are not budgeted for in this project, the central platform of the WDA will be capable of integrating UAV imagery into the overall data stack.

The WDA will focus on the use of satellite imagery and oversee the creation of a catchment-wide satellite monitoring program aimed at providing high quality assessments of water quality and vegetation condition. The satellite monitoring program will utilise data collected from the IoT sensor network to validate and calibrate predictive models. It will also utilise historical satellite imagery archives to provide estimates of past estuary condition and to give an assessment of current status. The monitoring program will provide the information required to inform successful rehabilitation and management efforts and to identify problem areas in need of further remediation. Applications will focus on two main areas: 1) water

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quality in the Estuary and 2) vegetation condition in fringing communities and the broader catchment.

The WDA will primarily utilise satellite imagery from the North American Space Agency (NASA) Landsat program, and the European Space Agency (ESA) Sentinel-2 program. Table 2: provides common characteristics of the available imagery from both programs, while Figure 4 shows an example scene from both sensors. The advantage of the Sentinel-2 satellite constellation is the ability to provide imagery at a high temporal frequency (~5 days). This allows for detailed monitoring and almost 'real-time' visualization of changes in the estuary. Both the Landsat and Sentinel-2 programs provide all data free-of-charge in a ready to use format. As satellite images become available, they will be automatically downloaded and the selected metrics derived. The results will then be uploaded to the central web-based platform. Analysis will also be undertaken between image dates to identify areas of change, and to determine hotspots where water quality may be in decline.

Table 2: Features of the Landsat and Sentinel-2 satellite programs.

Imagery Characteristics	Landsat	Sentinel-2
Data Availability	1972 – present	2015 – present
Revisit Time	16 days	5 days
Pixel Size	30 m	10 – 20 m
Number of Bands	4 – 11 (depending on sensor)	13
Size of scene	185 km	290 m



Figure 4: Landsat (left) and Sentinel-2 (right) imagery over the Peel-Harvey catchment area.

The initial phase of the WDA project will focus on the identification of appropriate monitoring methods, and calibration of image data against the water quality results from the IoT network and any manually collected field data. This will involve research to determine which water

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quality variables can be accurately predicted from the list of possibilities. Variables to be investigated for monitoring with satellite imagery will be chosen to align with the IoT sensors. The approach can be broken down into analysis of biological, physical and chemical variables. Deployment will first focus on variables for which calibration data from the IoT sensor network is immediately available, with more experimental and exploratory variables to be implemented later in the project timeline.

Table 3: Proposed variables to be derived from satellite imagery for water quality monitoring.

Type of Variable	Variable	Purpose and Details	Priority
Biological	Chlorophyll-a Content	<ul style="list-style-type: none"> • Identification of areas undergoing algal blooms • Detection of phytoplankton • Calibrated against the chlorophyll sensor in IoT network 	High
Physical	Water surface temperature	<ul style="list-style-type: none"> • Monitor areas of temperature disturbance and pollution • Calibrated against the temperature sensor in the IoT network 	High
	Total Suspended Sediment	<ul style="list-style-type: none"> • Provide estimates of total sediment content • Can be used to identify sources of sedimentation/nutrient inflow 	Moderate
	Turbidity	<ul style="list-style-type: none"> • Monitor and assess water turbidity • Calibrated against IoT sensor network 	High
Chemical	Nitrate	<ul style="list-style-type: none"> • Assessment of nitrate content • Identification of hotspots and possible source points 	Moderate
	Phosphorous	<ul style="list-style-type: none"> • Assessment of Phosphorous content • Identification of potential source points and hotspots 	Moderate

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The biological monitoring approach will focus on detecting phytoplankton and other photosynthetic organisms within the water. Abundance of potentially harmful organisms is determined through assessment of chlorophyll-a levels in the water. Chlorophyll-a monitoring has been used as a successful tool in the scientific literature, and has been widely employed in coastal environments across the world (Zheng and DiGiacomo 2017). Estimates of abundance are determined through the use of spectral indices, such as the normalised difference chlorophyll index or any number of indices developed as part of NASA's Ocean Color research (2014). Figure 5 shows the results acquired from applying some of the above indices to a Sentinel-2 scene over a subset of the study area.

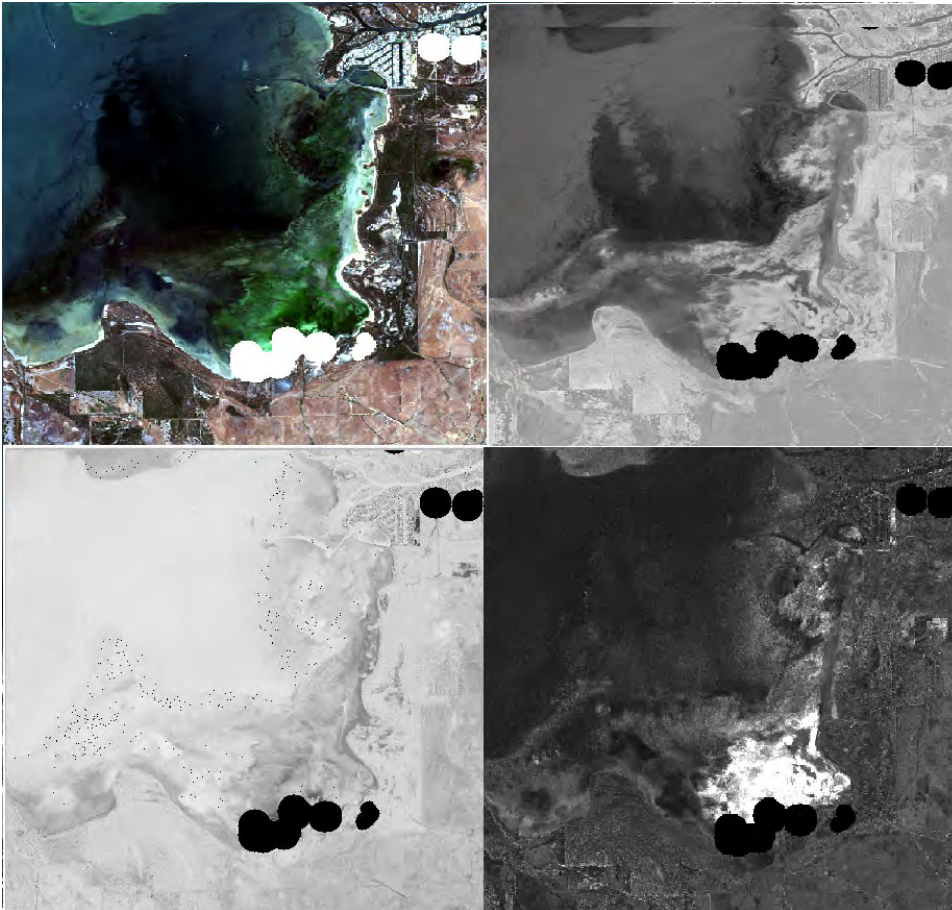


Figure 5: Chlorophyll-a abundance images over a subset of the Peel Harvey Estuary. Clockwise from upper-left: original satellite image, NDCI, OC-2 and CI.

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Physical monitoring variables include factors such as water surface temperature, suspended sediment load and water turbidity. Water surface temperature measurements can be readily derived from satellite imagery using the thermal spectral bands. Analysis of sediment levels and turbidity is like the approach taken for determining chlorophyll abundance, whereby spectral indices are used to derive a new layer that is compared to field observations. Figure 6 shows an example of total suspended sediment derived from Sentinel-2 imagery. Concentrations are derived by regressing band index values against field observations of sediment load.

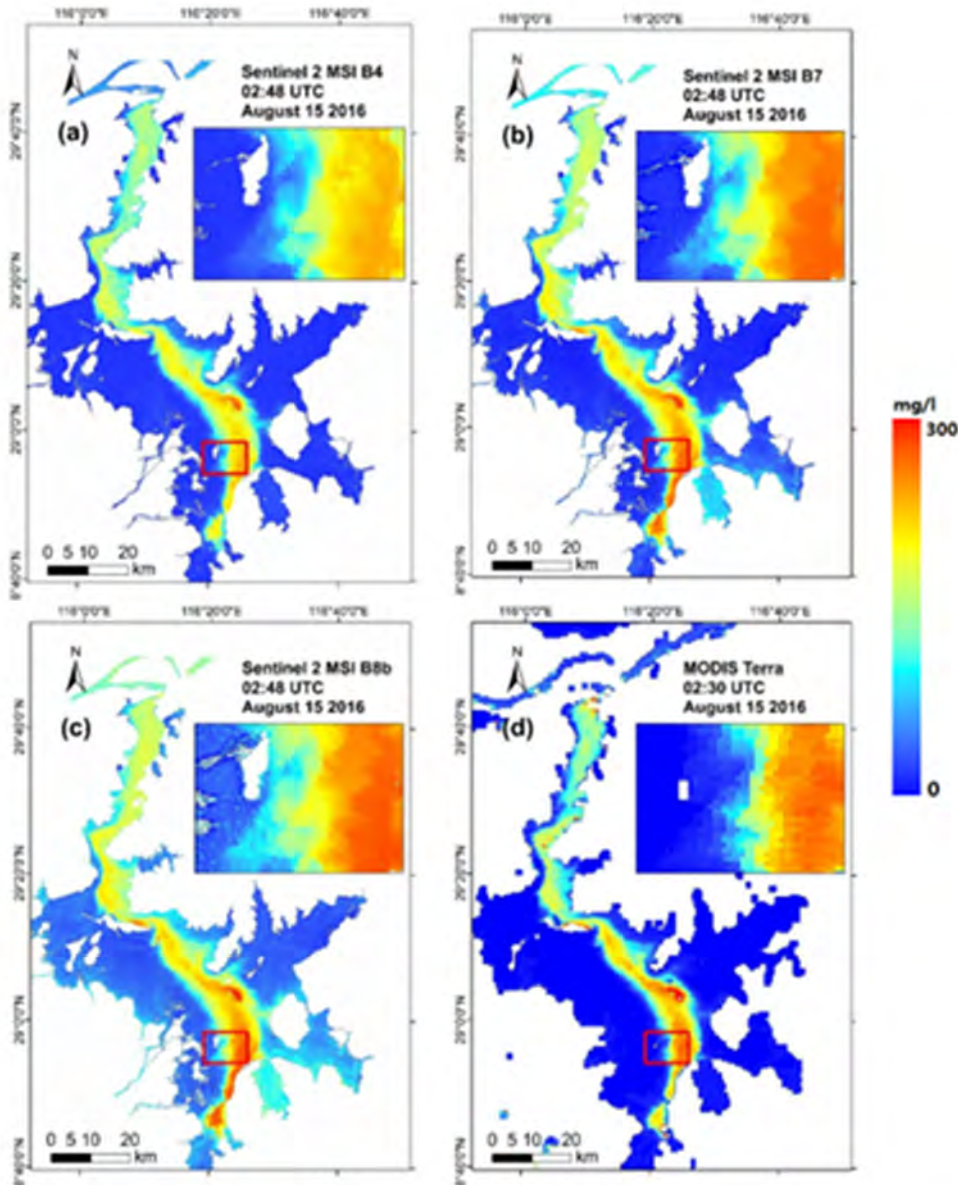


Figure 5. Suspended particulate matter concentrations (C_{SPM}) retrieved from Sentinel 2 MSI B4 (a), B7 (b), B8b (c), and MODIS Terra B1 (d) captured on 15 August 2016. The areas in the red rectangle are zoomed in to show the detailed C_{SPM} variations.

Figure 6: Example of suspended sediment produce derived from Sentinel-2 imagery from (Liu et al. 2017).

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Chemical monitoring will focus on determining the presence of key chemical compounds known to influence water quality in the Estuary. Phosphorous and Nitrates are two major water pollutants that can be monitored using remote sensing techniques. This approach also allows for 'hotspot' areas of increased chemical concentration to be determined and potentially linked back to probable source-points. Additional variables that can be assessed include water pH and dissolved oxygen content, provided accurate sensor measurements can be obtained against which to validate the results. Figure 7 shows an example of sea surface nitrate content derived from Landsat imagery.

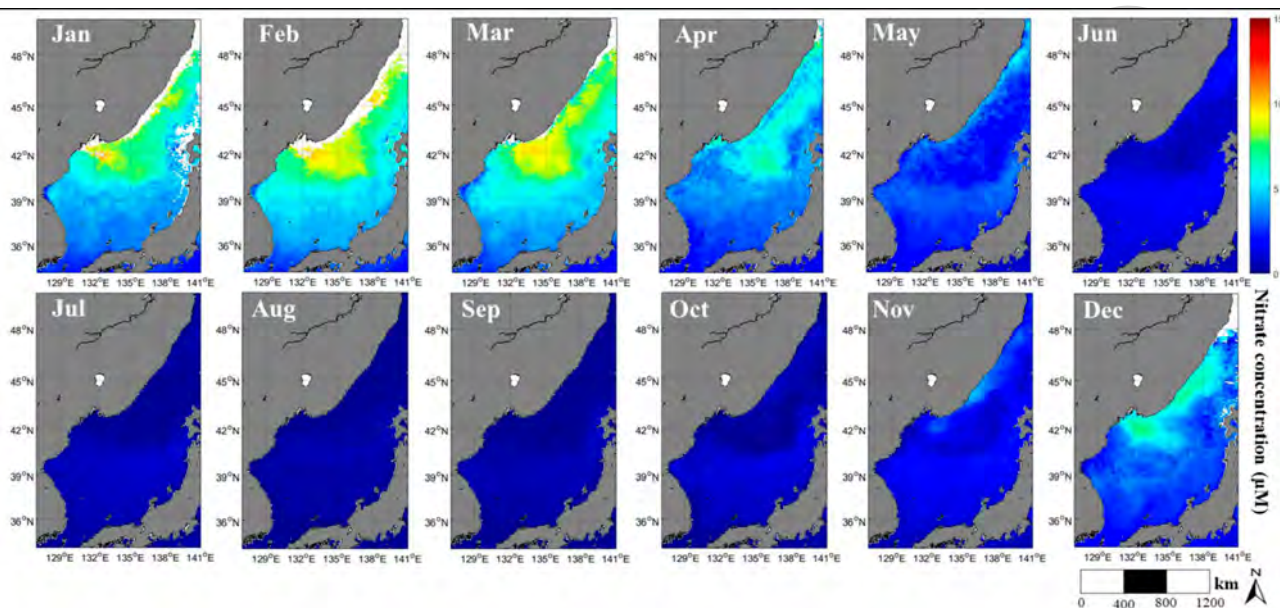


Figure 7: Example of surface nitrate content analysis using Landsat imagery, taken from (Joo et al. 2018).

Water quality within a waterway is influenced significantly by the cover and condition of fringing vegetation and vegetation in the broader catchment. A broadscale vegetation monitoring program is therefore proposed as part of the WDA. Monitoring will utilise vegetation indices designed to quantify vegetation cover and to classify different vegetation types. One index that will be used is the Modified Soil-Adjusted Vegetation Index (MSAVI). Generally, pixel values in the data above ~0.2 represent vegetated areas, while pixels below this range represent other landcover classes. The higher the MSAVI value is for a pixel, the more vigorous the vegetation cover within it. Using the historic archives of imagery, catchment wide analysis of vegetation cover and condition can be derived and plotted on a high frequency time-scale. This allows for the identification of season and long-term trends, and the potential to detect periods of unprecedented change which may require remediation efforts. Figure 8 shows an example of a high frequency time-series analysis of vegetation condition derived from Landsat imagery.

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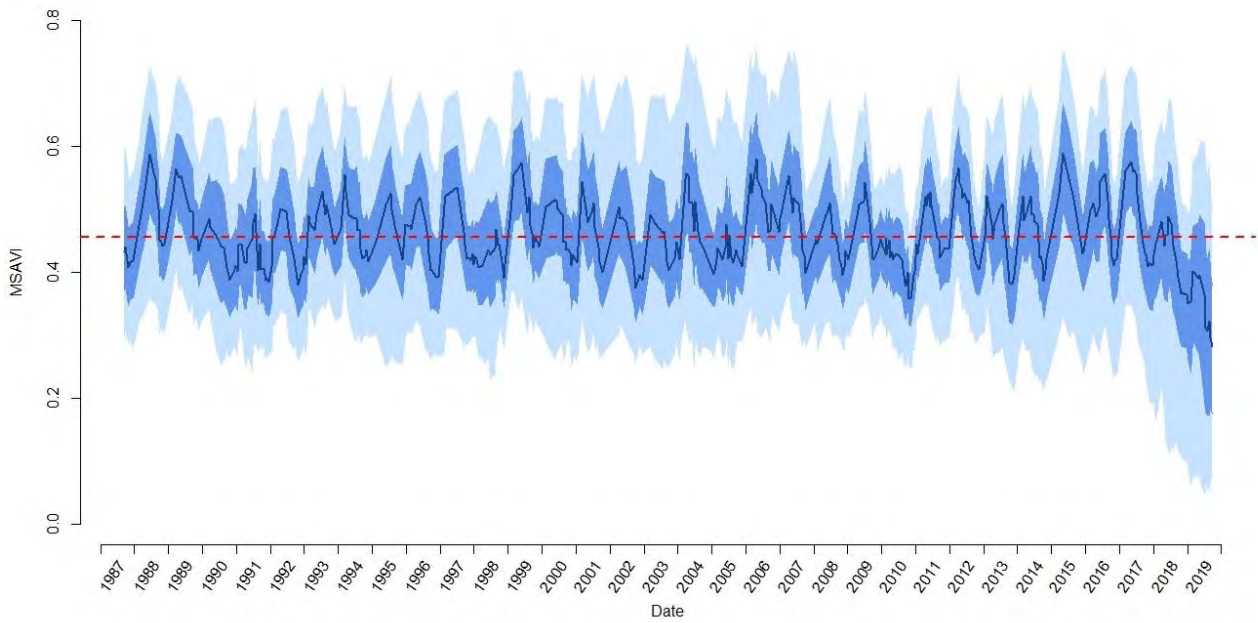


Figure 8: Time series analysis of vegetation condition over a 30-year time period using the modified soil adjusted vegetation index (MSAVI) derived from Landsat imagery. The red dashed line represents the long term mean for MSAVI and the dark blue line is the median value within the scene at each time interval. The shading represents the extents of the 5th, 25th, 75th and 95th percentiles for MSAVI.

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Maps of vegetation cover and condition can also be produced using this analysis technique and used to identify hot-spots or clusters of decline. Maps of seasonal or monthly condition can also be derived, as shown in Figure 9.

Mean monthly MSAVI from 2015-06-30 to 2019-07-31

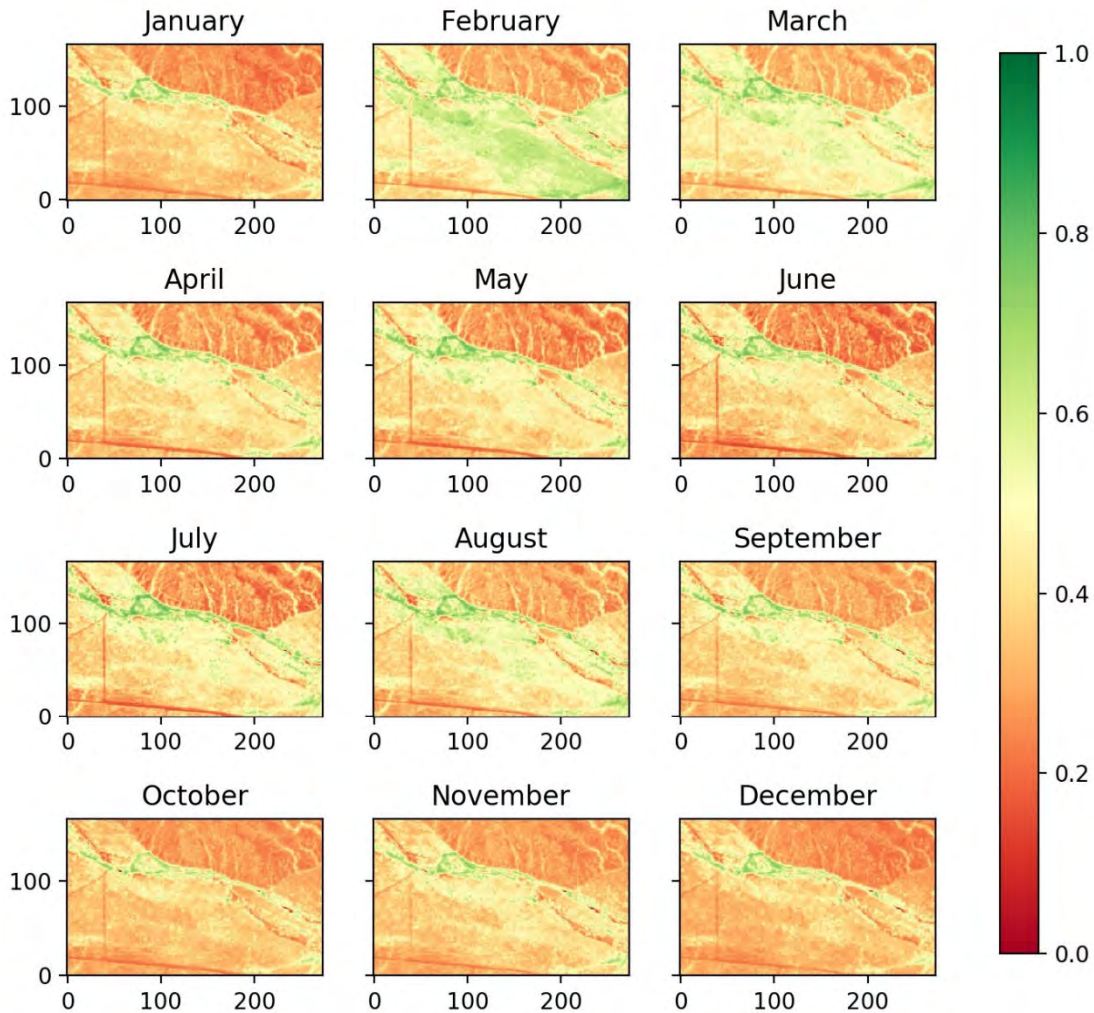


Figure 9: Monthly average modified soil adjusted vegetation index (MSAVI) values for a riparian vegetation community.

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Existing online data

The platform will provide a facility to integrate any relevant freely-available spatial data sets published online. Examples of datasets to be considered for integration include:

- Department of Water and Environmental Regulation - Water Information Reporting
 - <https://www.water.wa.gov.au/maps-and-data/monitoring/water-information-reporting>
- Atlas of Living Australia – displays a wide variety of biological data
 - <https://www.ala.org.au/>
- Western Australian Museum - Aquatic Fauna
 - <https://data.museum.wa.gov.au/dataset/aquatic-zoology>
- Aqua Monitor – displays changes surface classification (water to land or land to water) over various time periods (see example in Figure 10).
 - <http://aqua-monitor.appspot.com/>

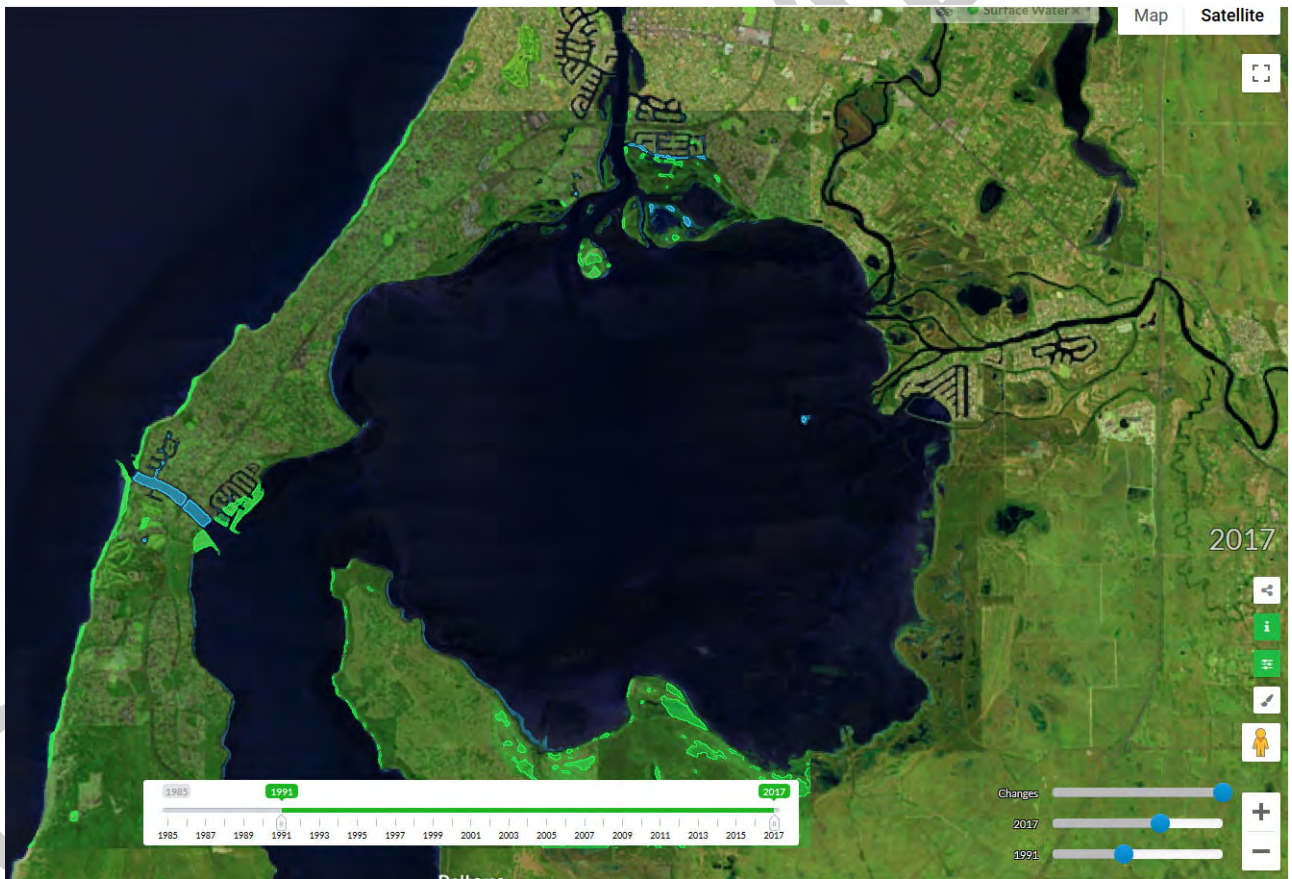


Figure 10: Example display from Aqua Monitor that shows areas where land has become water (blue pixels) and where water has become land (green pixels) across the period 1991 to 2017 selected on the slider.

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2.3.3. System Architecture

An overview of the WDA components is illustrated in Figure 11. Components not described above are described in further detail below along with general operating principles.

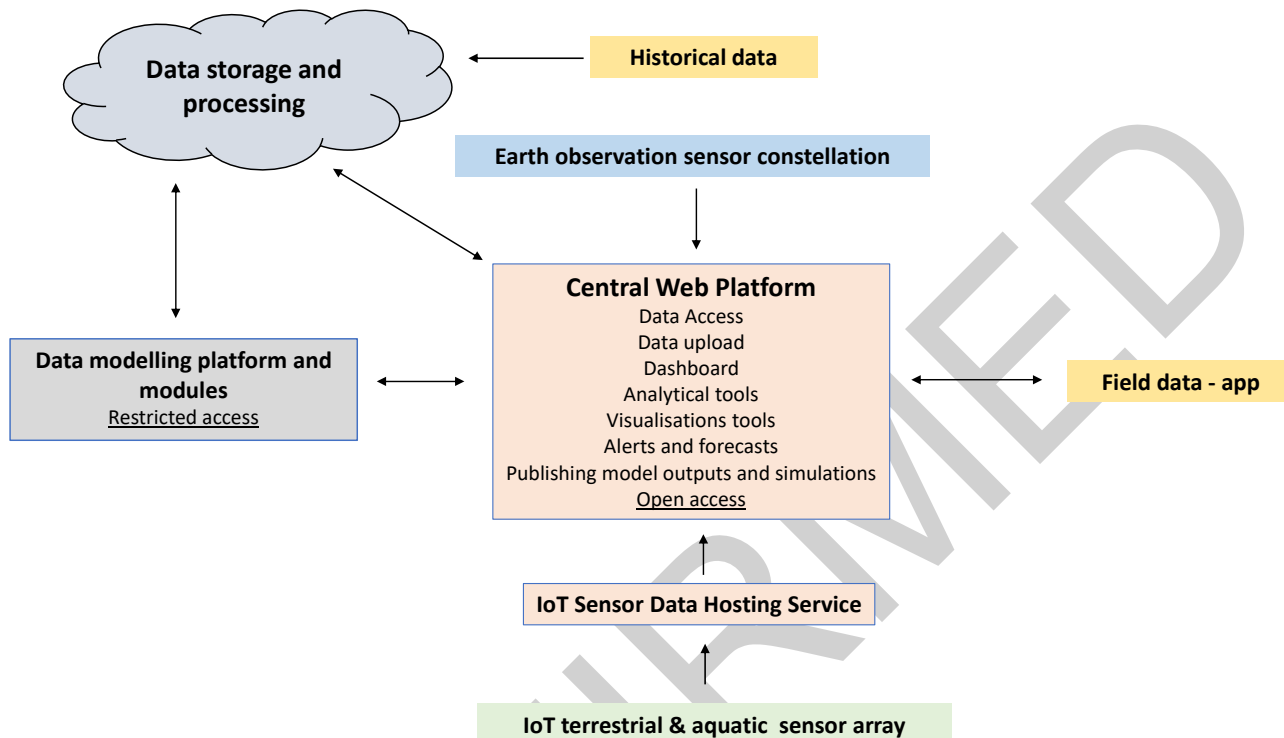


Figure 11: An overview of the design of the Waterways Data Array Project.

Central Platform

A web-based geospatial platform (Emapper) represents the centrepiece of the WDA. It will be a portal for data access, data exploration, collaboration, education and community engagement. The platform will integrate complementary modules that have been developed and tested over a number of years.

The Emapper platform was developed to provide access to spatial and temporal analytics using remote sensing data (UAV, Satellite, Manned Aerial). Since 2018, significant advances in the development of the platform have been achieved in a \$2.4 million project under the industry-led, government-funded Mining Equipment, Technology and Services (METS) Ignited Project Funds. These developments have built the following capabilities into the platform:

- integration of time-series satellite imagery from open data sources (Landsat and Sentinel)
- integration of UAV data from third-party suppliers including features for data delivery, QA/QC and processing

Department of Primary Industries and Regional Development

- integration of high frequency, high density IoT sensor data and visualization via dashboards using the eagle.io backend services (discussed further below)
- development of an activity based mobile field data capture application for environmental monitoring and management
- integration with an open data library of environmental spatial layers.

Ongoing development of the Emapper platform is continuing and is set to release an advanced analytics module integrating IoT data, field data, remote sensing data spatial layers and 3D visualisation functionality.

IoT Sensor Data Hosting Service - eagle.io

The eagle.io web-based data service will manage all aspects associated with delivering data from the fixed sensor network to the platform. The eagle.io service is a data acquisition, visualisation and processing application designed to manage mission critical environmental monitoring data from high value monitoring assets (Figure 12). The eagle.io platform has been refined over eight years of development (26 developer years of investment in research and development). It includes a range of integrated modules for storing, processing and visualising data which can be easily configured and modified to meet project requirements, without the need for custom development. The application is hosted on servers in Australia (with all data in the active system and back-up domiciled in Australia).



Figure 12: The Eagle.io component of the Waterways Data Array platform.

A relevant example of an eagle.io application is the monitoring dissolved oxygen (DO) and other variables in off-shore marine sea pens across the west coast of British Columbia by

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Pentair. Up-to-date data on DO inform decisions on the operation of aerators to avoid stock loss and minimise pump operation costs Figure 13.

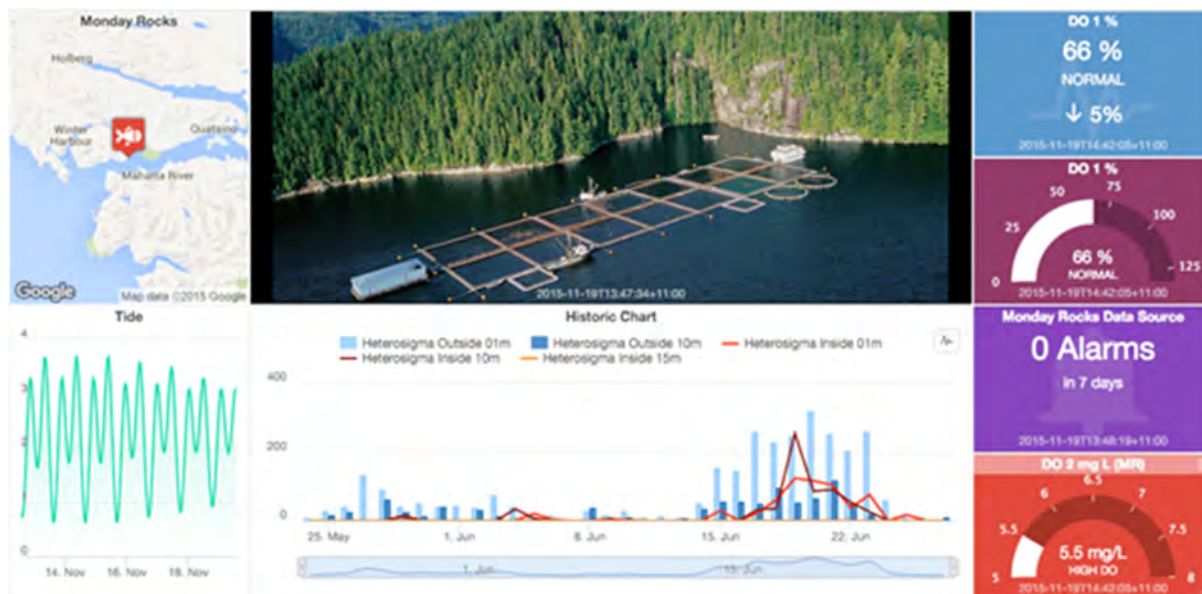
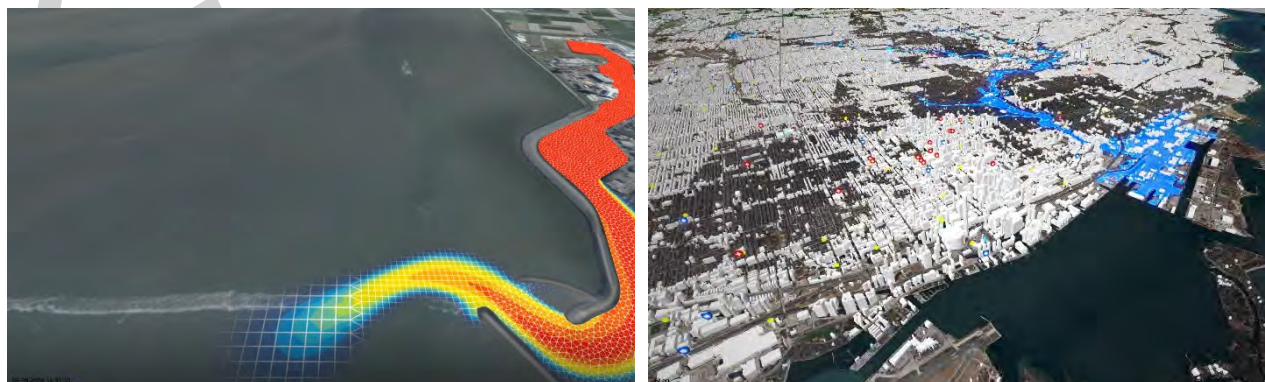


Figure 13: Eagle.io dashboard displaying data for one of several offshore marine sea pens.

Modelling and Visualisation

Functionality for modelling and visualisation will be linked to the platform through a suite of tools – both online and offline. An online platform (modelling interface) would provide an interface between data and modelling software. Modelling will focus on water quality using the data generated from the earth observation and IoT sensors. The modelling interface would be accessible only to approved users by application, comprising mainly researchers in government and industry. Model outputs including visualisation products would be published on the central platform (Emapper) which is accessible to all users. A key aim of the outputs will be to educate and engage the public in the science and management of the waterways. Examples to illustrate the use of engaging visualisations to communicate model data to a broad audience is shown in Figure 14.



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a) Plume model output

b) Flooding and critical infrastructure

Figure 14: Examples of visualisations created to communicate model outputs in a waterways context (courtesy of Deltares).

Cloud-Based Data Storage and Processing

Data storage and processing will be operated in a cloud-based platform such as Amazon Web Services. This will allow for multiple user access and ease of scaling as the data volume increases over time. As the platform evolves, modelling and analytic capabilities may be added and triggered on a user request basis. These can be quickly and efficiently designed to run in a cloud-based environment.

Initially the platform will be set up with cloud storage of satellite imagery, aerial imagery, IoT data streams, existing field data and other spatial information. This will be configured by a dedicated developer team, so that integration with the platform is seamless. The capability for data upload by end users will also be activated, but restricted by size limit and require approval, to minimise cloud storage costs.

Key Considerations in Platform Design and Operation

1. Security

Systems and procedures will be put in place to address security including the implementation of third party, independent security audits of all software and systems within a project before being put in production.

2. Privacy

The project will operate in accordance with the Privacy Act 1988 (Cth) (Privacy Act) and Australian Privacy Principles (APPs) in the collection, use, access and storage of information.

3. Open Data and Interoperability

To stimulate innovation and improve the delivery of public services an open data policy will be adopted where:

- open formats and protocols are used to store and share data
- non-sensitive data are open by default
- interoperability with third-parties is enabled through APIs
- open data is promoted.

4. Extensibility

Delivery of the platform employs a cloud-based model which enables the service to be scaled over time to match budget, data storage and bandwidth requirements. In addition to offering a scalable IT architecture, the platform will be modular so that new programs and services can be added on as needed.

5. Integration

The creation of the platform will provide an opportunity to unify and centralise all environmental monitoring and management data related to the Estuary and the catchment.

Department of Primary Industries and Regional Development

Specifically, this relates to any field-based management and monitoring activities which can be enabled through access to the following technologies:

- IoT sensors
- UAV data acquisition
- satellite imagery and data analysis
- field based digital data capture in the form of customised activities within a mobile app.

2.4. Background

The Peel Harvey Catchment.

The Peel-Yalgorup Wetland System - which incorporates Yalgorup National Park – was RAMSAR-listed in 1990 as a Wetland of International Importance.

The system contains more than 13 lakes, three rivers and the Peel-Harvey Estuary. It is home to the largest reef of living Thrombolites in the Southern Hemisphere, and also supports more than 20,000 migratory waterbirds. The system is also the home of the threatened Western Ringtail Possum and endangered Cockatoo, and it contains WA's largest remaining stand of threatened Tuart woodland trees.

The entire Peel-Yalgorup Wetland System covers an area of 26,530 hectares, which includes the Peel-Harvey Estuary and Lake Goegrup (Hale and Butcher 2007).

When the *Yalgorup National Park Management Plan 1995-2005* was released by the Department of Conservation and Land Management and the National Parks and Nature Parks and Nature Conservation Authority in 1994, Yalgorup National Park covered an area of 12,888 hectares, comprised of five reserves:

- Reserve 11710 – 10,425 hectares;
- Reserve 22057 – 360 hectares;
- Reserve 12189 – 1584 hectares;
- Reserve 21271 – 520 hectares;
- Wellington Location 5524 – 1077 hectares (Department of Conservation and Land Management 1995).

In 2015, the WA Government purchased an additional 980-hectare land parcel immediately north of Lake Clifton for addition to Yalgorup National Park. Yalgorup National Park contains 10 lakes that form three distinctive lines that run parallel to the coast. They are Lake Preston, Swan Pond, Duck Pond, Boundary Lake, Lake Pollard, Martins Tank Lake, Lake Yalgorup, Lake Hayward, Newnham Lake and Lake Clifton.

The Yalgorup lake system is significant for its waterbirds, and is recognised under the international Ramsar Convention. The lakes provide important habitat for international trans-equatorial waders that migrate from the northern hemisphere, including the bar-tailed godwit, red-necked stint, greenshank, red knot, whimbrel and three species of sandpiper. Other waterbirds that use the lakes include the banded and black-winged stilts, red-necked avocet, hooded and red-capped plovers, pelican and coot. The lakes also support large numbers of musk ducks, Pacific black ducks, black swans and shelducks. The quacking frog, turtle frog slender tree frog and long-necked oblong turtle also inhabit the national park.

The Peel-Yalgorup Wetland System is under threat from over-development, agriculture, climate change and inappropriate use. The traditional approach of 'lock-and-leave' has had

Department of Primary Industries and Regional Development

limited success in protecting Yalgorup National Park. Therefore, a new approach is required. Opening the Park to nature-based tourism is considered the key to its long-term survival, while also enhancing Mandurah's tourism product and creating new jobs.

In November 2012, the CoM Council resolved to nominate Yalgorup National Park for National Heritage/World Heritage listing. However, this nomination process is yet to eventuate.

In April 2017, Council acknowledged that successful National or World Heritage listing of Yalgorup National Park was likely to require active community, tourism industry and State Government support and to take considerable time to achieve. Council also acknowledged that the potential creation of an eco-tourism product within Yalgorup National Park under the (then) Mandurah-Murray Growth Plan offered an opportunity to raise the profile of Yalgorup National Park, and by doing so, increase the likelihood of its National/World Heritage listing being supported.

Council therefore approved the implementation of a community engagement plan to raise community awareness of the environmental significance of Yalgorup National Park and to build community support for its proposed National Heritage nomination.

Council resolved to await the outcomes of the community engagement plan, and also the preparation of the (then) *Mandurah-Murray Growth Plan* before determining if a formal Heritage listing nomination should be lodged.

Economic Significance

The Peel-Yalgorup System (PYS) and specifically the Estuary are of high importance to the local community and recognised as being a key driver of economic growth in the region. The PYS directly supports:

- An important commercial fishing industry,
- Recreational boating, fishing and associated services,
- Tourism industries and day use recreation, and
- Ecological service values

The Peel-Harvey waterways directly supports an important commercial and recreational fishing industry. There are currently nine Commercial fishing licenses operating in the waterways, with a combined value of \$3.15 million (approximately \$350,000-\$400,000 per license). This value is based on conservative estimates provided by the Mandurah Licensed Fishermen's Association (MLFA) (Watts 2019). The system is a habitat for variety of sought-after fish species such as blue swimmer crabs, sea mullet and sand whiting. The commercial value of the fishery's catch in 2017-18, based on estimates provided by the Department of Primary Industries and Regional Development (DPIRD) and MLFA was between \$0.95 million (raw value) and \$1.7 million (market value), as outlined in Table 4.

Table 4: Raw and Market value of the Peel-Harvey Fishery (2017-18).

Fishery	Current Beach Price (\$/kg) (Nicholas 2019)	Current Market Price (\$/kg) (Watts 2019)	Tonnes caught (Nicholas 2019)	Total raw value	Total market value

Department of Primary Industries and Regional Development

Blue Swimmer Crab	6.16	10	96.9	596,904	969,000
Sand Whiting	4	10	12	48,000	120,000
Sea Mullet	2.41	6	102	245,820	612,000
Other species	-	-	-	59,276	-
Total				\$950,000	1,701,000

The recreational value derived from boating and fishing on the Peel waterways is significant, with blue swimmer crabs being the most important recreationally-fished inshore species in the southwest of WA (in terms of participation rate) (Johnston et al. 2017). Industry research indicates that recreational fishermen in the Peel region represent the most avid fishermen in the State and directly support \$217 million in expenditure on recreational fishing activities in the Peel annually (Recfishwest 2019).

The number of private recreational boats in the Peel has grown consistently in the long term. A total of 8,733 recreational vessels were registered in the Peel in 2009 (Department of Transport 2010) with an estimated capital value of \$425 million (Economics Consulting Services 2019). Aside from the vessel's capital value, the culture of recreational boating in the Peel contributes to the local economy through boating support services and storage. ECS 2019 estimate that Peel boat owners collectively incur up to \$40 million in annual costs associated with boat maintenance and operations (Economics Consulting Services 2019). The storage of boats in the seven marinas in the PYS may also generate up to \$1.8 million in direct revenue from the 715 available pens (with an average annual fee of \$2,500) (Economics Consulting Services 2008). Future growth in recreational boat ownership in the Peel is predicted to increase to 14,922 vessels by 2024 (Economics Consulting Services 2019).

The Peel region is a growing tourist destination, with Mandurah currently the number one day-trip destination in WA, receiving twice as many day trippers than Bunbury (Economics Consulting Services 2019). In 2008, the wetlands were found to be an important attractor of tourists, accounting for (on average) 0.46 million visitors and \$105 million in local expenditure (Economics Consulting Services 2008). Current statistics (Tourism Research Australia 2018) demonstrate significant growth in Mandurah's tourism industry, with approximately 2.32 million tourists visiting Mandurah in 2018, this amounted to approximately \$318.2 million in local expenditure. As outlined further in Table 5, the majority of visitors (1.7 million) were domestic day trips and tourism expenditure was mostly represented by domestic day and overnight visitors (\$292.5 million).

Table 5: Tourism Research Australia – Mandurah Statistics (2018). (Tourism Research Australia 2018)

	No. (000s)	Average spend (\$)	Total spend (\$ millions)
International Visitors	25	1,031	25.7
Visitors - Domestic Day	1,790	81	144.9

Department of Primary Industries and Regional Development

Visitors - Domestic Overnight	417	354	147.6
Total	2,232	-	318.2

It is acknowledged that the PYS waterways are not the only tourism drawcard in the Peel Region.

The Peel waterways hold substantial value from indirect uses derived from the interactions between plants, animals, microorganisms and the non-living environment in the Peel-Harvey ecosystems. The human benefits that these systems generate are broad and can include:

- nutrient cycling processes and carbon sequestration,
- purification, filtration and detoxification,
- system regulation and stabilisation (i.e. climate regulation or pest control),
- habitat provision and natural biodiversity,
- regenerative and production services (i.e. biomass, pollination or seed dispersal), and
- information or life fulfillment (i.e. aesthetic, recreation or spiritual benefits).

The total monetary value of ecosystem services derived from Peel-Harvey's coastal and inland wetland ecosystems was quantified in 2013 to be approximately \$3.35 billion (2007 prices) (Arkwright 2013). By comparison, the Peel's Gross Regional Product at the time was estimated at \$5.6 billion.

The PYS is a sensitive system which has been affected by water quality issues for a number of years. The nutrient loads entering the system are typically twice the tolerable limits, due in part to:

- the poor nutrient holding capacity of catchment soils,
- high groundwater levels in the catchment,
- nutrient producing land uses throughout the catchment, and
- an efficient drainage system delivering sediments and nutrients to the lower waterways.

Catchment water quality assessments (Department of Water 2011) undertaken in 2011 identified that the nutrient content in the majority of tributaries had high (0.165 mg/L) to very high (0.56 mg/L) levels of total phosphorous, and high (0.98 mg/L) to very high (4.4 mg/L) flowing into the estuary. An observation that has remained relatively consistent over the past two decades (Peel Harvey Catchment Council 2011). Abnormalities in catchment water quality have in many cases, resulted in eutrophication events, algal blooms and fish kills. Additional factors predicted to impact on the ecological health of the catchment include (Economics Consulting Services 2019):

- Watercourses in the coastal plain and Hotham/Williams zones are often degraded, infested by weeds and have erosion prone banks.
- Wetlands on the coastal catchment are under increased pressure from reduced rainfall, ongoing threats associated with grazing, fires, weed invasion and illegal clearing and filling of land.
- Considerable areas where development is planned around the estuary pose a high to moderate risk of acid sulphate soil disturbance.

Department of Primary Industries and Regional Development

The Peel Harvey Catchment Council (2010) stated that “The lower reaches of the Serpentine River, as an effective ecosystem, could now be described as biologically dead...and there are indications that the health of the lower reaches at both the Murray and Harvey rivers are in a parlous biological state”. It is noted that “without corrective action, the Peel Waterways will not be able to sustain the increased recreational demands of expected population growth (Water and Rivers Commission 2002)” nor draw economic benefits from the ecological, commercial and recreational values that that are reliant on the waterway’s condition.

The City of Mandurah and its role work on the Catchment.

For a long period of time the CoM has taken a serious and active approach to its relationship with the Waterways and the groundwater reserves.

It includes:

- Networking and training opportunities with other LGA’s and state government departments.
- Upskilling our staff in Water Sensitive Urban Design (WSUD) and implementing waterwise blue and green infrastructure within the city.
- Setting and meeting Waterwise targets for the corporate and wider Mandurah community to achieve a more sustainable City.
- Implement innovative technology to monitor our facilities water use more effectively using data loggers and Outpost software.

The CoM has implemented a range of Initiatives that assist with the estuary’s sustainability including:

- Annual water audits and installation of data loggers on building facilities to reduce water use on council buildings.
- Setting water usage targets annually and staying within DWER water license allocations.
- The Waterwise Verge Program, which will be running into its fourth year in 2020.
- Water recycling irrigation schemes which are supported by three Water Corporation Wastewater Treatment Plants.
- The regular monthly meetings of the Waterwise Mandurah Group where everything water including, water budgets, WSUD requirements and ideas are discussed and implemented across departments within the City.

In addition to this the CoM:

- has 4 full time staff committed to environmental management and water quality management.
- is a core funds provider and supports the Peel Harvey Catchment Council every year in addition to provider rent free facilities.
- maintains large volunteer numbers and community involvement and education around water and environmental management programs.

Since mid-2016 the CoM, in partnership with the Shire of Murray and in response to State Government regional development policy, has endeavoured to create a new economic plan to grow Mandurah’s economy and deliver tangible economic benefits for Mandurah and the broader Peel Region.

Department of Primary Industries and Regional Development

In 2018 the Council approved *Mandurah Murray – A shared Economic Future* as the City of Mandurah's new Economic Development Strategy and endorsed the programs and projects that had begun to be developed from that strategy.

In 2019 officers continued to develop those programs. As part of that further development officers identified the opportunity to combine a number of these projects to create a more integrated visionary concept. With a combined focus on the Water Economy and its potential as an industry for Mandurah; the City Council recommended strategy going forward.

Transform Mandurah – A Revitalisation Plan is part of the CoM's Strategic economic plan to reposition itself around a Water Economy and the potential industries and jobs this can create. Mandurah will establish itself as a leading national and international provider of water technologies, science and research, education and training with a focus on growing related agricultural, tourism and environmental industry clusters.

Driving this repositioning is recognition of the exceptional comparative and competitive advantage Mandurah and the region has around water and its related industries with the Peel Harvey Estuary and its waterways and hinterland. Earlier research done through the Dept of Regional Development in 2017 identified *loose or informal clusters* of activity such as the work done by the Peel Harvey Catchment Council or the CSIRO within the Peel region. The term 'informal cluster' is used to suggest that the activity while not sufficient enough to bring together an industry collaboration or stimulate growth it is active enough to suggest the potential of a greater industry development opportunity.

This opportunity is to develop the informal cluster of activity into a *formal cluster*. Formal Clusters are larger industry groupings within defined areas with interrelated jobs, active collaboration, investment and supporting services. As the clusters become larger industries collaborate, jobs are created and services grow. It creates an environment that attracts business and its economies from likeminded and related industries looking for efficiencies of scale and growth opportunities. A good example is the Australian Marine Complex (AMC) located in WA 23 km south of Perth - a world-class center for excellence for manufacturing, fabrication, assembly, maintenance and technology servicing the defence, marine, oil and gas, and resource industries.

The Transform Mandurah plan is an attempt to formalise and grow an industry cluster around Water Science and its broad industry interactions. Growing the water economy cluster servicing the Science, Environmental, Tourism and Education industries around Water and its related needs and opportunities.

The Transform Mandurah Plan comprises three programs taken from the original Mandurah Murray – A Shared Economic Future and linked them together;

1. The Water Economy
2. Mandurah's City Centre Redevelopment
3. The Conference Centre Precinct

Within these 3 programs are a number of specific interrelated projects;

- The Australian Waterways Centre of Excellence (AWCE)
- The WDA
- The relocation of civic services into the City centre (including the current City of Mandurah administration)
- The redevelopment of the existing CoM 3-hectare site into a new Conference centre, Hotel and Tourism precinct.

Department of Primary Industries and Regional Development

This Business case is seeking funding for the WDA as part of the CoM's commitment to the Estuary, its waterways, the local economy and its long-term sustainability.

2.5. Policy and Strategic Framework

The WDA is well aligned to State Government objectives and regional initiatives for the Peel region and Western Australia. The following section outlines the alignment of the WDA to relevant State Government strategies, objectives and initiatives.

2.5.1. Alignment to The Department of Primary Industries and Regional Development's Strategic Intent (2018-21)

The WDA aligns with four of DPIRD's priorities as outlined in the organisation's strategic intent.

- 1. Sustainability** – The WDA proposes to provide infrastructure which will support the ongoing management of one of WA's more valuable ecological assets through enabling continued scientific research and wetland monitoring programs. The availability of robust information will inform effective catchment management strategies and decision-making relating to the wetland and surrounding land uses. The WDA is strongly aligned to DPIRD's priorities in sustaining the State's land, water and aquatic resources, reputation, and competitive advantage. The WDA is specifically aligned to key initiative 2.2 – natural resource management planning and assessment.
- 2. Regional Opportunities** – The WDA will capture regional opportunities for economic growth and maintaining social amenity through enabling ongoing research and monitoring of the PYS and informing management activities for the health of the wetlands. The health of the waterways underpins a strong tourism and commercial fishing industry, as well as significant recreational boating and fishing activities and associated local expenditure. The availability of data resulting from ongoing research may identify opportunities to pursue new economic ventures in the Peel (such as geo/ecotourism or inland agriculture) whilst maintaining catchment health. The WDA also presents local content opportunities through engaging regional suppliers and contractors to provide and deliver the research infrastructure. The WDA specifically aligns to DPIRD's key initiatives 4.1 – Regional growth opportunities, 4.2 – Local content in regional WA and 4.4 – recreational fishing development.
- 3. Research, Development and Innovation (RD&I)** – One of the WDA's central tenants is to enable ongoing scientific research and wetland monitoring through availability of wetland research infrastructure. Increasing our understanding of the PYS and identifying compatible economic development opportunities may present significant regional development outcomes. Further establishing the Peel region as an exemplar waterways research hub in the longer term and developing the Waterways Centre for Excellence will provide substantial regional development outcomes for the region. The WDA specifically aligns to key initiatives 5.1 – A dynamic RD&I environment, 5.2 New regional RD&I capacity.
- 4. Enabling Environment** – The WDA will facilitate ongoing scientific research and citizen science opportunities through the provision of key research infrastructure and

Department of Primary Industries and Regional Development

scholarships. Increasing the waterway-science activities in the region will help enable the Peel region to establish itself as an exemplar waterways research hub, with scholarships available to direct scientists to deliver targeted research. Increasing Government, industry and community understanding of the wetlands through research and increasing data availability will inform future management activities and enable effective decision-making to support both economic development opportunities and the ongoing conservation of the PYS. The WDA specifically aligns key initiative 6.1 – unlock land and water expansion opportunities.

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2.5.2. Alignment to Related Strategic Imperatives

The following table highlights the alignment of the WDA with key Government and regional policies and relevant strategies.

Strategy Document	Description	Alignment
Royalties for Regions Act (2009) (the Act)	<p>The object of the Act is to promote and facilitate economic, business and social development in Regional WA. The RfR fund is to be expended for the following purposes:</p> <ul style="list-style-type: none"> (a) To provide infrastructure and services in regional WA (b) To develop and broaden the economic base of regional WA (c) To maximise job creation and improve career opportunities in regional WA 	<p>The \$1.5 million will be expended in the Peel region to support and enable ongoing science, research and development activities in the PYS and Catchment.</p> <p>The PYS is recognised as being ecologically significant, vital to the local economy and supports local employment in tourism, fishing and recreational boating industries.</p>
Peel Regional Investment Blueprint (Blueprint) – Capable People	<p>The Blueprint establishes a strategic framework to facilitate regional economic development. The Capable people priority seeks to establish a highly skilled workforce and implement technological changes that support a strong, diverse and high performing economy in the Peel.</p> <p>The following priority goals have been identified under the Capable People priority;</p> <ul style="list-style-type: none"> (a) Investing in education and training infrastructure (b) Strengthening community knowledge and understanding 	<p>Providing research infrastructure will improve the scientific community's capacity to undertake research through increasing access to on-site equipment and vehicles. Scholarships will improve wetland research in priority areas to fill an observed knowledge gap and address key research needs.</p> <p>The WDA is expected to result in more robust data and knowledge which will enhance decisionmakers' capacity to make informed decisions relating to the PYS.</p> <p>Facilitating the communication of knowledge and scientific findings through community and educational engagement, citizen science programs will enhance communities understanding of the importance of the wetland and may generate interest in STEM learning areas.</p>

Department of Primary Industries and Regional Development

Strategy Document	Description	Alignment
Our Priorities: Sharing Prosperity 2019	<p>The State Government has identified 6 key outcomes required to achieve prosperity in Western Australia. Two strategies which relate to the project are:</p> <p>(a) A liveable Environment - the State will work to ensure a sustainable future through the protection of our unique landscapes, wildlife and marine life.</p> <p>(b) Regional Prosperity - the State will deliver new infrastructure and support investment to drive employment in regional WA and diversify the economy. Aiming to create 30,000 regional jobs by mid-2024.</p>	<p>Providing research infrastructure is intended to generate continued scientific research on the PYS, and to meet targeted research gaps through the availability of scholarships. Robust data and findings will be available to decision-makers to manage the PYS and surrounding areas to ensure environmental conservation and economic development opportunities are both protected.</p> <p>The protection of the wetlands is critical to supporting the local economy and retention of regional employment, with the wetland supporting the local tourism and fishing industry and recreational boating.</p> <p>Longer term, establishing the Peel as a wetland research hub will generate growth in the local scientific and research industries.</p>
Ramsar Convention on Wetlands	<p>The PYS has been listed under the Ramsar convention since 1990. Australia has a number of contractual obligations to uphold under the Ramsar convention (Department of Sustainability, Environment, Water, Population and Communities 2012), including:</p> <p>(a) Formulating and implementing planning to promote conservation of listed wetlands</p> <p>(b) Arrange to be informed if the ecological character of a listed wetlands has changed</p> <p>(c) Promote the conservation of wetlands</p> <p>(d) Encourage research and exchange of data and publications</p> <p>(e) Promote training of personnel in wetland research and management</p>	<p>Achieving the obligations under the Ramsar convention is a critical component of the WDA.</p> <p>The WDA will enable data collection, monitoring and research to inform decision-making and wetland conservation strategies. Decision-makers will be well informed to both continue to conserve the PYS, whilst pursuing economic development opportunities.</p> <p>Wetland conservation and awareness will be raised through citizen science activities, and educational and community engagement initiatives facilitated through the WDA.</p>

Department of Primary Industries and Regional Development

Strategy Document	Description	Alignment
<p>Mandurah & Murray: Regional Economic Development Strategy 2018 (draft)</p> <p>Mandurah & Murray: Regional Economic Development Strategy Implementation Plan 2018 (draft)</p>	<p>The Strategy and Implementation plan is targeted to the reversal of current trends of worsening socio-economic conditions across the two local government areas. The documents provide a strategy to create a self-sustaining region with access to employment opportunities and providing the foundation for improved prosperity and quality of life.</p> <p>The 'Water Economy – Wetlands and Industry Integration' is a priority program which recognises that developments in agriculture, tourism and fisheries industries are highly dependent on the sustainable management of the land and waterways.</p>	<p>The WDA will enable data collection, monitoring and research to inform decision-making and wetland conservation strategies. Decision-makers will be well informed to both continue to conserve the PYS, whilst pursuing economic development opportunities.</p> <p>The protection of the wetlands is vital to the local economy and supports local employment in tourism, fishing and recreational boating industries.</p>
<p>PHCC – Wetlands and People Plan for the Peel-Yalgorup System</p>	<p>The plan identifies 9 objectives to encourage wise use and advocacy to protect the PYS and increase collaborative community stewardship and support for the PYS. The below objectives are of relevance:</p> <ul style="list-style-type: none"> (a) Decision makers are supported to understand the PYS values, threats, protection and management needs (b) Develop Government's capacity to engage in collaborative management and protection of the wetlands (c) Community stakeholders are engaged and supported in active environmental stewardship of the PYS (d) The local and regional communities, are provided opportunities and information to increase their understanding of the Site's values (e) Opportunities are created to share stories of the wetlands across all sectors 	<p>Achieving the obligations under the Ramsar convention is a critical component of the Project.</p> <p>The WDA will enable data collection, monitoring and research to inform decision-making and wetland conservation strategies. Decision-makers will be well informed to both continue to conserve the PYS, whilst pursuing economic development opportunities.</p> <p>Wetland conservation and awareness will be raised through citizen science activities, and educational and community engagement initiatives facilitated by the WDA.</p>

Department of Primary Industries and Regional Development

2.6. Project Deliverables

The key outputs to be delivered by the WDA along with performance measures and methods of measurement are detailed in Table 6.

Table 6: Project Deliverables.

	Outputs (What is being delivered? What will be physically done?)	Performance Measure (What are you measuring?)	Performance Measure method (How are you measuring it?)
1	Estuary-wide IoT fixed sensor network comprising 8 multi-sensor stations (five new) that measure water quality variables, plus one weather station, three timelapse cameras and two ecoacoustic recorders	<ul style="list-style-type: none"> • Installation complete • Functionality – operational and calibrated 	<ul style="list-style-type: none"> • Photos • Data logs and output
2	Web-based platform for viewing and interrogating data	<ul style="list-style-type: none"> • Platform built and integration with sensor network complete • Functionality – data uploads and displays from all sensor types • Accessibility 	<ul style="list-style-type: none"> • Data visible via portal (in real time) • Users can upload and download data
3	EO data available via the web-based platform	<ul style="list-style-type: none"> • Acquisition – data captured and uploaded • Availability – data can be viewed/downloaded from platform 	<ul style="list-style-type: none"> • Data visible via portal • Data are downloaded
4	Third party data sets available via the web-based platform	<ul style="list-style-type: none"> • Availability – data can be viewed/downloaded from platform 	<ul style="list-style-type: none"> • Data visible via portal • Data are downloaded
5	Mobile app for citizen scientists	<ul style="list-style-type: none"> • Completion of the app development and integration with sensor network • Functionality – app can upload data to platform 	<ul style="list-style-type: none"> • Data are visible on platform • Successful data collection on the app by citizen scientists

Department of Primary Industries and Regional Development

	Outputs (What is being delivered? What will be physically done?)	Performance Measure (What are you measuring?)	Performance Measure method (How are you measuring it?)
6	Citizen science data	<ul style="list-style-type: none"> Acquisition – data captured and uploaded to the platform Availability – data can be viewed/downloaded from platform 	<ul style="list-style-type: none"> Data visible via portal Data are downloaded
7	Data analysis functionality through the web-based platform	<ul style="list-style-type: none"> Data can be manipulated (charted or summarised) Time series image data can be displayed 	<ul style="list-style-type: none"> Charts and tabular summaries Time-lapse animations
8	Community engagement	<ul style="list-style-type: none"> Web traffic Feedback 	<ul style="list-style-type: none"> Counts/hits increase with each year Volume of feedback increases with each year

The key outputs to be delivered by the WDA along with performance measures and methods of measurement are detailed in Table 7.

Table 7: Project Outputs.

	Outcomes (What benefits will be gained from what you will do?)	Performance Measure (What are you measuring?)	Performance Measure method (How are you measuring it?)	DPIRD Strategic Priorities
1	Increased monitoring and research activity focused on water quality in the Estuary	Monitoring and research programs implemented to measure water quality	Number of monitoring and research activities implemented	Sustainability
2	Increased collaboration between stakeholders in Estuary water quality (community, research, industry and government)	Sharing of datasets, communications, and publications arising under the program	<ul style="list-style-type: none"> Number of engagement events and attendance Number of publications including media and academic Number of shared datasets 	Enabling Environment

Department of Primary Industries and Regional Development

	Outcomes (What benefits will be gained from what you will do?)	Performance Measure (What are you measuring?)	Performance Measure method (How are you measuring it?)	DPIRD Strategic Priorities
3	Increased community engagement and participation in citizen science and management	Community are engaged in monitoring and research through events, collection of data and communication	<ul style="list-style-type: none"> Number of engagement events and attendance Number of publications including media and academic Number of data entries from mobile field application Traffic and traffic by participant type on web platform 	Enabling Environment
4	Increased awareness and engagement in Estuary science from researchers and the general community outside the region	Attract scientists and researchers to undertake investigations in the Region	<ul style="list-style-type: none"> Number of science or research projects facilitated by the Estuary project infrastructure. Number of researchers/scientists involved in projects facilitated by the Estuary project infrastructure Logs of infrastructure and equipment usage Traffic and traffic by participant type on web platform Number of citations of the project in the media 	Regional Opportunities Enabling Environment
5	Increased understanding of Estuary ecosystem, especially the factors affecting water quality	Research communications	<ul style="list-style-type: none"> Number of publications including media and academic Number of citations of the Waterways Data Array in publications 	Sustainability RD & I
6	Increased availability of scientific knowledge to inform	Monitoring programs implemented to	<ul style="list-style-type: none"> Number of monitoring and research activities implemented 	Sustainability

Department of Primary Industries and Regional Development

	Outcomes (What benefits will be gained from what you will do?)	Performance Measure (What are you measuring?)	Performance Measure method (How are you measuring it?)	DPIRD Strategic Priorities
	decision-making and management of Estuary and catchment water quality	increase water quality data availability and knowledge	<ul style="list-style-type: none"> Number and scale of significant management decisions made relating to Estuary water quality 	
7	Safeguarding of the estuary environment to protect economic activity within the catchment	Tourist numbers and expenditure Commercial fish catch	<ul style="list-style-type: none"> Number of tourist visits per annum Tourist expenditure per annum Commercial catch by fishery (tonnes per annum) 	Regional Opportunities Sustainability
8	Increased economic activity within the region and development of new business and investment opportunities	As for 7 above Other measures of local business activity	<ul style="list-style-type: none"> As for 7 above Economic survey data – various measures and sources 	Regional Opportunities

2.7. Stakeholder Engagement

A number of stakeholder engagement activities have been undertaken to guide strategic direction in relation to the WDA.

The outcomes of engagement by the PHCC, as captured in 2015 in “Binjareb Boodja Landscapes 2025 – A Strategy for Natural Resource Management in the Peel-Harvey Region”, have been considered in formulating the project. The preparation of the Strategy included a robust community consultation process resulting in over 300 comments from community group members, growers, industry and local government. The consultation process included workshops and targeted meetings across the Catchment, summary publications and surveys and presentations. The process identified the diversity of issues and priorities across each of our four subsystems. The objectives from the Strategy are:

- 1) People (Baalap) – An Engaged and Active Community
- 2) Biophysical (Boodja) – A Healthy Catchment that Supports Life and Livelihood
- 3) Knowledge (Kaadadjan) – Science and Knowledge Underpin Natural Resource Management

Department of Primary Industries and Regional Development

In 2018, the CoM delivered “Mandurah Matters”, a comprehensive community and stakeholder consultation exercise to guide and inform a review of the City’s Strategic directions. The City included over 2,000 community members through survey responses, workshops, summits and engagement events (Peel Development Commission 2006). The Community identified the Peel waterways as being central to the City’s identity and Mandurah’s greatest asset. Further, the waterways were recognised as being of significant importance for opportunities in tourism and events, primary industry development and international education. The delivery of the WDA will enable reliable and consistent wetland measurement and monitoring to improve wetland health. This objective is reflective of the findings from ‘Mandurah Matters’ and the community’s views on the wetland.

In July 2018, the City of Mandurah held a half day workshop on the concept of a WDA with over 50 representative stakeholders and potential technology providers. The potential uses and benefits of the WDA were discussed in detail.

A further workshop was held in late 2019 with a smaller group of government agency representatives, technology providers and other stakeholders. This workshop reported the outcomes from the pilot sensor network established by the City of Mandurah. Further discussions were had around the value of the WDA and issues and strategies around scaling up the pilot project.

The WDA is consistent with the City of Mandurah’s community perceptions survey, where 401 residents evaluated the City’s performance in 2005. This survey identified protection of waterways as the single most important priority for the City of Mandurah with 51% of long-term residents and 37% of respondents overall rating this as their most important priority. Furthermore, although there was a general satisfaction with the quality of the waterways, there was concern with the condition of the Serpentine River (61% dissatisfied or neutral) and Murray Rivers (47%). A survey commissioned by the Peel Development Commission in 2006 also identified Protecting Waterways (> 95%) and Environmental Preservation (> 93%) in the top ten issues of importance for residents.

Local primary schools and high schools, especially John Tonkin College, have embedded marine science into their curricula. The WDA will provide educational opportunities and citizen science initiatives for students, particularly for those wishing to pursue a career in marine science.

The data and other information made available via the platform will also provide opportunities for university graduate and post-graduate research projects. It is also expected that university classes and research students will undertake field work on the Estuary or within the catchment to support their studies and supplement the data made available via the platform.

Community engagement is a key component of the WDA, with the aim to involve the local community in citizen science data collection, data sharing and increased collaborative events such as workshops, presentations and meetings. The preparation plan for ongoing community engagement will be prioritised at the beginning of the next phase of the WDA. Implementation of the plan will commence within the first six months of the project.

Department of Primary Industries and Regional Development

2.8. Critical Assumptions

The Following critical assumptions have been made and considered in the preparation of this Business Case:

- That protecting and improving the condition of Estuary and waterways remains a priority for the State Government. This assumption is based on the logic underpinning the Regional Estuaries Initiative which recognises the Estuary as being at-risk.
- That significant investment is required to restore the condition of the Estuary and waterways.
- That the community continues to recognise the importance of the waterways and identify protection of the waterways as a main priority.
- That the strong connection between tourism and healthy waterways is maintained into future.
- That the economic benefits drawn from the Estuary are linked to water quality.
- That the appetite shown by the scientific community for waterways research in the Estuary continues into the near-term future.
- That the outcomes of the science and research inform and translate into management actions that can be implemented to protect and restore the waterways.

2.9. Economic and Financial Analyses

The economic benefits of the WDA are derived in large part from protecting and maintaining the significant value that the Estuary supports through the associated commercial industries, recreational activities and ecological values the ecosystem underpins. The increased availability of quality data through the sensor network and online platform will assist Government, industry and the community to maintain and improve the health of the Estuary through effective and well-informed decision-making, thus protecting and retaining the economic and ecological values that the system supports, including:

- \$217 million in annual expenditure on recreational fishing activities
- \$40 million in annual expenditure on boat maintenance and operations in the Peel region
- \$1.8 million in annual revenue generated through storing boats in marinas
- Between \$0.9 million and \$1.7 million in annual catch from commercial fishing
- \$318.2 million in annual tourism expenditure spent in Mandurah
- \$3.15 million derived from the value of nine commercial fishing licenses
- \$3.35 billion in indirect ecosystem services generated from the estuary and associated waterways annually

Further deterioration of the Estuary's health may cause significant ecological impacts and threaten the local expenditure and revenue that are derived from the waterway.

A Remplan assessment on the broader economic impact resulting from a 1% reduction in the value of the local commercial fishery (\$17,000), tourism expenditure (\$3.18 million), recreational boating expenditure (\$400,000) and recreational fishing expenditure (\$2.17 million) over 5 years has been modelled. Such a decline is estimated to result in the loss of 39 jobs and \$2.331 million in wages. This is estimated to result in a broader \$45.6 million reduction in broader economic outcomes. Whilst this reduction is not directly related to the health of the Estuary, this conservative reduction in the value of industries that are known to have strong linkages to the Estuary has a significant 5-year impact.

Department of Primary Industries and Regional Development

Economic benefits are also expected from increased visits to the region as an outcome of the publicity that this unique and innovative project generates from the increased opportunities for researchers, community groups and educational institutions to do all of the following in combination:

- access high quality data
- collect supporting data and observations in situ
- collaborate in advancing Estuary science including monitoring technology and management solutions.

The eventual formation of a waterways science hub and Waterways Centre of Excellence around the WDA is envisaged by the CoM over the longer term.

The establishment of the sensor array and platform also has the potential to activate the formation of a market for environmental services aimed at restoring water quality within the Estuary. Future initiatives would be needed to build such a market but the WDA would represent key infrastructure to allow such a market to function. Once established and operating, such a market could attract investment from outside the Peel region. The formation of this market in itself would attract considerable interest from outside the region.

2.10. Assessment of Options

The project is scalable. The WDA is envisaged as central component of a future Waterways centre of Excellence. The project as proposed is scaled to a level considered to be the minimum required to provide critical mass. That is, the platform and sensor network will have sufficient functionality, diversity (of sensor types and data products) and replication (of key sensors) to advance monitoring and management of the Estuary and be a leading edge example of a waterways observatory in practice.

Table 8: Project options.

Option No.	Description	Likely Outcome	Cost
1. WDA [^] as proposed	Financial support for the full scope of this business case	The WDA will improve the monitoring, management and scientific understanding of the Estuary. Further, it will attract significant attention and participation from scientists, educational institutions and the broader community in Estuary. The WDA will be a nationally significant, leading example of a waterways observatory.	\$1.5M
2. WDA reduced model	Partial support by reducing sensor types and replication and reduced investment in platform functionality and data products	The WDA will provide the minimum functionality to improve monitoring of water quality in the Estuary and make these data readily accessible to researchers, government agencies and the public. The WDA will not include the more innovative components with respect to sensors and platform functionality. The project will attract less interest from the local community and beyond in comparison to option 1.	\$0.8M approx.

Department of Primary Industries and Regional Development

Option No.	Description	Likely Outcome	Cost
3. Business as usual	Rejection of this project proposal in full i.e. no investment in the WRI	Research, monitoring and management will continue as it does currently. Engagement in Estuary science by the local community and researchers outside the region will not be as high as it could be. Water quality be lower than it could be and as such the Estuary's social, conservation and economic values will be less secure.	\$0
4. Waterways Centre of Excellence (WCoE)	Funding extended to a Waterways Centre of Excellence	This option has been explored by the City of Mandurah but not beyond the concept stage. Establishing the WDA is considered to be a practical step towards building a business case a WCoE	\$40M approx.

^ Waterways Data Array

2.11. Funding Strategy - provided in Confidential Attachment

2.12. Total Budget - provided in Confidential Attachment

2.13. State Government Funding Amount - provided in Confidential Attachment

2.14. Sustainability and Ongoing Viability

Upon completion of the project in 2023, the ongoing operation and maintenance of the WDA will be managed by an existing position within the CoM under the direction of the CEO. It is considered that the COM is the most appropriate organisation to manage and govern the system for its initial introduction and development period of 5 years. The system however has been designed to allow for a transfer of management and ownership if acceptable in the future. It may sit with more appropriate Government departments such as The Department of Water.

The ongoing costs to maintain the WDA are projected to be \$135,000 per annum. This includes equipment replacements, maintenance, calibration, subscription charges for data and data services and ongoing project management, community engagement and marketing. A focus on maintenance and calibration will be critical to ensure high quality data from core sensors are continuously available. The provision of quality data with minimal disruption will important for the WDA to build the reputation required to gain and maintain the support of the scientific community.

A priority will be placed on community engagement and marketing to facilitate maximum use of the resource and for the purposes of attracting additional investment in the WDA over time. Ongoing investment and promotion will be undertaken with the aim of building a research hub focused on the WDA and Estuary.

Department of Primary Industries and Regional Development

2.15. Project Timeframe and Key Milestones**Table 9: Project timeframe and milestones.**

Main Activities (Milestones)	Milestone Date	Responsibility
Community consultation and engagement plan	15/08/2020	CoM
Initial stakeholder and community consultation/survey and report complete (phase 1 of 3)	30/11/2020	CoM
Core sensor network [^] in place and operational	24/12/2020	CoM
Platform publishing sensor data via dashboard	28/02/2021	CoM
Platform hosts some historical data, remote sensing data and third party data (phase 1 of 3)	30/04/2021	CoM
Weather station, cameras and acoustic devices installed and operational	30/06/2021	CoM
Data from weather stations, cameras and acoustic devices published to platform	01/09/2021	CoM
Second stakeholder and community consultation/survey and report complete (phase 2 of 3)	30/11/2021	CoM
Analytics functionality (phase 1 of 2)	24/12/2021	CoM
Public release of platform access	31/01/2022	CoM
Modelling and visualisation functionality (first phase)	30/04/2022	CoM
Platform hosts additional historical data, remote sensing data and third party data (phase 2 of 3)	30/06/2022	CoM
Mobile app beta release (phase 1 of 2)	01/10/2022	CoM
Third stakeholder and community consultation/survey and report complete (phase 3 of 3)	30/11/2022	CoM
Mobile app final release (phase 2 of 2)	31/01/2023	CoM
Platform hosts additional historical data, remote sensing data and third party data (phase 3 of 3)	30/04/2023	CoM
Analytics functionality complete (phase 2 of 2)	31/05/2023	CoM
Modelling and visualisation functionality complete (phase 2 of 2)	31/05/2023	CoM

[^] Five new monitoring stations and integration of chlorophyll sensors at three existing stations

Department of Primary Industries and Regional Development

2.16. Risk Analysis

Table 10: Risk analysis and mitigation measures.

Type of Risk	Description of Risk	Likelihood	Impact	Maximal Risk Rating	Control strategies	Residual Risk Rating
Resource-related	Poor budget estimates due to unclear procurement and delivery	Possible	Moderate	High	<ul style="list-style-type: none"> Detailed project plan Regular progress and budget tracking 	Moderate
	Poor budget estimates due to unforeseen technology issues	Possible	Moderate	High	<ul style="list-style-type: none"> Proposed system is modular Proposed system utilises established and tested products from third party providers 	Moderate
Strategic	Community support	Rare	High	High	<ul style="list-style-type: none"> Community engagement and consultation Build in facilities for two way engagement within the platform Build multi-lateral partnerships 	Moderate
	Chance of being superseded by new technologies	Possible	Moderate	High	<ul style="list-style-type: none"> Proposed system is modular – adaption is possible with minimal disruption 	Moderate

Department of Primary Industries and Regional Development

Type of Risk	Description of Risk	Likelihood	Impact	Maximal Risk Rating	Control strategies	Residual Risk Rating
On-going operation	Poor estimates for operational expense	Possible	Moderate	High	<ul style="list-style-type: none"> Proposed system utilises established and tested products ('off the shelf' solutions) from third party providers wherever possible System capable of utilising a wide array of data formats and sources; however, resources will not be directed to rectifying any incompatible or problematic data sets generated outside of this project scope 	Moderate
	The anticipated technical and operational landscape is not as envisaged – the Waterways Data Array isn't fit for purpose in 3 to 4 years	Possible	Moderate	Moderate	<ul style="list-style-type: none"> Multiple methods of data collection to be used (variety of above earth and terrestrial sensors) Build a scaleable and modular system Undertake trials within the project for some methods (e.g. ecoacoustics) project partners aim to adopt a process of rigorous adaptability, using continuous monitoring and evaluation of project outcomes to inform improvement throughout the life of the project Encourage collaborative R & D and open knowledge sharing 	Low

Department of Primary Industries and Regional Development

Type of Risk	Description of Risk	Likelihood	Impact	Maximal Risk Rating	Control strategies	Residual Risk Rating
	Scope creep – driven by what can be done and not what should be done – lose focus on user requirements	Possible	Moderate	High	<ul style="list-style-type: none"> • Strict project management principles implemented and clearly aligned with project milestones 	Moderate
	Sensor failure	Possible	Moderate	High	<ul style="list-style-type: none"> • Use robust high-grade sensors • Build resistance to extreme events and potential vandalism • Build in redundancy (multiple installations widely dispersed) 	Moderate

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2.17. Local Content

Local procurement will be a key consideration for the purchase, installation and implementation of the WDA architecture, in line with the CoM Buy Local Procurement Policy, which gives preference to regional procurement.

It should be noted that some of the specialised equipment are likely to not be available locally, and perhaps not all within WA. However, the CoM is committed, as per their procurement policy, to sourcing all aspects of the WDA from local suppliers, wherever possible.

2.18. Aboriginal Participation

In 2016, Mandurah had a population of 80,813 people of which 2.1% (1,718 people were Aboriginal or Torres Strait Islander peoples of which the median age was 20 years old. Across all demographics, Mandurah had the highest unemployment rate in Western Australia at 9.3% (Australian Bureau of Statistics 2016).

Building and strengthening relationships with the Aboriginal community has been a focus for the CoM for many years. The CoM is committed to developing employment and business opportunities and supporting community led initiatives to ensure that Aboriginal and Torres Strait Islander peoples can fully participate in our community.

The CoM aims to develop, monitor, evaluate and improve all consultation, engagement and participation protocols and procedures through implementation of its Reconciliation Action Plan.

Planning and implementation of the WDA will involve consultation and collaboration with the Peel Harvey Catchment Council (PHCC) who have a strong record of engaging with the local Noongar community on issues relating to waterways management. Some examples of relevant PHCC engagement and collaboration:

- PHCC identifies opportunities for consultation and engagement with the local Noongar Elders and community linked to working on country and works with organisations such as Indigenous Management Services to realise employment opportunities.
- According to the agreement between the Australian Government and PHCC regarding delivery of the National Landcare Program/ Regional Land Partnership (NLP/RLP), PHCC is working towards a target of 4% of expenditure directed to procurement through Aboriginal people.
- Through existing projects PHCC works with the local community to identify and protect sites of significance and cultural value as well as working under the Aboriginal Heritage Act 1972 to protect all Aboriginal Heritage sites within WA, EPBC Act 1999 to protect Indigenous Heritage and the Heritage Act 2018. These projects include in particular:
 - Connecting Corridors and Communities: Restoring the Serpentine River (funded by the Alcoa Foundation)
 - Wetlands and people – a community restoring the ecological character of the peel-Yalgorup Ramsar 482 wetlands (Australian Government NLP/RLP)
 - Saving Lake McLarty Stage 1: Addressing acidification, hydrology and habitats (State NRM Program)

Department of Primary Industries and Regional Development

In addition to its own initiatives, the CoM will work closely with PHCC to maximise the opportunities for the local Noongar people to participate in the project and extract value from the WDA.

2.19. State Funded Infrastructure and Apprenticeship Participation

This section is not applicable as the WDA does not involve contracts for:

- building and construction, including civil and engineering, with an estimated labour value of \$2 million and over; nor
- maintenance, with an estimated labour component of \$2 million and over for the total contract.

3. IMPLEMENTATION STRATEGY

3.1. Communication Plan

The community engagement aims of the WDA are to:

- **Raise Awareness:** Increase knowledge of the pressures facing our catchment and lift the ability of the CoM and related organisations to lead positive change
- **Share Knowledge:** Learn from other's experiences and build, preserve and share a hub of knowledge about our catchment within the Peel region and beyond
- **Drive and Inspire Behavioural Change:** Lift pride, performance, teach skills and guide our community to become champions of the catchment
- **Promote Inclusiveness:** Respectfully work with others to strengthen project partnerships and community relationships. Build cultural respect into the foundations of our work
- **Build Capacity:** Provide support to increase knowledge, opportunities and skills that help our community do great things in caring for the environment.

The central platform will be a key resource for communication. Data and data summaries, reports, short communications, maps and visualisations, and photographs will be published on the platform. Some of this content will be uploaded by citizen scientists within the catchment. Communications will also be undertaken in a variety of ways, responding to the most effective form for different sectors of our community. Social media platforms including Facebook, Twitter and Instagram will be used to promote the WDA and involve the community by providing an avenue for public comment and discussion.

An Annual Report is prepared and distributed to our community, as well as being made available on our website and promoted via social media. Our website is also regularly updated with news events within the community.

Communications will be the responsibility of the City of Mandurah. Any communications relating to the WDA including presentations, publications, signage, articles, newsletters, or other literary works relating to the WDA will:

- equally represent the City of Mandurah and State Government of Western Australia when logos are displayed, including containing the State's and City's logos and names in an equally prominent position; and
- Be consistent with the State's Marketing, Communications and Acknowledgements Policy.

Department of Primary Industries and Regional Development

- acknowledge the respective roles of the State and other parties at relevant fora, conferences, and project launches where the Project is promoted.
- The City of Mandurah and the Department of Primary Industries and Regional Development, will:
 - work cooperatively at the senior management and officer levels;
 - maintain open communication, both formal and informal, to progress the objectives of the WDA;
 - share information and knowledge as practicable; and
 - advise any stakeholders in the WDA about arrangements between the Parties.
- coordinate joint communications when dealing with the media and stakeholders in the WDA in relation to the WDA on issues of significance or mutual concern, including circulating draft media statements, advertising proposals and advertisements between the Parties for comment prior to publication.
- liaise with the State prior to releasing, and gain the prior written approval of the State to the release of, any media statement, advertising proposal or advertisement in relation to the WDA.

Stakeholder and community consultation are a priority for the first six months of the WDA project. Ongoing consultation will occur annually during the three year project.

3.2. Project Management

The WDA will be managed under the overarching direction of the Manager (Economic Development and Projects) at the CoM. Using existing personnel, the CoM under the direction of the aforementioned manager will be responsible for administration and implementation of the WDA including procurement of all infrastructure and equipment, overseeing installation and location, negotiating all governance aspects including insurances and lease agreements, liaising with stakeholders, preparing loan and use processes and managing the 'letting' and borrowing arrangements in a similar fashion to a property manager for rental properties. Once infrastructure is constructed, ongoing responsibilities will include overseeing the process of expressions of interest, selection (with an approved panel) and contract agreements, asset management, maintenance of equipment, and budget, reporting and acquittal of project funding.

The CoM will be supported in project management by the contracted supplier of expert technical services need to deliver the WDA.

3.3. Project Governance

Governance of the WDA will align with the City of Mandurah Corporate Business Plan. The Executive Manager (Economic Development and Projects) at the CoM will be responsible for project governance which will include the following functions:

- monitor progress of project delivery
- monitor the financial performance of the project in accordance with the approved budget
- review, verify and/or endorse changes against the project plan
- review, suggest solutions for risk and any issues critical to achieving success of project delivery
- oversee resolution of conflicts

Department of Primary Industries and Regional Development

- ensure meeting minutes and progress reports are completed and accessible.

The program has been designed to sit within the CoM for an initial 5 year development and management period. The City of Mandurah is viewed as the most appropriate and capable body to manage the Data Array during this phase. There is however an ability to transfer the system to another department or group who could take over and manage its systems and delivery at the end of this period.

3.4. Procurement Strategy

The City's procurement activities are based on the principles of value for money, and are conducted in a manner that conducted, is transparent, fair and merit based. As a local government the City's Procurement Policy is developed in accordance with the statutory obligations of the *Local Government Act 1995* and Part 4 of the *Local Government (Functions and General) Regulations 1996* and governs the procurement activities undertaken by the City.

Whilst the City is not governed by the WA Governments Buy Local Policy and Building Local Industry Policy, the City is committed to enhancing local content outcomes. This is achieved through the City's Regional Price Preference Policy, whereby businesses operating in the district of Mandurah receive a Regional Price Preference and businesses outside of the district may claim a Local Content Preference detailing their commitment to regional delivery.

The local content information is measured over the course of the contract and the data collected from this process will assist the City to measure local content and employment outcomes associated with the delivery of the project.

Dependant on the value of the procurement an open and publicly invited formal Request for Tender or formal Request for Quote process would be utilised. The City also works with the Local Content Advisor and Peel Chamber of Commerce and Industry to promote procurement opportunities locally.

4. SIGNING OF BUSINESS CASE

4.1. Sign-off

I confirm that the information contained in this Business Case is true and correct.



Business
Case Author

CEO / DG
Signed

Signed

Completed by

Approved by

Position

Position

Date

Date

CONFIRMED

5. REFERENCES

Arkwright, D. 2013. Peel Development Commission Occasional Paper 2.8: Valuing the Eco-System Services in the Peel Region.

Australian Bureau of Statistics. 2016. Census QuickStats. http://www.censusdata.abs.gov.au/census_services/getproduct/census/2016/quicks tat/LGA55110?opendocument.

Department of Conservation and Land Management. 1995. Yalgorup National Park Management Plan 1995-2005. Department of Conservation and Land Management, Perth WA.

Department of Sustainability, Environment, Water, Population and Communities. 2012. Australia's obligations under the Ramsar Convention: Legislative support for wetlands – fact sheet. Department of Sustainability, Environment, Water, Population and Communities.

Department of Transport. 2010. Peel Region – Recreational Boating Facilities Study.

Department of Water. 2011. Draft analysis of water quality monitoring results from Department of Water Win Database. Mandurah, Western Australia.

Economics Consulting Services. 2008. Peel Waterways – An Economic Valuation.

Economics Consulting Services. 2019. Peel Waterways – An Economic Valuation.

Farina, A. 2018. Perspectives in ecoacoustics: A contribution to defining a discipline. *Journal of Ecoacoustics* 2:TRZD5I.

Hale, J., and R. Butcher. 2007. Ecological Character Description of the Peel-Yalgorup Ramsar Site. Report to the Department of Environment and Conservation and the Peel-Harvey Catchment Council, Perth WA.

Hipsey, M., D. Hamilton, P. Hanson, C. Carey, J. Coletti, J. Read, B. Ibelings, F. Valensini, and D. Brookes. 2015. Predicting the resilience and recovery of aquatic systems: A framework for model evolution within environmental observatories. *Water Resources Research* 51:7023–7043.

Johnston, D., R. Marks, and J. O'Malley. 2017. West Coast Blue Swimmer Crab Resource Status Report.

Department of Primary Industries and Regional Development

- Joo, H., D. Lee, S. H. Son, and S. H. Lee. 2018. Annual New Production of Phytoplankton Estimated from MODIS-Derived Nitrate Concentration in the East/Japan Sea. *Remote Sensing* 10:806.
- Liu, H., Q. Li, T. Shi, S. Hu, G. Wu, and Q. Zhou. 2017. Application of Sentinel 2 MSI Images to Retrieve Suspended Particulate Matter Concentrations in Poyang Lake. *Remote Sensing* 9.
- Marley, S. A., C. Erbe, and C. P. Salgado-Kent. 2016. Underwater Sound in an Urban Estuarine River: Sound Sources, Soundscape Contribution, and Temporal Variability. *Acoustics Australia* 44:171–186.
- Marley, S. A., C. P. Salgado Kent, and C. Erbe. 2017. Occupancy of bottlenose dolphins (*Tursiops aduncus*) in relation to vessel traffic, dredging, and environmental variables within a highly urbanised estuary. *Hydrobiologia* 792:243–263.
- NASA Goddard Space Flight Center, Ocean Ecology Laboratory, Ocean Biology Processing Group. 2014. Sea-viewing Wide Field-of-view Sensor (SeaWiFS) Ocean Color Data. doi: 10.5067/ORBVIEW-2/SEAWIFS_OC.2014.0.
- Nicholas, T. 2019. Personal Correspondence.
- Organisation for Economic Cooperation and Development and Development Statistical Office of the European Communities. 2005. Oslo Manual Guidelines for collecting and interpreting innovation data. Third edition. OECD and European Commission.
- Parsons, M. J. G. 2009. An investigation into active and passive acoustic techniques to study aggregating fish species. Curtin University.
- Peel Harvey Catchment Council. 2010. Science Strategy for the Peel-Harvey Estuary. A report by the Centre for Fish and Fisheries Research, Murdoch University, Murdoch, WA.
- Peel Harvey Catchment Council. 2011. Catchment condition and priorities, Peel-Harvey Catchment 2011. Unpublished report by Ironbark Environmental to the Peel-Harvey Catchment Council and Regional Development Australia (Peel), Mandurah, Western Australia.
- Recfishwest. 2019. Western Australia's \$2.4 Billion Lifestyle. <https://recfishwest.org.au/media-release/western-australias-2-4-billion-lifestyle/>.

Department of Primary Industries and Regional Development

Reef Credit Scheme. 2019. Reef Credit Guide Version 1.0 March 2019. Terrain NRM, NQ Dry Tropics & GreenCollar.

Tourism Research Australia. 2018. Local Government Area Profiles – Mandurah (C), Western Australia.

Water and Rivers Commission. 2002. Economic Development and Recreation Management Plan for the Peel Waterways. Page 11. Water and Rivers Commission, Perth WA.

Watts, M. 2019. Personal Correspondence.

Zheng, G., and P. M. DiGiacomo. 2017. Remote sensing of chlorophyll-a in coastal waters based on the light absorption coefficient of phytoplankton. Remote Sensing of Environment 201:331–341.

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