# Regional Advisory Panel Meeting
# Western Region

| Meeting No. 35 | Meeting Minutes | 9.00am - 11:00am |
|---|---|---|
| 18/03/2019 | | UWA Trustees Level 2 |

| Attendees (entire meeting) | | | |
|---|---|---|---|
| Mike Mouritz (Chair) | CRCWSC Board | | |
| Emma Yuen | CRCWSC, Regional Manager | Winsome MacLaurin | Dept. of Water & Environmental Regulation |
| Shelley Shepherd | New Water Ways Inc. | Joanne Woodbridge | EMRC |
| Emma Monk | Dept. of Biodiversity, Conservation & Attractions | John Savell | Dept. of Communities /CRCWSC EPRG |
| Tao Bourton | Yolk Property Group | Greg Ryan | LandCorp |
| Max Hipkins | Mayor of Nedlands | Antonietta Torre | Water Corporation |
| Ryan Hunter | Peet | | |
| **Attended (part of meeting)** | | | |
| Nick Deeks | GHD | Jurg Keller | CRCWSC |
| Kim Markwell | CRCWSC | Richard Connell | Water Technology |
| **Apologies** | | | |
| Su Martins | Communities | Loretta van Gasselt | Dept. of Planning, Lands & Heritage |
| Ajay Shah | KBR | Neil Burbridge | City of Armadale |

| Item No. | Agenda Topic |
|---|---|
| 1. | **Welcome and apologies**<br>Richard Connell attended his first WRAP meeting<br>Damien Slack has resigned from WRAP although Natalie Lees may attend some in the future. |
| 5. | **Executive Update**<br>Jurg Keller presented on behalf of the executive:<br>1. Tranche 3 to be signed off this week and sent to printers, with 25 partner logos, and presented at Brisbane conference<br>2. CRCWSC executive priorities for IRP5 were communicated and tabled. The need for all sides to listen to each other was emphasised, to which end a face to face meeting will be requested to be held in Queensland during the conference.<br>3. Jurg will retire at the end of March with Samantha Lemons taking over IRP1-4 under the guidance of Briony Rogers, leaving IRP5 to Tony Wong. |

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| Item No. | Agenda Topic |
|---|---|
| | ACTION: Emma Yuen to circulate T3 prospectus once Jurg circulates the version sent to printers and shared with Essential Participants<br><br>ACTION: IRP5 team to provide response on IRP5 objectives by end of the week to Tony and Jurg<br><br>ACTION: Jurg to ask Lorena to advise when Jurg and Tony are available to meet at breakfast/ lunch/ evening at the conference. |
| 2. | **Acceptance of previous minutes**<br>The minutes from the last RAP meeting (#34) held November 2018 were accepted with no amendments. |
| 3. | **Actions from November minutes**<br>• Item 2 will be pursued by Shelley<br>• Item 4 is addressed in the RM report<br>• Item 7 is on the agenda under capacity building<br>• Item 8 deferred until after the conference<br>• Item 9 discussed and Armadale will not be funded by the capacity building budget<br>• Item 11 will be addressed under the capacity building<br>• Item 15 deferred until Part b finalised |
| 4. | **Correspondence**<br>Nil. |
| | **CRCWSC Updates** |
| 6. | **Regional Manager Report**<br><br>IRP2:<br><br>• Training session with Treasury and ERA will occur June 13. It was noted that pre-meetings with Treasury are required in order for them to engage around the INFEWS tool. Whist there is confidence that the project will deliver on the project goals, it is essential it is also used by developers. To achieve this, it must help put together a business case and not be limited to an economic evaluation.<br>• WRAP questioned whether we have the right people on the steering committee for IRP2 and how we can bring in the developer perspective more.<br><br>ACTION: Joanne to organise meeting time with IRP2 team and invite John, Antonietta, Shelley, Ryan, Mike, Emma and Greg Ryan (or relevant LandCorp representative) to ensure that the business case methodology is addressed in addition to economic evaluation.<br><br>ACTION: Greg Ryan to share LandCorp template for Business Case and the assumptions.<br><br>• City scale health benefits was discussed and it was agreed it is best framed around the LGA scale although the need to enable consideration at city-scale to inform whole-of-government spending and priorities was also recognised |

| Item No. | Agenda Topic |
|---|---|
| | ACTION: Shelley and Joanne to look at case study for LGA. Consider Swan, Canning, Stirling or LGs commencing and Urban forest Strategy or strategic plan.<br><br>IRP3:<br>• Brabham case study has commenced and Su Martins and Shelley are the local industry facilitators. Emma Monk and Antonietta Torre expressed interest in participating.<br>ACTION: All to contact Sue/Shelley if you want to be involved<br><br>IRP5:<br>• Meeting after WRAP session. The IRP5 stage 1 report will be loaded onto the website for participants only. Presented in NWW Speaker Series talk at Atrium on Friday 22 March. |
| | **Items for discussion** |
| 8. | **Ideas for synthesis projects**<br>• There is the opportunity to undertake a subsidised Ideas for workshop ($10K contribution to cost of between $25K and $50K). This can be either a location based or policy based synthesis workshop.<br>ACTION: All to send Emma Yuen any ideas. |
| 7. | **Suggestions for Case studies**<br>Additional funding to add new case studies particularly related to Greenwall/ roof using alternative supplies and/ or an UHI project or outcomes from the Ideas for/ Synthesis workshops.<br>ACTION: John Savell to find a contact for 140 William Street to find out if the green roof uses alternative supplies and share with Shelley<br>ACTION: Antonietta Torre and Winsome MacLaurin to look at opportunities for Water Corporation "water for life" and or a State government strategic leadership case study.<br>ACTION: Shelley to consider SPP2.9 review and guideline (BUWM) as a case study<br>ACTION: John, Ant and Shelley to report back opportunities to Kim Markwell by April 1 or ASAP |
| 9. | **Capacity Building**<br>• Presented status of program delivery. Draft case study on community engagement – for comment on by the WRAP. Note this will be desktopped further after comments on content received.<br>• Need to reallocate $6760 to projects that can't be delivered this FY.<br>• The three options tabled were<br>1. Sediment Control Taskforce workshop (WC, DBCA, DWER)<br>2. WSUD training module for LG councillors<br>3. Website of LGA WSUD assets<br>• It was noted that the totals in the right hand column were incorrect and Shelley agreed to correct based on agreed activities |

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| Item No. | Agenda Topic |
|---|---|
| | • Another high priority is the Developers roadshow, and flying Nigel Tapper over for a seminar series which could be combined with other presentations on the economic benefits of Urban Cooling<br>• Should there be problems in delivering 1 or 2 the additional funding could be redirected to increase the number of councils covered under 3.<br><br>ACTION: RAP endorsed NWW proposed reallocation of the budget based on three activities discussed.<br><br>ACTION: All to comment on Community engagement flyer to Shelley Shepherd by 30 March 2019 |
| **10.** | **Transition Network**<br><br>• Research: Developed new Terms of Reference and workplan.<br>• Technical Capacity Building: Focus on CAUL Aboriginal Knowledge project. Keeping Place is an amazing tool for storing Aboriginal Knowledge<br>• Community Engagement and communications: update provided<br>• Policy and Governance: update on Waterwise Perth strategy provided<br><br>ACTION: EY to ensure that T3 Prospectus is circulated and put on the agenda for the next WSTN meeting in first week of May. |
| **11.** | **Upcoming Events**<br><br>• Need to be strategic in presenting at upcoming events. Upcoming opportunities include those listed on the agenda and Nursery and Garden Industry, 202020 Vision etc.<br><br>ACTION: All to notify Emma Yuen of: 1) key presentations that would benefit from a CRCWSC presence; and 2) ways to work with 202020 vision and industry groups. |
| **12.** | **Other Business**<br><br>TAPS: Currently testing the various models. Katie is starting on TAPs1.<br><br>ACTION: Nic Deeks/ Antoniette Torre to follow up with Caroline Oldham/ Matt Hipsey to track progress of Groundwater project. |
| | **Other business** |
| **17.** | **Other business**<br><br>• Introduced Richard Connell from Water Technology as new RAP member<br>• Interesting article from 1993 on WSUD from the first Hydropolis conference<br><br>ACTION: Mike Mouritz will circulate the PDF from the 1993 conference. |
| **18.** | **Close:** The meeting closed at 11.00am and the Chair thanked everyone for their attendance.<br><br>**All agreed to cancel the April 9 meeting hence next meeting:** 9-11 Tuesday, 18 June 2019 @ Trustees Building |

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# WESTERN Regional Advisory Panel

## ACTIONS

| Legend |
|---|
| Done |
| Not Done |
| Deferred |
| On Agenda |

| Actions | Description | Who | When |
|---|---|---|---|
| | **Actions from Meeting No. 35** | | |
| 1 | Emma Yuen to circulate T3 prospectus once Jurg circulates the version sent to printers and shared with Essential Participants | EY | |
| 2 | IRP5 team to provide response on IRP5 objectives by end of the week to Tony and Jurg | MM, SS, AT | |
| 3 | Jurg to ask Lorena to advise when Jurg and Tony are available to meet at breakfast/ lunch/ evening at the conference. | JK | |
| 4 | Joanne to organise meeting time with IRP2 team and invite John, Antonietta, Shelley, Ryan, Mike, Emma and Greg Ryan (or relevant LandCorp representative) to ensure that the business case methodology is addressed in addition to economic evaluation. | JW, EY | |
| 5 | Greg Ryan to share LandCorp template for Business Case and the assumptions. | GR | |
| 6 | Shelley and Joanne to look at case study for LGA to frame city scale health benefits. Consider Swan, Canning, Stirling or LGs commencing and Urban forest Strategy or strategic plan. | SS, JW | |
| 7 | All to contact Sue/Shelley if you want to be involved in Brabham workshop | ALL | |
| 8 | All to send Emma Yuen any ideas for synthesis workshops. | ALL | |

| Actions | Description | Who | When |
|---|---|---|---|
| 9 | John Savell to find a contact for 140 William Street to find out if the green roof uses alternative supplies and share with Shelley as a possible case study for Kim | JS | |
| 10 | Antonietta Torre and Winsome MacLaurin to look at opportunities for a case study through Water Corporation “water for life” and or a State government strategic leadership case study for Kim. | AT, WM | |
| 11 | Shelley to consider SPP2.9 review and guideline (BUWM) as a possible case study for Kim | SS | |
| 12 | John, Ant and Shelley to report back opportunities to Kim Markwell by April 1 or ASAP | JS, AT, SS | |
| 13 | RAP endorsed NWW proposed reallocation of the budget based on three activities discussed. | SS | |
| 14 | All to comment on Community engagement flyer to Shelley Shepherd by 30 March 2019 | ALL | 30 Mar |
| 15 | EY to ensure that T3 Prospectus is circulated and put on the agenda for the next WSTN meeting in first week of May. | EY, WM | |
| 16 | All to notify Emma Yuen of: 1) key presentations that would benefit from a CRCWSC presence; and 2) ways to work with 202020 vision and industry groups. | ALL | ongoing |
| 17 | Nic Deeks/ Antoniette Torre to follow up with Caroline Oldham/ Matt Hipsey to track progress of Groundwater project. | ND, AT | |
| 18 | Mike Mouritz will circulate the PDF from the 1993 conference. | MM | |
| | **Outstanding actions from previous meetings** | | |
| 2 | Maksym Polyakov will explore a greenfield development such as Wungong (those who put in living streams and those who didn’t) with support of a master’s student. | M Polyakov | |
| 15 | Emma Yuen will coordinate printing of 100 copies of Part A | E Yuen | |

| Actions | Description | Who | When |
|---|---|---|---|
| 8. | EY to coordinate UWA rep once leadership of IRP 5 decided | E Yuen | |

# HIGH LEVEL BUSINESS CASE – INSERT PROJECT NAME & (CODE)

Business Case is an initial evaluation of prospective business opportunities and projects.

## 1 OVERVIEW SUMMARY

### 1.1 Location

*Provide a brief description of the site's location along with a map and or aerial photo. Also refer to Attachment 1 – Site Location Map*
Insert details here

### 1.2 Purpose

*Outline the purpose of this Business Case*
Insert details here

### 1.3 Project Overview

The Opportunity was approved by the Executive General Manager on: Insert Date

*Outline a summary statement to provide an overview of the project, e.g. regional role, context, content, project area, key facts*
Insert details here

## 2 STRATEGIC JUSTICIFCATION

### 2.1 Strategic Statement

*Provide a strategic justification statement for the project – similar to short Exec Summary Statement including needs and drivers, description, summary of benefits, financial result.*
Insert details here

### 2.2 Government Priority

*Provide a short statement on the project's priority (if known) within Government policy and/or other Government Structures, e.g. the Ministerial Taskforce on Approvals, Development & Sustainability.*
Insert details here

### 2.3 Alignment to State Planning Policy

*Outline alignment with State Policy Drivers & commitments e.g.*

- *Directions 2031 and Beyond, Draft Perth and Peel @ 3.5million*
- *State Planning Strategy and Policies (4.2., Activity Centres….*
- *Public Transport Plan for Perth 2031*
- *Affordable Housing Strategy*
- *Bushfire Management Plan Policy*
- *Reconciliation Action Plan (RAP) Initiatives*

- *Other policies*

Insert details here

## 2.4 Alignment to LandCorp Portfolio/Program Strategies

*Outline alignment to LandCorp Portfolio/Program Strategies, including:*

- *Business Action Plan*
- *Fit to Portfolio*
- *Benefit to Portfolio/Other Projects*
- *Diversification of Portfolio*
- *Benefits to Pipeline*
- *Alignment with Program Strategy*

Insert details here

## 2.5 Statement Demonstrating Alignment to LandCorp Internal Business Strategies/Policies

- *Statement of Corporate Intent (SCI)*
- *Strategic Development Plan (SDP)*
  - *Integrated Project Outcomes;*
  - *Relationships and Partnerships;*
  - *Organisational and Commercial Sustainability*
  - *Market Leadership and Innovation*
- *Sustainable development (Housing Affordability Policy, Climate Responsive Design Policy, Biodiversity and Landform Retention Policy, other policies)*

Insert details here

# 3 PROJECT BACKGROUND

## 3.1 Background Context

*Provide a brief history of the project and greater context*
Insert details here

## 3.2 Site Details

*Provide a summary of:*

- *Existing tenure, area, ownership, etc*
- *Native title status and estimated clearance costs and timeframes*
- *Add in Table with Lot no, Street, Area, Owner*
- *Add Land Tenure Map*

Insert details here

## 3.3 Statutory Planning Status

*Provide a summary of:*

- *Review of previous planning or proposals over site (if any)*
- *Existing MRS, TPS Zoning, etc*
- *Any current planning in progress*
- *Add in relevant Planning Plans*

Insert details here

## 3.4 Stakeholders

*List key stakeholders and their expectations of the Project*
*Provide an overview of any Community Engagement undertaken in the project area or surrounding area and perspective/attitude to Project.*
Insert details here

# 4 OUTCOMES FROM PRELIMINARY SITE AND CONTEXT ANALYSIS

*All technical reviews, investigations and analysis (undertaken internally or sourced externally) are an essential part of the project planning and design process. This section provides an opportunity to provide a summary of what we have discovered, highlighting key issues or constraints.*

*This section should start with a description of the level of investigation / technical review and analysis that has been undertaken. The level of detail for preliminary investigations and analysis, above and beyond due diligence will depend on the scale and the complexity of the project.*

*Provide a summary of the following, highlighting key constraints and opportunities:*

- *Previous technical reports relating to: environmental, heritage, geotechnical, engineering, servicing, drainage, etc.*
- *Physical profile (geotechnical, topography, hydrology, soil, fill surplus/deficit, climate)*
- *Infrastructure (power, water, drainage, sewerage, roads)*
- *Environmental profile (including contamination, biodiversity, landscape,*
- *Community and cultural profile (heritage from a Heritage Council perspective and local community cultural significance perspective, public amenity)*
- *Traffic, transport and access*
- *Built form / urban environment character (land use, public open space)*
- *Economic profile*
- *Market and demographic profile*
- *Stakeholder / community expectations*
- *Research (internal LandCorp research or publically available research that is relevant to the site and context)*

*Add mapping / plans as appropriate*
*Opportunities and constraints could be demonstrated via mapping, see an example below.*

## 4.1 Physical Profile

Insert details here

## 4.2 Environmental Profile

Insert details here

## 4.3 Infrastructure Profile

Insert details here

## 4.4 Community and Cultural Profile

Insert details here

## 4.5 Traffic, Transport and Access

Insert details here

## 4.6 Built Form/Urban Environmental Character

Insert details here

## 4.7 Economic Profile

Insert details here

## 4.8 Market and Demographic Profile

Insert details here

# 5 PROJECT VISION AND OBJECTIVES

## 5.1 Project intent/ preliminary vision

*Outline of the preliminary project intent/ vision which draws from the preliminary site and context investigations and analysis. Consider holding a 'project intent workshop' to bring together relevant internal stakeholders from Business Development, Operations and staff with design, sustainability and environmental skills to discuss and establish parameters and expectations for the intent of the project and to identify a clear set of principles that can be carried through the HLBC and DLBC process.*

Insert details here

## 5.2 Project principles

*Outline of the preliminary project principles which clarify the pathway to achieve the project vision/ intent.*

Insert details here

## 5.3 Key Project Benefits and Outcomes

*Outline of expected outcomes and benefits.*

| | **Expected outcomes** | **Expected benefits** |
|---|---|---|
| *Economic* | | |
| *Social and Community* | | |
| *Environmental* | | |
| *Design* | | |

## 5.4 Project intent/ preliminary vision

*Outline of the preliminary project intent/ vision which draws from the preliminary site and context investigations and analysis. Consider holding a 'project intent workshop' to bring together relevant internal stakeholders from Business Development, Operations and staff with design, sustainability and environmental skills to discuss and establish parameters and expectations for the intent of the project and to identify a clear set of principles that can be carried through the HLBC and DLBC process.*

Insert details here

## 5.5 Project Objectives/Principles

*Outline of the preliminary project objectives/principles which clarify the pathway to achieve the project vision/ intent.*

Insert details here

## 5.6 Key Project Benefits and Outcomes

*Outline of expected outcomes and benefits.*

| | Expected Outcomes | Expected Benefits |
|---|---|---|
| *Economic* | | |
| *Social and Community* | | |
| *Environmental* | | |
| *Design* | | |

## 6 DEVELOPMENT OUTCOMES BASED ON PROJECT OPPORTUNITIES AND CONSTRAINTS

### 6.1 Synthesis of Development Opportunities and Issues

*Based on the above investigations and analysis outline the key / critical development **issues / challenges** and importantly the **opportunities** that need to be investigated further or overcome. By flagging these issues and opportunities early, we can ensure that they are appropriately considered by the Executive and explored at later stages in the project (if approved).*

*When providing a synthesis of the key opportunities and constraints consider the following:*

- *What are the key challenges / constraints that will need to be addressed for the project?*
- *Do these challenges provide us with an opportunity to demonstrate innovation or tackle the challenge differently (for example where resources could be used more efficiently or we could deliver enhanced social, economic or environmental outcomes)?*
- *What opportunities does the site provide when we think about it in its broader context?*

Investigations to date have highlighted Insert details here

### 6.2 Development Outcome Options

*Based on the opportunities and constraints, outline several options for the development outcome (i.e. what we will see on the ground). Options for development outcome may include:*

- *the minimum standard (for example based on stakeholder involvement / expectations to date, or what needs to occur to remove constraints)*
- *different development outcomes that have come from the analysis, such as land use, density, fill, adoption of a sustainability assessment tool.*
- *the business as usual approach compared to an approach that incorporates innovation or sustainability to solve the particular challenges and opportunities of the site in a different way.*

| | **Development outcome #1 e.g. BAU** | **Development outcome #2 e.g. Good practice** | **Development outcome #3 e.g. Best practice** |
|---|---|---|---|
| *Examples* | 1. *Full fill*<br>2. *Density typical of the area*<br>3. *No assessment tool*<br>Insert details here | 1. *Fill minimisation approach*<br>2. *Response to density that surrounding area*<br>3. *Assessment tool – good practice level*<br>Insert details here | 1. *Fill minimisation approach incorporating innovative built form response*<br>2. *Response to density that has the opportunity* |

| | | | |
|---|---|---|---|
| | | | *to be the new model for infill*<br>*3. Assessment tool – best practice level*<br>Insert details here |
| **Description of key differences** | | | |
| **Images/sketches (if available)** | | | |
| **Benefits** *Quantitative and qualitative comparisons* | | | |
| **Costs** *Quantitative and qualitative comparisons* | | | |
| **Recommendations** | | | |

## 6.3 SWOT Analysis

*To inform the development outcomes, outline the Strengths, Weaknesses, Opportunities and Threats (SWOT) based on the site and context investigations and analysis.*

| **Strengths** *(internal factors)* | **Weaknesses** *(internal factors)* |
|---|---|
| • Insert details here<br>• Insert details here<br>• Insert details here<br>• Insert details here | • Insert details here<br>• Insert details here<br>• Insert details here<br>• Insert details here |
| **Opportunities** *(external factors)* | **Threats** *(external factors)* |
| • Insert details here<br>• Insert details here<br>• Insert details here<br>• Insert details here | • Insert details here<br>• Insert details here<br>• Insert details here<br>• Insert details here |

## 6.4 Risk Assessment

Complete a risk assessment using the Project Risk Management Procedure and populate the following table with the results.
*Add a table summarising project risks into major, moderate and low risk items*

| Causes of Risk | Risk (Event) | Consequence / impact (description) | Rating | | Risk Level | Risk Treatment – Existing Controls | Risk Treatment – Mitigation Strategies (What else could be done) |
|---|---|---|---|---|---|---|---|
| | | | Consequence | Likelihood | | | |
| | | | | | L | | |
| | | | | | M | | |
| | | | | | Mo | | |
| | | | | | H | | |
| | | | | | E | | |

### 6.5 Project intent/ preliminary vision

*Outline of the preliminary project intent/ vision which draws from the preliminary site and context investigations and analysis. Consider holding a 'project intent workshop' to bring together relevant internal stakeholders from Business Development, Operations and staff with design, sustainability and environmental skills to discuss and establish parameters and expectations for the intent of the project and to identify a clear set of principles that can be carried through the HLBC and DLBC process.*

Insert details here

### 6.6 Project Objectives/Principles

*Outline of the preliminary project objectives/principles which clarify the pathway to achieve the project vision/ intent.*

Insert details here

### 6.7 Key Project Benefits and Outcomes

*Outline of expected outcomes and benefits.*

| | Expected Outcomes | Expected Benefits |
|---|---|---|
| *Economic* | | |
| *Social and Community* | | |
| *Environmental* | | |
| *Design* | | |

## 7 DELIVERY OPTIONS ASSESSMENT

### 7.1 Investment Delivery Options Considered

| Option 1 | Option 2 | Option 3 |
|---|---|---|
| Insert details here | Insert details here | Insert details here |

### 7.2 Preferred Delivery Option Model

Insert details here

# 8 FEASIBILITY

## 8.1 Key Issues

Insert details here

## 8.2 Key Inputs and Assumptions

*List key issues and assumptions, such as:*

- *Purchase price & date.*
- *Lot yield and product mix.*
- *Development Costs (per lot)*
  - *Professional fees.*
  - *Civil construction costs.*
  - *Landscaping costs.*
  - *Statutory fees and charges.*
  - *Marketing and sales costs (incl incentives and Native Title).*
- *Cost and sales escalation assumptions*
- *Lot sales price(s).*
- *Lot sales rate(s)*

Insert details here

## 8.3 Indicative Timeframe and Milestones

*Summarise key milestone such as:*

- *Site acquisition*
- *Commence detailed site planning*
- *Civil works commence*
- *First land sale forecast*
- *Final land sale forecast*

Insert details here

## 8.4 Financial Summary

Insert details here

The results of the preliminary DCF are summarised below: *Amend rows to fit requirements, Inputs to replicate Estate Master Summary Sheet.*

| ***Preliminary Feasibility***<br><br>***DCF*** | ***Financial Summary*** **(Excluding Escalation Assumptions)** | ***Financial Summary*** **(Including Escalation Assumptions)** |
|---|---|---|
| *Net Revenue (excludes GST)* | | |
| *Net Development Cost (includes Purchase Price and excludes GST)* | | |
| *Net Development Profit* | | |

| | |
|---|---|
| *Return on Cost (%)* | |
| *Internal Rate of Return (%)* | |

# 9 PROJECT IMPLEMENTATION

## 9.1 Governance and Roles

*Now, future stages, LandCorp's role – normally determined during Detailed Business Case.*
Insert details here

## 9.2 Procurement

*Procurement of consultants and capital works, etc – normally determined during Detailed Business Case.*
Insert details here

## 9.3 Organisational Capacity

| | ***Please mark where appropriate*** | | |
|---|---|---|---|
| ***Project complexity*** | ☐ Major | ☐ Complex | ☐ Standard |
| ***Likely resource need*** | ☐ Project director | ☐ Senior DM | ☐ DM |
| ***Est time requirement*** | ☐ High | ☐ Moderate | ☐ Low |
| ***Urgency of project?*** | ☐ High | ☐ Moderate | ☐ Low |
| ***Required skills*** | *Identify internal skills that would be required to consider, resolve and progress the identified opportunities and constraints (e.g. manager for sustainability, design, community engagement, RAP etc.)*<br>Insert details here | | |

## 9.4 Funding Strategy

Insert details here

## 9.5 Land Assembly

*Brief outline of Acquisition process.*
Insert details here

## 9.6 Statutory Approvals

*Brief outline of requirements of planning approval.*
Insert details here

## 9.7 Sustainable Development Planning

*Briefly outline the minimum policies, strategies, plans, assessment tools, design reviews and innovation focus the project will need to investigate and consider as it progresses.*

*This may include the following scope:*
- *The application of LandCorp's Housing Affordability Policy*
- *The application of LandCorp's Climate Responsive Design Policy*
- *The application of LandCorp's Biodiversity and Landform Retention Policy*

- *The application of the PRECINX modelling tool to inform decision making*
- *The application of the fill minimisation approach*
- *The adoption of xxx industry assessment tool (the assessment tool could include the GBCA Green Star Communities, UDIA Enviro Development, Bioregional One Planet Living)*
- *Application of at least one design review at concept planning and at least one at design development*
- *The following plans are likely to be important inputs into the development xxxxx (for example a waste management plan, or plan for alternative infrastructure)*
- *Innovation focus on the following challenges of waste and waste, it is recommended that the project consider an application to the innovation fund.*

Insert details here

### 9.8 Communications and Marketing

*Brief outline of key communications and marketing.*
Insert details here

### 9.9 Risk Mitigation

*Brief outline of mitigation strategies of risks.*
Insert details here

### 9.10 Ongoing Management Operations

*I.e. Ongoing management arrangements/agreements.*
Insert details here

## 11 SUMMARY OF EXPECTED TRIPLE BOTTOM LINE OUTCOMES

*This section should be completed in conjunction with the Sustainability Strategy Coordinator.*

*Provide a summary of how the project is expected to balance the triple bottom line (social, environmental and financial) aspects and the level of market leadership or innovation expected of the project.*
*The table provides a quick overview of the 'balance' and needs to be supported by text.*
*This could be used to support sensitivity analysis as part of HLBC discussions with stakeholders to illustrate the impacts of increasing or reducing the focus of any one of the triple bottom line aspects. This information will provide a baseline for the DBC.*

| *Triple bottom line aspect* | *High, medium or low emphasis OR*<br><br>*Level of emphasis for each aspect (totalling 100%)* | *Commentary on balance* |
|---|---|---|
| *Social* | | *Examples:*<br>• *innovation through demonstration,*<br>• *best practice which will be monitored through an industry accreditation tool,*<br>• *not an emphasis for this project – the focus will be on identifying and managing social risk and BAU approaches for community engagement and community development. Innovation is not anticipated.* |
| *Environmental* | | |
| *Financial* | | |

Insert details here

## 12 CONCLUSION

### 12.1 Recommendation

*That the CEO in Executive Approve:*

1. *The High Level Business Case;*
2. *Business Development handing over the project to Operations to complete the Detailed Business Case in line with the approved HLBC; and*
3. *Business Development providing ongoing support to Operations in assessing the development opportunities during the compilation of the Detailed Business Case.*

Insert details here

## 12.2 Additional Comments

Insert details here

## 13 APPROVAL

| | | | |
|---|---|---|---|
| **High Level Business Case APPROVAL** | **High level Business Case Date** | | / / |
| | **Executive Approval Date** | | / / |
| **BD&M**<br><br>**Prepared by: BD Manager** | **Name:** | **Operations handover Manager** | **Name:** |
| | | **Development Manager** | **Name:** |
| **Checked by: BD Manager** | **Yes / No** | **Acquisitions Business Manager** | **Name:** |
| **Approved by: BDM General Manager** | **Yes / No** | **Marketing Manager** | **Name:** |

**LIST OF ATTACHMENTS:**

**ATTACHMENT 1 – Site Location Map** *(with aerial background if suitable)*
**ATTACHMENT 2 – Site Photos**
**ATTACHMENT 3 – DCF Summary Sheet (Unescalated)** *(Insert Estate Master Summary Page)*
**ATTACHMENT 4 – DCF Summary Sheet (Escalated)** *(Insert Estate Master Summary Page*
**ATTACHMENT 5 – ?***(Optional)*

ATTACHMENT 1 – Site Location Map
*(with aerial background if suitable)*

## ATTACHMENT 2 – Site Photos

## ATTACHMENT 3 – DCF Summary Sheet (Unescalated)

*(Insert Estate Master Summary Page)*

ATTACHMENT 4 – DCF Summary Sheet (Escalated)
*(Insert Estate Master Summary Page)*

## ATTACHMENT 5 - ?

# CRC Water Sensitive Cities - Integrated Research Project 5 (IRP5): Impact of urban development on the catchment-scale water balance in areas of high groundwater – Stage 2 proposal

**Desired CRCWSC outcome:** Formulation of an interim framework for land to be developed that is subjected to high seasonal groundwater table based on the considerations of the current scientific knowledge and industry experience on this topic. This framework will facilitate the objective of learning-by-doing and co-creation of innovative solutions amongst key stakeholder groups (industry-government-research institution), preferably centred around the Brabham development.

## Project scope

It is recognised that it is likely to take a number of years to be able to deliver all the outcomes desired by this project. It is therefore suggested that the project will be delivered in phases as follows:

- Work package 1: Expert review of local case studies and literature to document uncertainties and recommend an interim range of values for key modelling parameters and design assumptions, together with a process for reducing uncertainty in the future; and
- Work package 2: Establishment of field validation study and preliminary findings for consideration in Work Package 1.
- Work package 3: Completion of field validation of recommended parameter values and creation of reference catchments for calibration of models.

### *Work package 1: Expert panel review*

The Expert Panel will be convened to:

- Review three or four case studies of development in shallow groundwater environments to identify the technical and/or process barriers that needed to be overcome and the level of certainty behind the selection of modelling assumptions. This will include interviews with the key industry practitioners and decision makers to understand process and help clarify the assumptions and levels of uncertainty presently being used in the decision making and modelling processes. . Key assumptions to be reviewed include annual and event-based runoff rates and recharge rates at different scales, evapotranspiration rates and their application in water balance modelling and stormwater management system (including groundwater impacts) modelling;
- Develop an industry supported interim framework for the selection and documentation of modelling parameters including guidance on; reasonable ranges for key parameters, acceptability of assumptions vs field measurements; managing uncertainty and undertaking appropriate sensitivity testing; and
- Recommend a way forward to move from qualitative to quantitative assessment and reduce margins of error including through improved sharing of groundwater information. This can be incorporated into policy and guidelines which are currently under review (provided it is completed within the SPP and/or IPWEA Subdivisional Guidelines review timeframe(s).

The panel needs be have a combination of policy and science expertise to ensure the framework that is developed meets both scientific and practical policy implications. It is proposed that the Expert Panel comprises CRCWSC Board Member Greg Claydon as Chair, together with Dr Mike Mouritz as Chair of the WRAP and Dr Sally Thompson, who has international expertise in SW-GW interactions. The panel

should also include one or two additional people with expert knowledge in urban hydrology, to be recommended by the CRCWSC.

The Panel should seek submissions from WA practitioners and approvals agencies to provide insight and background information relevant to case studies. It is recommended that the UDIA Urban Water Committee and the Development in Groundwater Constrained Environments Working Group are briefed on the process and asked to assist with the identification of suitable case studies. These are both formed from established and locally respected groups of professionals who well positioned to provide support and input to the process. .

It is anticipated that the work of the expert panel will be completed within 6-8 months, with an estimated 175 hours with a budget of $40,000 (including any administrative, travel and workshop expenses).

### *Work packages 2 and 3: Validation of groundwater dynamics*

It is recognised that greater industry support for the recommendations for parameterisation will be achieved through on-site field validation. In effect, the aim is to develop the equivalent of a 'calibrated catchment'. This phase will therefore be designed to determine how urban development changes soil water dynamics, including storage and interflow, and thus recharge. This will involve quantification and establishment and refinement of a conceptual model(s) of how water table dynamics affect infiltration/exfiltration water into soil water storage, and thus recharge to and discharge from groundwater, as well as the relative contributions of different infiltration sources and groundwater to interflow, and the contribution of interflow to runoff.

This phase requires the measurement of run-off and recharge at a number of scales and range of development conditions. Collating data of this type will require a number of wet seasons to understand variability. It is therefore essential that this work package 2 and 3 commence at the same time as work package 1.

The Validation of Groundwater Dynamics has been sub-divided into two distinct work packages to reflect the planned timeframes for completion of key deliverables outlined below. Work package 2 is designed to be completed within the timeframes required for CRCWSC investment, with work package 3 being delivered as ongoing and separately funded works.

**Deliverables for work package 2:**

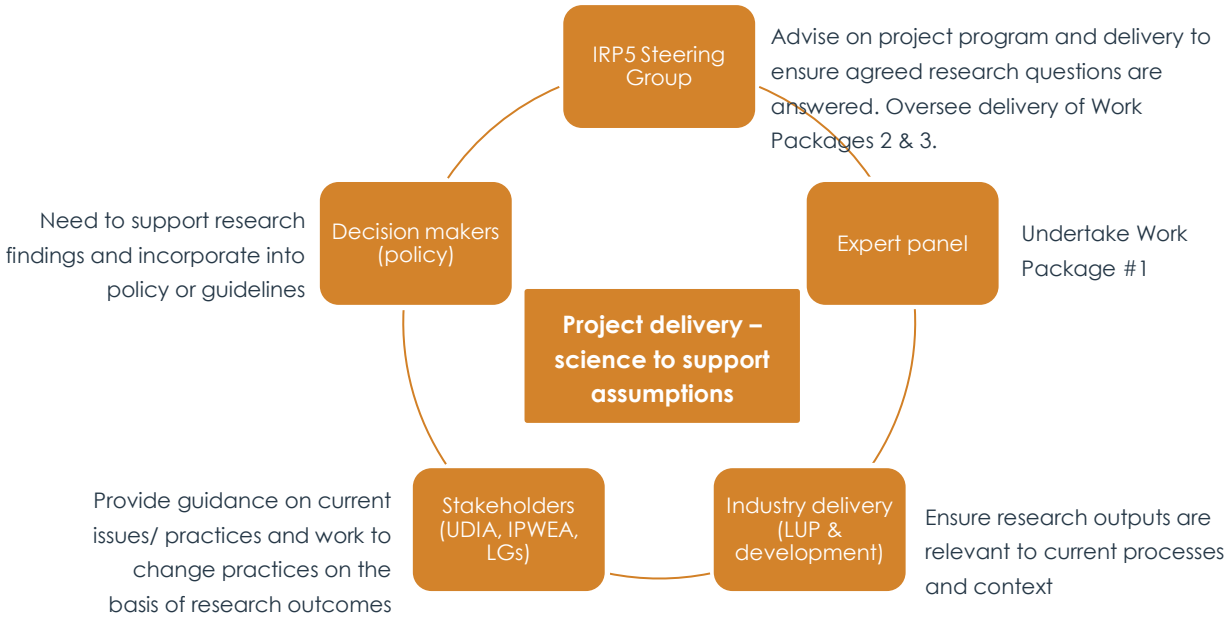
- Field validation site selection and establishment report
- Field validation sampling and analysis plans (which will be reviewed by the Expert Panel)
- Preliminary results for consideration in Work Package 1 to support recommendations and reduce levels of uncertainty (requires validation testing to commence by May 2019)

**Deliverables for work package 3:**

- Field validation findings reports
- Reference catchment models
- Guidance documents for selection of parameters and construction of models

## Process for delivery

Delivery of this project will require active involvement of industry, together with regulators and research organisations. The project will be overseen by the IRP5 Project Steering Group. The roles are broadly described as follows:




## *Timeframes*

The following timeframes are suggested:

| | |
|---|---|
| Finalise scope and agree budget | April 2019 |
| Establish expert panel and agree ToR via IRP5 Project Steering Group | May 2019 |
| WP1: Identify case studies and call for projects. Commence review | May 2019 |
| WP2: Prepare site selection report and SAPs for review by Expert Panel | May/June 2019 |
| WP2: Install monitoring equipment and commence monitoring | June 2019 |
| WP1: Preliminary findings and Industry workshop | August 2019 |
| WP2: Preliminary findings report | October 2019 |
| WP1: Finalise Interim framework and guidance | November 2019 |
| WP3: Continue monitoring, analysis and review | April 2020 |

## *Budget*

The proposed budget is as follows:

| | |
|---|---|
| WP1: Expert review and industry consultation | $40,000 |
| WP2: Field validation winter 2019 (including reporting) | $180,000 |
| WP3: Field validation 2020 and beyond | $200,000 (in 2020) |

It is understood that the CRCWSC is willing to invest $150,000 in this project in 2019/20. This will complement the funding already committed by WA participants of:

- $57,000 by the Brabham project for on-site water resource monitoring,
- $223,000 funded by DBCA, Chem Centre and Water Corporation in FY1819, across REG6-2 (*Protection of urban waterways*), REG6-4 (*Hydrological monitoring, water balance estimates and hydrological performance assessment of Anvil Way and Wharf St wetlands*), REG6-5 (*Options to improve performance of Roselea Compensating Basin*) and REG6-6 (*Hydrological and nutrient modelling of the Swan Canning catchment-estuary system*).
- $131,000 committed by DBCA for REG6-6 in FY1920.
- $70,000 committed by DoC and DWER to meet projected IRP5 project budget requirements.

$95,000 has also been committed by CRC across FY 1718, 1819 and 1920, within the TAPs UWA project (*Assessment of capability of TAPs framework to manage groundwater interactions)*.

## Attachment 1: Summary of existing arrangements – policy requirements and collaboration

Western Australia established a process to consider water resources as part of the planning and development approvals system in 2008. This process, which is documented in *Better Urban Water Management* (WAPC, 2008) supports achievement of the objectives of *State Planning Policy (SPP) 2.9: Water Resources*. Although this SPP is currently being revised, the existing requirements provide sufficient guidance on the information required to support decision making.

For example, with regards to managing shallow groundwater, the requirements documented to support a local structure plan are:

- Identify the current state of the resource at the local level, based on site investigations, including quality, direction of flow and levels.
- Demonstrate that potential impacts to groundwater and water dependent environments to be protected are avoided or minimised. Demonstrate that any potential impacts will not have a significant environmental impact. Where any changes to the hydrological regime are proposed, this should be demonstrated consistent with the Guidelines for ecological water requirements for urban water management currently being developed by DoW.
- Assess potential for short-term mobilisation of nutrients and contaminants resulting from development works as well as long-term impacts on groundwater quality from development. Where necessary, identify pollutant pathways.
- Demonstrate need for controlled groundwater levels or subsoil drainage where proposed, identifying likely changes in groundwater levels.
- Explore potential for use of shallow groundwater for a non-potable source.

These requirements are further explored in the Urban Water Management Plan which supports the subdivision, where the requirements are to:

- Identify nutrient levels and pollutant pathways relating to background levels and contamination/nutrient hot spots.
- Map groundwater level contours – existing and proposed.
- Identify floor level heights and fill requirements.
- If proposed, outline subsoil drainage strategy, including avoidance and management of impacts on water dependent ecosystems and treatment of subsoil drainage water, prior to discharge to the surface water system. The subsoil drainage strategy should also address areas with nutrient-rich groundwater.
- Identify groundwater recharge rates.

Additional guidance is provided in *Water resource considerations when controlling groundwater levels in urban development* (Department of Water, 2013), *Interim*: *Developing a local water management strategy* (Department of Water, 2008), and *Urban water management plans: Guidelines for preparing plans and for complying with subdivision conditions* (Department of Water, 2008).

In response to these requirements, the practitioners in WA make assumptions to predict:

- changes to groundwater levels post development;
- runoff and recharge rates under different conditions for stormwater management; and
- interactions between surface water and groundwater.

These predictions are based on access to best available science and guidelines such as *Australian Rainfall and Runoff* (2016) and the *Specification: Separation distances for groundwater controlled urban development* (IPWEA, 2016). A recent workshop in Bunbury held by the Department of Water and Environmental Regulation suggested that there is little disagreement between regulators and experienced practitioners regarding the approaches and assumptions being used. It was noted however, that there was limited field data on performance of stormwater management strategies in

areas of high groundwater and so there was a need to test and validate these approaches and assumptions to support ongoing practice.

Collaboration is also embedded in the land and water planning process. *Better Urban Water Management* requires that proponents preparing Water Management reports consult with the regulator and local government regarding the proposed strategies and solutions, including critical elements such as the assumptions used in modelling. WA also has numerous forums that facilitate collaboration around groundwater issues, including the Land Development in Groundwater Constrained Environments Steering Group, the Drainage Leadership Group and UDIA WA's Urban Water Committee.

This process has successfully resulted in the approval of a number of developments in areas of high groundwater. These include Whiteman Edge, North Forrestdale and various sites in Wungong. Although the building industry and community preference is still for flat, sandy 'A-class' sites (which have a low development risk), the cost of sand fill and desire to build more sustainably is driving some change. This may result in increased risk in areas where separation distances are reduced or unconventional building practices are used.

## Key barriers/gaps

The key issue, which has been reinforced by the findings of B2.4 and Stage 1 of IRP5, is that fundamental science is missing to provide the foundation for best practice urban development in high groundwater environments. This missing science is the reason why there is still debate among WA water management practitioners on whether current approaches and assumptions are justifiable.

CRCWSC Tranche 1 project B2.4 examined urban development in high groundwater areas worldwide. It found there was a lack of field data on the long term water quality performance of vegetated assets in areas of high groundwater (represented in modelling by annual run-off coefficients and recharge rates) or how the surface water system impacts on groundwater levels as a result of urbanisation and how this may vary with urban form (represented by event-based run-off coefficients and recharge rates).

It is also noted that the applicability of assumptions also depends on the scale at which they are applied. DWER has recently undertaken modelling for flood events in Wungong. The modelling revealed the risk of a short-fall in catchment flood storage when the modelling is undertaken at an estate scale. Field validation is therefore required to facilitate creation of a reference data-set for calibration of models at precinct, street and lot levels.

## Key available guidance used in WA

Department of Water, 2013, *Water resource considerations when controlling groundwater levels in urban development*, Perth, Western Australia.

Department of Water, 2008a, *Interim*: *Developing a local water management strategy*, Perth, Western Australia.

Department of Water, 2008b, *Urban water management plans: Guidelines for preparing plans and for complying with subdivision conditions,* Perth, Western Australia.

Commonwealth of Australia (Geoscience Australia), 2016, *Australian Rainfall and Runoff*

IPWEA, 2017, *Specification: Separation distances for groundwater controlled urban development,* Institute of Public Works Engineers, Perth, WA

Western Australian Planning Commission, 2008, *Better Urban Water Management*, Department for Planning, Perth, WA.

# Western Region Manager Update

## WRAP 18th June 2019

| Activity title | Outcomes achieved | Priority going forward | Items for RAP to note |
|---|---|---|---|
| CRCWSC executive | Tony Wong visited Perth 13 may to discuss Bentley with WC (Pat Donovan and Mike Hollett), Greg Cash (DoC) and Transformative Cities.<br>Tony returned 10 June to meet with DWER, WC, LC, DBCA and Health. | Barry Ball will provide details around how Capacity Building and WRAP funding can be spent. | For Information: list of signed up partners to be presented |
| CRCWSC Board | The CRCWSC Board met 7 June<br>WSC Institute Board has regular Board meetings | | |
| CRCWSC AC | | | |
| EPRG | Held meeting on 30 May to discuss Transformative Cities | | |
| Research including Tranche 1 and Tranche 3 | Future Cities CRC (former Low Carbon Living) did not pass stage 1. There is also a CRC RACE (Reliable, Affordable, Clean Energy) which some of our partners are exploring opportunities.<br>Tony Wong met with Dept Health 13 May and 10 June<br>WSTN Research subcommittee met 2 April<br>Texan researchers looking at wastewater reuse and Desalinisation presented on 16 May<br>The Research subcommittee met 2 April to discuss Transformative Cities, IRP5 and other research priorities in WA.<br>EY has asked WSAA if they are interested in a joint event for 1) Vic RAPS IRPs case studies/ Rita Chandras work and 2) Frontier Economics Liveability report. | | For Information: Survey is open for the Climate Health WA Inquiry that seeks to protect the public from the health impacts (including heat) and you can participate here https://consultation.health.wa.gov.au/environmental-health-directorate/0c233428/<br><br>For Information: Transformative Cities webpage and prospectus found https://watersensitivecities.org.au/content/transformative-cities-crc-harnessing-the-power-of-water/<br><br>For Information: Paper by Frontier economics for WSAA https://www.wsaa.asn.au/news/new-paper-health-benefits-water-centric-liveable-communities |
| General operations and Regional Manager | Water Technology representative on the RAP is Scott Wills following Richard Connell leaving for a new role in the mining sector<br>RM meeting 16 and 17 July followed by the Festivus for the CRCWSC staff 18 and 19. | Begin Process for the 19/20 RAP Business Plan in June | |
| Transition Network | Ashley Vincent has left the Water Corporation and his role as chair of the WSTN. We wish him well in his future pursuits.<br>Meeting held 7 May was chaired by John Savell and agreed to request a meeting with the Minister for Water on Tuesday 7 June to discuss Part B. | | On agenda |
| Adoption - IRP1 | Transition Strategy Part B is soon to be finalised and is with CRCWSC communications for a final editing. | | |
| IRP2 | The updated versions of the INFEWS tools are available to participants non-members will be given access to the tool later in 2019.<br>Full day training sessions on the INFEWS tools are occurring 13th June, 2019 for participants (not regulators as previously claimed). The tool will be updated after the training sessions.<br>In September there will be a "super-user" session for champions and the IRP2 team is looking for SMEs to deliver commercial opportunities beyond the project.<br>Ideas for financing synthesis workshop will occur end of 2019 in the eastern states. WA has expressed interest in accessing some of the learnings via video or following up on this session with a WA based workshop<br>James Fogarty is working on a World Bank project with the CRCWSC on a project that will help with WP4<br>Urban heat reports from Nigel and Kym have both been sent to the Chief Research Officer.<br>Maksym would like to inform the RAP that site suggested in Wungong is not suitable due to low sales, but others in that area are suitable (Piara Waters and Harrisdale) and he has a masters student on it with results in October. | | Discussion: Who are the essential non-member people that should be targeted to attend the super-user session eg participant or non-participant consultants, utilities?<br><br>Discussion: Maksym would like to know when then Wungong/Piara waters/ Harrisdale evaluation of living stream in greenfield development is required and any other comments/suggestions regarding this plan.<br><br>For information: INFEWS updated tool/ software found https://watersensitivecities.org.au/research/our-research-focus-2016-2021/integrated-research/irp2-beta-resources/<br><br>For information: BCA Tool fact sheet found https://watersensitivecities.org.au/content/inffews-benefit-cost-analysis-tool/<br><br>For information: Value Tool fact sheet found https://watersensitivecities.org.au/content/inffews-value-tool/ |
| IRP3 | Brabham IRP3 workshop held 16 April and 7 June. First ~~workshop~~ developed list of issues, pathways and stakeholders to help resolve them. The second | | |

| Activity title | Outcomes achieved | Priority going forward | Items for RAP to note |
|---|---|---|---|
| | explored pathways for Water resources/Environment, infrastructure, planning. | | |
| IRP4 | PSC meeting held April 25.<br>Knutsford Minister for Lands and Hon Ben Wyatt MLA launched East Village on 25th April.<br>Key Outputs:<br>• the WMB Tool beta;<br>• Design Typologies Catalogue including Precinct Designs for Salisbury SA and Knutsford (draft);<br>• Infill Performance evaluation framework (draft) whose purpose is to understand the impacts and design.<br>• | | |
| IRP5 | Proposal and ToR for Expert Panel presented to Tony Wong in early April. CRCWSC responded and approved the Expert Panel. A small group is coordinating the response which will include local funding for validation of groundwater dynamics.<br>Workshop titled "Discussion of urban runoff coefficients workshop" in Bunbury DWER on 19 March run by Krish Seewraj<br>Stage 1 Report will be on website soon | | Attachment4a and 4b: IRP5 proposal and Expert Panel ToR<br><br>Attachment4c: CRCWSC response |
| Opportunities – policy | The TN policy subcommittee held a meeting 31 April. | | On agenda |
| Opportunities - Projects | Jamie Ewert is looking for new subsidized ($10k discount) Ideas projects for April –June 2019 and July2019 –June 2020.<br>EY met with small group on 30 May to discuss possible Ideas for topics. | meet with James Fogarty on bringing Ideas for finance to WA | On agenda |
| Grants and Funding | City fo Joondalup has Yellagonga grant under smart cities<br>City of Perth has irrigation and data portal grant under smart cities | | |
| TAP1 - WSC index | WSC Index workshops held in Bayswater 30th April Kwinana 16th May.<br>WWC likely to fund councils again this FY<br>Further WSC Index accreditation training will be through an open EOI in late April or May. | | Attachment4d: EOI for accreditation training |
| TAP2 – planning scale | Will hold a training session on 11 and 12 September at UWA on the scenario Tool. | | |
| TAP3 – detailed | | | |
| Adoption - WA Research and Adoption Plan | National priorities and strategies related to WA:<br>• Develop a business case for looking after a WSC<br>• Schematics for how we deliver WSC outcomes for a range of urban form typologies – incorporate costs and benefits to builder and homeowners<br>• Health & water narrative<br>• Vic RAP IRP2 case studies<br>• Doing some short videos of Nigel Tapper explaining the key research findings on urban heat<br>• community engagement learning modules this year<br>• Clearwater M&E EOI<br>• Passive irrigation guidelines<br>And for 2019<br>• Economics evaluation and roll out of IRP2 outcomes<br>• Clearwater courses<br>• Leadership course with Andre<br>• Working with Industry bodies to get CPD credits for our activities<br>• Review models for collaboration and funding for national network and capacity building programs<br>• Clearwater M&E EOI and report<br>• Health & water narrative – scope and deliver<br>• Short videos for benefits of Index, TDF, BCA tool & Scenarios platform | | |
| KAT – capacity | Held speaker series on "Repairing urban waterways using the RESTORE tool" | | On agenda. |

| Activity title | Outcomes achieved | Priority going forward | Items for RAP to note |
|---|---|---|---|
| building and community engagement | Unable to include WA data for the National Passive Irrigation Guideline<br>Agreed to run an interagency workshop for the City of Swan and a workshop with a local government to assist in building a business case and support for a Drainage for Liveability project. | | |
| Analysis: Evaluation | WA was unable to find a suitable new WA case study for Kim that met the criteria<br>New Transformative Cities CRC mainstreaming program will focus on this area. | | |
| Conferences | CRC conference presentations can be accessed: https://watersensitivecities.org.au/content/wsc-conference-2019/<br>EY will presented at Nature city 26-28 June and Nature link 5 July<br>WA Local Government Convention, 7-9 August 2019, https://walga.asn.au/News,-Events-and-Publications/Events/2019-WA-Local-Government-Convention | | |
| Media | Spanish film crew filmed a documentary and included Josh's house. | | |
| Stakeholder engagement by Regional Manager | Various meetings including:<br>• Jamie Yallup Farrant from 350 org networks across health<br>• Maria Ignatieva Social aspects of lawn research<br>• Christine Allen from Greening Australia re benefits of trees<br>• Emma Ligtermoet on social aspects of verges<br>• EY presented at Transition Margaret River (community members interested in carbon free, low impact, sustainable communities) on 16 May after a request from Katie Biggs from Busselton water.<br>• David Nicholson and John Mckinney from Augusta Margaret River Shire<br>• Tina Zhang re water stories<br>• Chris Elliot and Chris Vigus from Busselton Water<br>• Paul Needham from Busselton Shire<br>• Gary Hallsworth and Amanda Caunt from Aqwest.<br>• Various stakeholder regarding Transformative cities | | |
| Development sector engagement | UDIA water committee meeting held 22 March and May 31.<br>Alternative water supplies subcommittee meeting regularly.<br>Status of developer landing page - will have 3 councils addressed 18/19 FY | | Discussion: Mike Mouritz presented on exemplar projects to UDIA |
| Local Government sector engagement | Katie Hammer and City of Perth ran a workshop using the transition dynamics framework workshop on 14 May and 12 June.<br>Laura Simes is replacing Mark Batty in water at WALGA.<br>EY presented on CRC Transformative Cities to WESROC and City of Canning and met with Busselton and Augusta Margaret River Shire.<br>Max and EY met with Vic Andrich regarding the Public Health Assessments. There are opportunities during the development approval process and in the LGAs public health Plan.<br>Exploring ways to include LGA research questions around how to green up in the 202020 tour. | | Attachment4e: Draft LGA update attached<br><br>On Agenda: How can we present to WALGA convention?<br><br>On Agenda: How to facilitate LGAs to undertake how to green up research? |
| Water utility engagement | Emma Yuen met with Aqwest and Busselton water for Transformative Cities | | |

**Emma Yuen**

**From:** Barry Ball <admin=crcwsc.org.au@cmail20.com> on behalf of Barry Ball <admin@crcwsc.org.au>
**Sent:** Monday, June 3, 2019 8:34 AM
**To:** Emma Yuen
**Subject:** 2nd Round of Water Sensitive Cities Index Accreditation

**Follow Up Flag:** Follow up
**Flag Status:** Flagged


# 2nd Round of Water Sensitive Cities Index Accreditation

Dear Emma,

The Cooperative Research Centre for Water Sensitive Cities is seeking expressions of interest for the **2nd Round of Water Sensitive Cities Index Accreditation.**

## The opportunity

The WSC Index tool has been developed to help cities assess and benchmark their current urban water performance and has been successfully applied in more than 30 cities and municipalities across Australia and internationally. The WSC Index is applied in a facilitated interactive stakeholder workshop to assess a range of water sensitive city indicators. For more information, visit the WSC Index website.

Each WSC Index workshop requires two facilitators with a strong working knowledge of Water Sensitive Cities principles and practices, who need to be trained in the application of the WSC Index tool and accredited by the CRCWSC. This is to ensure the facilitators have a thorough understanding of the tool and that data elicited from workshop participants across applications is robust and consistent.

## The benefits

There are several benefits in becoming an accredited WSC Index provider. These include, but are not limited to:

- Better understanding of the range of outcomes and actions associated with becoming a water sensitive city
- Ability to offer strategic advice to cities and councils, supported by research and evidence
- Formation of strategic commercial and business opportunities with clients
- Creating a starting point for ongoing water sensitive cities projects (e.g. transition strategies, IWM strategies, case studies, research synthesis workshops, implementation plans)

**The training**

The training will be held over two days in August 2019 in Melbourne. There is ***no cost*** for the training for CRCWSC partners, however you will need to cover your own travel and logistical costs to attend the session.

In order to become accredited, the nominated person must attend the training and be observed by the CRCWSC delivering a WSC Index workshop.

**Who can apply?**

Any organisation that is a partner of the CRCWSC can apply for accreditation. This includes consultants and SMEs, water utilities, and government and non-government organisations. However given the intensive nature of the training, spots are limited.

Please note this expression of interest is for ***individuals*** to become accredited, not organisations.

**Application steps**

Please complete this expression of interest google form to register your interest. Registrations close on **Wednesday 19th June**.

You will be notified if you have been chosen for training by the end of June. Further details on the training (including specific date, venue, and background materials) will be circulated once the attendees have been notified.

Further rounds of Index Accreditation are planned with the timing of these to be determined based on market demand for application of the WSC Index tool.

Unsuccessful EOI's for this 2nd Round of Index Accreditation are encouraged to submit an EOI for future Rounds when announced.

**APPLY NOW**

**Selection criteria**

The CRCWSC will select training attendees based on the following criteria:

- Number of accredited providers within an organisation and geographic location
- Appropriate range of organisations with accredited providers
- Demonstrated knowledge and familiarity of the Australian water sector
- Demonstrated knowledge of and experience applying water sensitive city concepts
- Demonstrated ability to facilitate workshop discussions which may include divergent views and opinions
- Proposals around the use and further development of the Index

Further enquires can be directed to wsc-index@crcwsc.com.au

Sincerely,

Barry Ball
Research Adoption Executive
CRC for Water Sensitive Cities

Cooperative Research Centre for Water Sensitive Cities
Email. info@crcwsc.org.au
Phone. (03) 9902 4985

Unsubscribe

CRC for Water Sensitive Cities

# Att4c:LGA update

Dear Local Government 'Water Sensitive City' participant,

Please find attached the latest LGA update including links to relevant webpages.

Congratulations to City of Canning for winning platinum Water Wise Council! Great job achieved through years of hard work and effort.

Also in breaking news, a new CRC round has been announced with submissions due July 2019 and we hope you will join us in the CRC for "Transformative Cities".

In this issue:

1. New CRC Bid for "Transformative Cities"
2. Upcoming events
3. How to join the mailing list
4. Instructions on how to search and login to the website
5. Key Guidelines developed by the CRCWSC
6. Tools for delivering Water Sensitive Cities
7. Case studies and exemplar developments
8. Research Outputs and Outcomes

More detailed information can always be obtained through your Regional Manager.

Kind Regards

**CRC Water Sensitive Cities (CRCWSC) Update 2 for Local Governments**

## Contents




Australian Government
Department of Industry, Innovation and Science
Business Cooperative Research Centres Programme

CRC for
Water Sensitive Cities

## 1. Transformative Cities - CRC Bid

The next CRC round is open and our bid for "Transformative Cities" will be submitted on 1st July. More information can be found on the Transformative Cities website or in the Prospectus.

To be involved local Governments are invited to contribute $10K+ and Regional Councils are invited to contribute $10k per council member.

## 2. Upcoming events

| | |
|---|---|
| May 29 @ 5:30 pm - 7:30 pm | NWW Water Industry Night – What can we learn from the past? Ancient WSUD that works today |
| Jun 5, Jul 3, Aug 7, Sep 4, Oct 2 @ 1:00pm | CRCWSC monthly webinar on how to use the Scenario planning tool |
| 13 June | CRCWSC economic tool (INFEWS) training session at UWA |
| 5 July | NatureLink Perth will hold a workshop at Murdoch to develop a coordinated approach to integrate nature into our city |
| 26-28 June | Nature city Symposium will be held in South Perth |
| 11-12 September | CRCWSC scenario planning tool training at UWA |
| September – tba! | CRCWSC economic tool champion training at UWA |
| 1-5 December | Small water and wastewater systems to be held at Murdoch |

If you or someone in your organisation would like to attend the CRCWSC activities, please email your contact details to emma.yuen@uwa.edu.au.

## 3. How to join the mailing list

There are a number of mailing lists you can join for water sensitive information:

- CRCWSC provide a monthly newsletter. Follow this link and enter your email address https://watersensitivecities.org.au/subscribe/
- New WAterways also provides a regular email including news and activities. Email the following and request to be added to this list: info@newwaterways.org.au

## 4. Instructions on how to search and login to the website

If you are having trouble finding information on the website, contact your Regional Manager emma.yuen@uwa.edu.au or call 0448889318 who can talk you through how to use the search function.

To obtain a participant login, send your email address to emma.yuen@uwa.edu.au and request for your details to be added to the participant database. Once your details have been entered, you can access the participant only content on the website in addition to the public domain information.

Please note that the first time using the site, you will need to reset your password using 'forgot my password'.

## 5. Key Guidelines and manuals developed by the CRCWSC

Recently released:

- Adoption guidelines for green treatment technologies
- RESTORE Compendium of fact sheets: Improving ecological function of urban waterways
- Strategies for Policy Influence for Scientists these tips are also relevant for non-scientists
- Database of words and visuals for engaging with community

Other standard guidelines:

- Trees for a Cool city
- Adoption guidelines for stormwater biofiltration systems
- Vegetation guidelines for stormwater biofilters in the south-west of Western Australia
- RESTORE Riparian Design Guidelines to Inform the Ecological Repair of Urban Waterways

CRCWSC partner documents

- ZAM WSUD handbook produced by Clearwater

## 6. Tools for delivering Water Sensitive Cities

### Water Sensitive Cities Index

The Waterwise Councils program continues to support local governments to benchmark themselves using the Water Sensitive Cities Index.

If you are interested in undertaking a workshop please contact your Regional Manager, Emma Yuen on 044888319 or the Waterwise Councils program.

### Transition Dynamics Framework

The transition dynamics framework helps assess the enabling environment to become more water sensitive and can be used at multiple scales. It was used in the development of Perth's Transition Strategy at the City Scale through focusing on 5 enablers for new practices to occur. It helps build the capability of practitioners to implement strategies while also providing a framework for monitoring the transition process.

It is part of a broader Water Sensitive Cities Transition Planning Process to provide strategic guidance for cities and towns wanting to accelerate their transition towards their vision of a water sensitive future.

The Transition Dynamics Framework is now being applied at the local government scale to help local governments identify priority strategies for advancing the transition to water sensitive practices. The City of Perth are the first council to apply this tool in mid 2019.

If you are interested in undertaking a workshop please contact your Regional Manager, Emma Yuen on 044888319 or Katie Hammer (03) 9905 4213.

## Scenario Planning Tool

The Scenario planning tool helps practitioners evaluate and compare water sensitive urban development options, approaches and impacts.

We are holding monthly webinars in 2019 and are rolling out 1-2 day face to face training in September. We will also be gauge interest in establishing a community of practice so that there is an ongoing peer support network.

During the CRCWSC monthly webinar on how to use the Scenario tool the tools and products (TAP) team will walk through how you can use the tool to test policy scenarios in a case study followed by "ask me anything" question session. If you are interested in attending the webinar please register here

The Scenario planning tool includes the urban water balance tool which calculates the water mass balance based on the simulated urban form in the case study region. The insights include changes to water demand, runoff, and overall water security based on user's input and parameter changes to the case study. The module is currently under development based on feedback, and will be available in upcoming releases.

If you are interested in using the scenario tool please contact your Regional Manager, Emma Yuen on 044888319 or attend the monthly webinar.

## Investment Framework for Economics of Water Sensitive Cities (INFEWS)

The Investment Framework for Economics of Water Sensitive Cities (INFEWS) helps you to include non-market values of water sensitive systems in an economic analysis. The tool has gone through beta testing and is now available for download here.

We will be holding an economics tool training session on 13 June to be held at UWA and I invite you to register via this link. Following this we will hold a session for expert users who want to be become champions in use of this tool. We will also be gauge interest in establishing a community of practice so that there is an ongoing peer support network.

If you are interested in attending the training please follow the links above or contact your Regional Manager, Emma Yuen on 044888319 or the INFEWS coordinator Tamara Harold on (08) 6488 5507

## Research Synthesis Workshops also know as "Ideas for …"

The CRCWSC facilitates the hugely popular 2 day design "charrettes" called Research Synthesis workshops. These bring together the CRCWSC's many research areas and disciplines with government and private industry partners to develop practical "ideas" for addressing specific industry-based challenges. In WA we have undertaken these workshops in Canning, Bentley, Batavia Coast Marina, Brabham and Subiaco.

If you are interested in learning more or undertaking a workshop please contact your Regional Manager, Emma Yuen on 044888319 or the national engagement manager, Jamie Ewert

## 7. Case Studies and exemplar developments

If you are you looking to learn from other local governments and projects then our case studies of water sensitive approaches can help you. We have recently released 33 case studies that address questions that industry has asked us around the key drivers and innovations behind each case study, and most importantly, what we and our project partners learned along the way.

New WAterways also provides short 2 page case studies of exemplar projects including Hartfield Park and Rosehill waters.

## 8. Research Outputs and Outcomes

The outcomes from the CRC Water Sensitive Cities for the period July 17 to Jun 18 are documented in the latest stakeholder annual report. This provides a good overview of the scope of what we do. For more detailed information on individual research projects you can find this in the Summary of research outputs (tranche 1 prior to June17)

Earlier this year, Ernst & Young were engaged by the CRC for Water Sensitive Cities to identify opportunities for future impact in relation to their research and activities. The results showed significant impact and the importance of the next big step in applying our research across integrated city systems.

# Att5:Scenario Tool

UWA have undertaken a review of the CRCWSC Scenario Tool (name changed from Design Platform). The analysis of the tool was limited by the current lack of documentation. Overall, the tool has potential to be very useful, if applied at the right spatial scale and if the parameter values can be found. Below is a summary of the currently capabilities and limitations of the Scenario Tool and the underlying conceptual and numerical models of the tool.

The Scenario Tool has four main modules:

- Temperature
- Urban water cycle
- Flooding
- Water quality

The **temperature** module is the most advanced, and it is currently functioning online. It takes into account land cover, soil moisture and two soil layers, however, it does not use groundwater specifically. It is a simple tool, does its calculations quickly and does not require any external software, and so it would be good to use as a simple design tool. The models it uses have some fundamental limitations that would affect their usefulness. For example, the models cannot account for lateral transfer of heat, and their reliability is low near waterbodies or complex topography.

For the **urban water cycle** module it is intended that it will use a model that can calculate the export of water to the groundwater, however, it is then lost from the domain. There will not be storage of water or access to bores. In principle, this could be written into the model code, however, this would be a large undertaking. The soil water balance model requires information about a few soil physical parameters, which would be difficult to obtain. If they are not available, the user could select default values from a data base. The connection of the water cycle and temperature modules looks promising, since they share some data inputs and functions.

The **flooding** module uses the Scenario Tool to write an input file for the model SWMM, which would then be run separately. SWMM includes a simple representation of groundwater to account for water table rise and contribution of groundwater flow to the drainage network. However, it requires physical parameters to represent soil moisture retention capacity in the unsaturated zone, which are difficult to obtain and users would end up with model default values. So for a user who can run SWMM, the Scenario Tool would probably be a useful tool for gathering some of the necessary data. SWMM is still a node and link-based model and so while the water table rises and falls can be represented in any one node (sub-catchment end node only), it cannot capture the effects of subsurface flow, if the nodes and links are parameterized for the surface flow. The computed water table level represents the water table position below the entire subcatchment and groundwater cannot be transferred from one subcatchment to another. It is only discharged at the end node of the sub-catchment. The water table recharge takes place only on the fraction of the catchment that is permeable (due to infiltration) so mounding is not possible (recharge is distributed uniformly across the entire subcatchment area).

The **water quality** module does not predict nutrients exported from the simulation domain or retention in any filtering nodes. However, it does have a function for estimating the generation of nutrients in the simulated area. If they use something like MUSIC or SWMM to filter out nutrients, these models are capable of including nutrient retention functions, however, it would take a lot of research to plan how to configure their parameter sets to Western Australian soils. The SWMM LID module simulates WSUD elements for water balance and contaminants (including nutrients). However scientific literature showed high uncertainties in using LID modules if datasets are not available for calibration of model parameters.

## CRCWSC knowledge broker and capacity building activities in WA – update May 2019

At its meeting on 27 July 2018, the Western Region Advisory Panel (WRAP) agreed to the following knowledge broker and capacity building activities to be delivered by New WAter Ways though funding provided by the CRCWSC during 2018/19.

- Two (2) researcher presentations (with YouTube)
- Leadership course (delivered by Andre Taylor)
- Two (2) Industry practice note/ guidance (eg fact sheets/case study)
- Two (2) WSC inter/intra agency workshops
- Present at one conference
- Delivery of Clearwater Masterclasses
- Time for participation in the National capacity building network
- e-newsletters and links to resources on NWW website
- Community messages on three (3) WSC images
- Operational fund for researcher/presenter travel

At its meeting of 18 March 2019, the WRAP agreed to the following changes to the work program:

- Replacement of Leadership course (delivered by Andre Taylor) and Clearwater Masterclasses with:
    - Sediment Control Taskforce workshop (WC, DBCA, DWER)
    - WSUD training module for LG councillors
    - Website of best-practice WSUD assets for three Local Governments

The following table provides a summary of activities to date.

### Table 1: CRCWSC communications and adoption (knowledge brokering) activities July 2018 to May 2019

| Agreed activities | Topic/ stakeholder | Date completed |
|---|---|---|
| Researcher presentations (with YouTube) | WSCSS 1 – IRP4 - Geoffrey London and Danial Jan Martin - Understanding Perth's Deep Structure and the need for housing density | 18 October 2018 |
| | WSCSS 2 - Myths and facts of Development in High Groundwater, Nick Deeks | 22 March 2019 |
| WSUD training module for LG councillor | Working with WALGA | Aiming to be completed in Q1 2019/20 |
| Industry practice note/ guidance (eg fact sheets/case study) | 1 – Community messaging –<br>2 – Summary of IRP5 | 1 - Completed<br>2 – Draft attached for comment |
| WSC inter/intra agency workshop | 1 – Assisting City of Swan to deliver a WSC with alternative water sources<br>2 – Town of Bassendean – value of living streams – workshop with Rita Chandra (Yarra Valley Water) | 26 June 2019<br>27 June 2018 |

| Agreed activities | Topic/ stakeholder | Date completed |
|---|---|---|
| Present at conferences | Presenting at the Young Engineers Summit on sustainable cities and Future Perth | 3 April 2019 |
| Sediment Control Taskforce workshop (WC, DBCA, DWER) | Research has been delayed. Scheduled for completion in October Unlikely to be delivered before June 2019 | |
| National capacity building network | Teleconferences 21 Nov & 4 Feb and meeting in late March | Developing a national priorities list. See below |
| e-newsletters and links to resources on NWW website | As required. | Completed each month |
| Community messages on WSC images | Need access to the images (DWER) and agree messages | Working with comms specialist |
| Operational fund for researcher/presenter travel | Used to support travel by Rita Chandra from Yarra Valley Water | |

Due to unavoidable delays in 2 of the projects, two of the agreed activities are unlikely to be delivered before 30 June 2019 (WSUD module and sediment workshop). The WRAP is requested to consider whether they support "rolling over" delivery of these items to next financial year (however, we would still need agreement to invoice the CRCWSC this financial year) or consider an alternative opportunity ($4760 or 22 hours). Ideas are:

- Partner with 202020Vision on their next event which is aiming to improve knowledge of how to get support from the community for our urban forest (July 25) and present on community messaging without jargon; or
- Additional workshop with Rita Chandra – possibly with Water Corporation or another LG.

For discussion.

## National Capacity Building Network

The National Capacity Building Network is also currently working through priorities for (national) delivery. These include:

- IRP2 – Short case studies, economic evaluation and roll out of IRP2 outcomes
- Video – Nigel Tapper research findings on Urban Heat
- Community Engagement Learning module
- Health and Water Narrative
- Stormwater tree pit guidelines
- How to develop a business case for looking after a water sensitive city
- Schematics for how we deliver WSC outcomes for a range of urban form typologies
- Clearwater courses
- Leadership course with Andre Taylor
- Working with Industry bodies to get CPD credits for our activities
- Review models for collaboration and funding for national network and capacity building programs
- Short videos for benefits of Index, TDF, BCA tool & Scenarios platform

All comments welcome.

## Work program for 2019/20

The WRAP is also requested to provide input into the work program from CRCWSC knowledge broker services for 2019/20. The CRCWSC Regional Manager has advised that it is expected that a similar budget of $40,000 will be available for WA in the 2019/20 financial year. The following work program is presented for discussion.

| CRC 40K | SS/HB hours | Admin hours | hours/mth or session | total/mth or session | Disburse-ments | # sessions | total cost | Running total |
|---|---|---|---|---|---|---|---|---|
| Researcher presentations (with YouTube) | 6 | 2 | 8 | $ 1,520 | $ 180.00 | 1 | $ 1,700 | $ 1,700 |
| Leadership course delivered by Andre Taylor (admin costs only - charge for cost recovery) | 4 | 12 | 16 | $ 2,720 | | 1 | $ 2,720 | $ 4,420 |
| Work with Property Council/UDIA to bring speakers to showcase outcomes (Caroline Stalker – Arup and Aquarevo) | 4 | 2 | 6 | $ 1,120 | $ 3,000.00 | 1 | $ 3,120 | $ 7,540 |
| Delivery of Clearwater Masterclasses – adapt for WA with local case studies. (partially subsidised - Ticket sales estimate each course 20 @ $90 pp, $1800) | 16 | 4 | 16 | $ 3,840 | $ 500.00 | 4 | $ 17,360 ($7,200) | $ 18,700 |
| Show how WSUD achieves the outcomes/objectives of other agencies - series of fact sheets for transport, health, agriculture & tourism | 8 | 25 | 33 | $ 5,600 | | 3 | $ 16,800 | $ 35,500 |
| National capacity building network | 3 | | 3 | $ 600 | | 3 | $ 1,800 | $ 37,300 |
| e-newsletters and links to resources on NWW website | | 1 | 1 | $ 160 | | 4 | $ 640 | $ 37,940 |
| travel and accommodation costs for speakers/presenters | | | | | $ 2,060.00 | 1 | $ 2,060 | **$ 40,000** |
| | | | | | | | | |
| **Other options for consideration by WRAP** | | | | | | | | |
| New fact sheets/case studies on CRCWSC outputs | 8 | 25 | 33 | $ 5,600 | | 1 | $ 5,600 | $ 5,600 |
| Inter/intra agency WSC workshop | 12 | 4 | 16 | $ 3,040 | | 1 | $ 3,040 | $ 8,640 |
| Share more information on the urban heat research – fund a visit by Nigel Tapper and Steve Kenway to showcase research and its application. Partner with CAUL hub and share research. | 6 | 4 | 10 | $ 1,840 | $ 2,000.00 | 1 | $ 3,840 | $ 12,480 |

# Att7: Ideas for

**List of topics**

| | |
|---|---|
| **Previous** | Bentley<br>Canning City Centre<br>Subiaco Strategic Resource Precinct<br>Brabham |
| **Ready now** | Ocean Reef Marina – Greg at Landcorp<br>New Soccer Stadium – Rob at LGSRC |
| **future** | Mandurah Integrated WSUD- Natalie Lees at Mandurah<br>Ideas for Alternative water supplies for POS in a drying climate<br>Fremantle Oval Redevelopment<br>Design guidelines for Main Roads and the transport portfolio –<br>Subiaco East – Greg at landcorp<br>Princess Margaret Hospital redevelopment – Greg at landcorp<br>East Perth Power Station redevelopment - Western Power & DPLH<br>DPLH – Shelley / Loretta<br>Ideas for Sustainable funding – James Fogarty |

**Title:** Ocean Reef Marina

**Champion/Advocate:** Greg Ryan (Landcorp) and Nadine Riethmuller/Antonietta Torre (Watercorp) Lucy Sheey (City of Joondalup)

**Decision maker:** Fran Marra LandCorp CEO

**Issues/driver:**

It will be the 3rd marina for the North West Perth metro corridor for future population growth. The area is situated between a Bush Forever site and the Marmion Marine park. Large 15 ha precinct including

• Waterfront cafés and restaurants

• Internal beach

• 2.6 hectares of public open space

• 2.9 hectares of parks and recreation reserve

•Retail/commercial space

Medium density residential and short stay accommodation of up to 1000 dwellings,

500 boat pens,

Sea sport and sea rescue clubs

LandCorp has taken over project management for City of Joondalup as State Government funding the infrastructure to expand the existing marina. Environmental approvals in progress to be followed by MRS amendment and park excision with construction aimed at starting late 2020. Targeting an Infrastructure Sustainability (IS) Planning rating from ISCA.

**Some of the challenges are**:

- Limited groundwater availability for POS irrigation.
- Potential impact on water quality and Abalone stocks
- Climate Change
- Stormwater quality – stormwater to be captured at source and cleaned eg using green infrastructure

**Key ideas that may emerge:**

Alternative non-potable supply for POS irrigation and Boat wash-down

Eg onsite treatment Plant

Access to Water Corporations Beenyup Ocean Outfall

Storm water management and water quality to minimise marine environmental impacts

Artificial reef and habitat creation for abalone

Highly innovative and Sustainable smart precinct scale development (integrated Water, energy, waste, and transport) and that builds on the unique location and expectations of community

**It is a priority because:**

| | |
|---|---|
| potential for innovation at the precinct scale (greenfield or infill/ redevelopment) | Y |
| industry partners that are committed to delivering the project, are open – going ahead with funding | Y |
| Is there a strong champion? | Y |
| Bring together multiple CRCWSC partners | Y |
| specific constraints or opportunities for improved urban water cycle management | Y |
| Good timing to incorporate new ideas into options analysis and concept planning | Y |
| Sufficient scope to incorporate new ideas into options analysis and concept planning | Y |

**Next steps and strategy for gaining support**

Meet with key stakeholders

- Greg Ryan (Landcorp)
- Genevieve Hunter, Graham Withers or Ruth March (City of Joondalup)
- Nadine Riethmuller/ Antonietta Torre (Watercorp) and Nick Turner
  Potential sponsors: LandCorp, City of Joondalup, WaterCorp

Develop proposal including key experts:

- Wastewater reuse for irrigation in coastal environments
- Abalone/fisheries expert
- Marina/urban and Landscape design
- Green infrastructure (green roofs , green walls)
- Micro Climate and urban heat mitigation

- Selected CRC WSC Researchers from IRP 3 and 4 teams?

Develop list of Attendees:

- City Joondalup
- WaterCorp
- LandCorp
- Department of Transport
- DPIRD
- Sports Clubs?

Ocean Reef Marine Consultant team

- Planners- Taylor Burrell Barnett
- Architects- Haymes Sharley
- Landscape Architects – UDLA
- Engineering Marine- MP Rogers
- Engineering Civil -Wood and Grieve
- Sustainability IS – AECOM
- Sustainability – Bill Grace

**Title:** State Football (Soccer) Centre, Queens Park

**Advocate:** Rob Thomson at DLGSC, Football West, City of Canning, potentially community interest groups for the wetlands

**Decision maker:** State government - Cabinet

**Issues/driver:**

The concept of a home for soccer in Western Australia has been under consideration since 2012. Football West, the governing body of the sport, undertook a preliminary needs and feasibility assessment. In 2014 the Department of Local Government, Sport and Cultural Industries commenced a business case process. In 2017 the business case was updated and a site in the City of Canning, Queens Park Regional Open Space, identified as the preferred location for a State Football (Soccer) Centre.

The need for a State Football Centre is to accommodate the program delivery and participation needs of Football West. The State Football Centre would also host National Premier League matches that have higher facility standards comparative to community soccer facilities.

The proposal comprises one synthetic and one hybrid playing surface (including sports lighting), administration facilities for Football West, toilets, changerooms and supporting facilities. The facility will be capable of accommodating up to 4,000 spectators with hbf Park and Optus Stadium remaining the primary venues for national and international standard football (soccer).

The site has environmental sensitivities with a wetland immediately adjacent. Water and energy use will need to be sustainable to minimise the need to draw groundwater from the aquifer.

The project maty provide a catalyst for broader development of the precinct and there is the opportunity for the State Government to deliver a 'model' water and energy efficient facility.

In May 2019 the Federal government committed $16 million to the project. The remaining $16 million balance is unfunded and subject to a State Government investment decision.

There is budget available this FY for a workshop to inform the next stage of planning.

**Key ideas that may emerge:**

Reuse of water for irrigation of ovals particularly using if it supports stormwater quality and quantity inflows into the wetlands.

Water sources from redevelopment of surrounding area (eg Stormwater or wastewater reuse)

**It is a priority because:**

| | |
|---|---|
| potential for innovation at the precinct scale (greenfield or infill/ redevelopment) (if it includes surrounding) | Y |
| industry partners that are committed to delivering the project, are open – going ahead with funding | y |
| Is there a strong champion? | Y |
| Bring together multiple CRCWSC partners | Y |

| | |
|---|---|
| specific constraints or opportunities for improved urban water cycle management (through reuse) | Y |
| Good timing to incorporate new ideas into options analysis and concept planning | Y |
| Sufficient scope to incorporate new ideas into options analysis and concept planning | Y |

**Next steps and strategy for gaining support**

Meet with key stakeholders

- Local government sport and cultural industries
- City of Canning
- Football West

Identify potential sponsors:

- Department of Local Government, Sport and Cultural Industries
- City of Canning
- Football West

Develop proposal including key experts:

- Smart irrigation and IoT (Jianbing Wang or WaterTechnology)
- Sporting Field design (Jarrod Hill, Sport Eng)
- Innovations in alternative supplies for irrigation (Salisbury council or Melb?)
- Dan Nelson Hartfield Park MAR (Kalumunda Council)
- Mount Claremont Sporting Precinct (including McGillivray playing fields and WA Athletics Stadium reuse and storage tanks (??)
- Landscape designers - Damien Pericles Realm

Develop list Attendees:

- Canning council/ DBCA -wetlands
- Canning Council - and land use planning
- Water Corporation sewer mining
- Community interest groups for the wetlands
- Football West

Department of
Local Government, Sport
and Cultural Industries

# State Football Centre (Queens Park option)

**STAGE 1** - Football West administration, sports science, matchday facility, 2 floodlit playing fields, permanent spectator capacity 500 persons, wetland remediation/establishment, 150 car bays.

Clean Air and Urban Landscapes Hub
National Environmental Science Programme

The University of Western Australia

# Reconstructing an understanding of Noongar knowledge for the Swan-Canning catchments – implications for land-use and water planning, natural resource management, and biodiversity conservation in Perth

*Project proposal 20th May, 2019*

## CONTENTS



## INTRODUCTION

In late 2018, the Clean Air and Urban Landscapes Hub (CAUL) of the National Science Program held a meeting with much respected Noongar leaders to discuss what collaborative projects or activities could be undertaken in Perth that were considered useful from a Noongar perspective on the topic of city planning and urban Nature. The current project stems from that initial meeting and from several other meetings and informal discussions that took place afterwards to draft and refine the project proposal. As feedback and support was also sought from government and non-government agencies that plan, manage and care for the Perth Region, it became apparent that these stakeholders also saw great value in and need for the proposed project. The current proposal considers and tries to address many of the nuances and complexities that were captured both within the Indigenous and stakeholders circles. Using an Indigenous-led approach, the project aims to develop a proof-of-concept that brings Indigenous and 'western' knowledge systems closer together in their shared responsibility of caring for country in the Perth Area.

Noongar people have repeatedly provided their perspectives on urban planning in Perth, and yet this information is scattered across multiple organizations and not easily accessible to them. They would like to map out the collective knowledge about their traditional lands, as well as to see this knowledge supporting best practice in land-use and water planning, natural resource management and place making in Perth; however, they feel disempowered to do so. A cultural interpretation plan of the wetlands and waterways of the Perth Region has been deemed as a key layer embedding Indigenous ecological and cultural knowledge and that could support the planning and management of Perth's landscapes. This is because the Swan and Canning rivers, their tributaries and the many wetlands that cover the Swan Coastal Plain are a fundamental biophysical component of the Perth's environment, and have an immense cultural value and meaning. A cultural interpretation plan of this environment could provide a holistic foundation complementing the spatially partitioned, administrative boundary-driven approach in which lands and waters are often locally or regionally managed. However, there are key challenges that have impeded the production of such an interpretation plan or other similar cultural

layers. Indeed, not only cultural information about these places is scattered across multiple organizations, but also many wetlands and other places of cultural significance were destroyed in the past without any due process to record the values and knowledge allocated to those sites. While current impact assessment processes include heritage surveys that aim to understand the cultural values of the places being potentially impacted by development projects, much of the urban expansion in Perth has taken place without such assessments. Current urban planning processes often take place without proper acknowledgment of that pre-existing, underlying cultural layer and, importantly, there is no specific State Planning Policy that makes mandatory to consider the conservation of Aboriginal Cultural Heritage during the planning and development processes. The production of an Interpretation Plan for the Perth's wetlands and waterways is a large undertaking that exceeds the capacity and resources currently available. Nevertheless, the current project focusing on the collation of Noongar place-based knowledge provides a stepping stone towards the future production of such a cultural layer or others relevant in the context of the Noongar Native Title and the Strategic Assessment of the Perth and Peel.

## AIMS AND PLAN OF ACTION

The project has two key aims: 1) to 'reconstruct' and map an understanding of Noongar knowledge for a pilot study area in the catchments of the Swan or Canning Rivers (*Phase 1*); 2) to understand how such knowledge can be 'translated' and made available, in a culturally appropriate way, to guide natural resource management, land-use and water planning in Perth (*Phase 2*). Additionally, the project aims to understand the existing barriers impeding the repatriation of cultural information collected and held by multiple government and non-government organizations. Final decisions about the study area will be made in the early stages of the project. This will have the duration of 18 months, from June 2019 to end of 2020, and will employ one or two Indigenous researchers/knowledge brokers to lead the work.

***Phase 1***

**Step 1. Gathering of cultural information for the study area**

- Most of the information available has likely been gathered in the scope of cultural heritage surveys (mostly undertaken in the context of urban development proposals), and which are available at the Department of Planning, Lands and Heritage' Aboriginal Heritage Inquiry System (AHIS). However, some information will also likely be held by local governments, state government agencies, and non-government organizations.
- Information gathered will likely be embedded in reports and other written outputs, and may include narratives and stories, images, maps, and audio files.

**Step 2. Mapping and documenting the cultural information gathered**

- This step will involve mapping and documenting the information audited in a digital, spatially explicit format (to be confirmed, depending on collaboration with 'The Keeping Place' project; www.thekeepingplace.com).
- A Noongar advisory group may be formed prior to this stage, in consultation with SWALSC, to identify people that should be further engaged in the interpretation of the information collected.
- If gaps of information are identified, particularly about places of significance for which there is little information available (*e.g.*, wetlands or waterways that were destroyed prior to current impact assessment processes being implemented), then cultural consultations may be undertaken to address such information gaps.
- Workshops will likely be held to discuss aspects related with Intellectual Property and ownership of the information collected; mapping and operationalisation of the database as a system for repatriation, archive and protection of cultural information and knowledge.

**Step 3. Writing of report**

- A report will be written that may consist of two parts, one public and another not public.
- Key findings about the information assembled and cultural mapping undertaken, the auditing process itself, perceived barriers and opportunities in the collection, repatriation, and archiving of cultural information, and recommendations for the future may be discussed (***Report 1***).

*Phase 2*

**Step 4. Research on how cultural knowledge can support land-use and water planning**

- This step will involve developing an understanding of what are culturally appropriate 'versions' and 'generalizations' of the information assembled that can support and guide 'western' approaches to land-use and water planning, natural resource management and place-making in Perth. This may mean distilling the principles of Indigenous ecological knowledge that apply to the study area and that weave through the scientific knowledge of the same area.
- This step will likely include the employment of different research approaches, including cultural consultations and workshops among Indigenous leaders, elders and experts in land and water planning and management, as well as between these and stakeholders.
- Two workshops bringing together the Indigenous and stakeholders' communities will be held, one in the beginning of phase 2 and the other towards the end of it.
- The first 1-day workshop will help identify key perceived needs, barriers and opportunities, and which should be considered during the progress of step 4 (***Workshop 1***).
- The second 2-days workshop will look forward and aim to discuss and draw recommendations about key topics to be decided in step 4, and which may include: the scaling-up of the project to the larger Perth region; the importance of an interpretation plan of the wetlands and waterways for local, state and federal governments dealings in Country; desired changes in policy; repatriation of cultural information and data sovereignty (***Workshop 2***).

**Step 5. Writing of report**

- A report will be produced that will include the analysis of how cultural knowledge can support land-use and water planning for the study area, as well as key recommendations drawn from the workshops (***Report 2***).
- A summary of future prospects will also be produced (***Future Prospects Summary***).

| | Project's main steps | 2019 Jun-Sep | | | | 2019 Oct-Dec | | | 2020 Jan-Mar | | | 2020 Apr-Jun | | | 2020 Jul-Sep | | | 2020 Oct-Dec | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D |
| Phase1 | Appointment of Indigenous researcher/knowledge broker | | | | | | | | | | | | | | | | | | | |
| | Identification of study area & adjustment of project plan | | | | | | | | | | | | | | | | | | | |
| | Audit, collation and mapping of information | | | | | | | | | | | | | | | | | | | |
| | Workshops and cultural consultations | | | | | | | | | | | | | | | | | | | |
| | Writing of report 1 | | | | | | | | | | | | | | | | | | | |
| Phase2 | 1st workshop Noongar - Stakeholders | | | | | | | | | | | | | | | | | | | |
| | Research - how cultural knowledge can guide land & water planning | | | | | | | | | | | | | | | | | | | |
| | 2nd workshop Noongar - Stakeholders | | | | | | | | | | | | | | | | | | | |
| | Writing of report 2 | | | | | | | | | | | | | | | | | | | |
| | Dissemination of project's results | | | | | | | | | | | | | | | | | | | |

**Key meetings:**

*Steering committee meetings* - to be held tentatively on the first Tuesday of every second month; these meetings may overlap and merge with cultural workshops, if appropriate:

- 2019: 6 Aug, 1 Oct, 3 Dec;
- 2020: 4 Feb, 7 Apr, 2 Jun, 4 Aug, 6 Oct;

*Workshops bringing together the Indigenous and stakeholders communities* - to be held tentatively on the 19 Feb 2020 and 17-18 Jun 2020.

## STEERING COMMITTEE

A steering committee will provide assistance to the project, helping to co-design and plan it, assist in the decision-making process, and provide general guidance. This steering committee includes the people that have initially informed the project, as well as others with knowledge and expertise in a variety of topics relevant to the project development. The steering committee will meet every two months, in line with the Kaart Koort Waarnginy Strategy, an Indigenous cultural engagement strategy that overlays the six Noongar seasons (which are a key to Noongar traditional decision-making), against the major

phases of place-making projects delivery (MRA 2017)[1]. The steering committee is currently formed by the following people, but others will be invited to join in the early stages of the project:

- *Noongar:* Dr Richard Walley (UWA School of Indigenous Studies, elder), Dr Stephen van Leeuwen and Ezra Jacobs Smith (Department of Biodiversity, Conservation and Attractions), Gail Beck (South West Aboriginal Land and Sea Council; SWALSC), David Collard (David Collard & Associates), Jason Barrow (Edith Cowan University, CAUL Indigenous Advisory Group);
- *Other scientific, cultural and governance aspects*: Professor Michael Douglas (UWA), Ingrid Sieler (Perth NRM), Gina Pickering (Latitude Creative Services), Dr Cristina E. Ramalho (UWA), Emma Monk (Department of Biodiversity, Conservation and Attractions, representative of the Water Sensitive Transition Network).

Additionally, the project has and will continue to benefit from the advice and mentorship from the CAUL Indigenous Advisory Group, including: Jason Barrow (co-chair; Edith Cowan University), Maddi Miller (co-chair; Victorian Department of Environment, Land, Water and Planning), Cathy Oke (University of Melbourne), Zena Cumpston (University of Melbourne), Lauren Arabena, Jade Kennedy (University of Wollongong), Kirstine Lee Wallis, Luke Briscoe, and Brad Moggridge (University of Canberra).

## PLANNED OUTPUTS AND OUTCOMES

The outputs of the project will provide an important reference and guidance for urban development and place-making projects in Perth, bringing to centre stage the values and perspectives of traditional owners and custodians of the land, which are key for the development of sustainable, positive and culturally harmonious cities. The key outputs of the project will include:

- Report containing the key findings about the information assembled and cultural mapping undertaken, the auditing process itself, perceived barriers and opportunities in the collection, repatriation, and archiving of cultural information (***Report 1***);
- Two workshops bringing together Noongar, government and non-government organizations to discuss collaborative pathways forward in place-making, land-use and water planning, and natural resource management in Perth (***Workshop 1 and 2***);
- Report reconstructing and mapping an understanding of Noongar ecological knowledge for the pilot study area, and containing key recommendations drawn from the workshops (***Report 2***);
- A brief summary of Future Prospects (***Future Prospects Summary***);

The outcomes of the project are likely to include the following:

*Outcomes for the Noongar community*

- The project will collate Noongar ecological knowledge in publications and other outputs that the Noongar community will be able to use as a reference and support to their voice in land-use and water planning; as such, the **project will empower the Noongar community in their ability to influence and contribute to land-use and water planning, natural resource management, and biodiversity conservation in Perth**;
- If successful, this **pilot study could be extended and scaled-up in a future extension of the project, and which could see the production of an Interpretation Plan of the Wetlands and Waterways of the Perth Region**. Production of this Interpretation Plan has been estimated to cost a further $1.2 million, and has been recognized by Noongar but also stakeholders as a key cultural layer to support land use and water planning, natural resource management and place-making in the Perth Region;
- The project will create a **better understanding of the processes currently underpinning cultural data collation, archiving and repatriation, and how these can be improved so to give data sovereignty to Noongar and, on the other hand, better access of culturally appropriate versions or translations of that information to government and non-government organizations**;

[1]MRA (2017). Kaart Koort Waarnginy Strategy. Head Heart Talking. Cultural Compact Agreement between the Whadjuk traditional owners and the Metropolitan Redevelopment Authority (MRA).

- The project could assist in **building a case for the development of a planning policy making mandatory to consider the conservation of Aboriginal Cultural Heritage during the planning and development processes** (similar to the *State Planning Policy 3.5 Historic Heritage Conservation*). This would be an important outcome for the Noongar and the broader community;
- The project will create **greater awareness of the places, lands, waters, and biodiversity that are most important and defining of the Noongar culture and connection to country** in the Perth Area; and thus hopefully have a **positive effect in how these places are protected, acknowledged, embedded, and valued in the urban fabric** in the context of future development and place-making projects;
- **Jointly authored outputs will ensure that the cultural knowledge shared remains the intellectual property of the Noongar community**, and that those outputs can be used by the community in the future as an expression of Noongar values, narratives, and aspirations.

*Outcomes for government and non-government organizations working in land-use and water planning, place-making and natural resource management in Perth*

- The engagement of Indigenous people in urban development projects has been one where Indigenous people are often consulted at later stages, not to map out ways forward together but as part of the project approval. Because of the nature of the consultation processes and the way they subsequently fit within the project delivery, the **information provided is often 'lost' to the Indigenous and the professional communities. This project will try to counteract that**, collating information and generating learnings that will hopefully be useful to both groups;
- The project will also **contribute towards a relationship of greater collaboration, trust and respect between Noongar, government and non-government organisations,** all of which work, study, and care for the Perth Area (following similar recent efforts such as MRA 2017).

*Outcomes for the wider community*

- A collaborative relationship between Indigenous people and organizations involved in the planning and making of cities is of great benefit to the wider community, as such relationship is conducive of the **creation and regeneration of places that provide great cultural, wellbeing, spiritual and ethical benefits and opportunities to the wider community**;
- The idea of regeneration of cultural places is an important aspect, particularly as it relates to the effects of previous and current planning policies/practices, but could also offer the **opportunity to refocus the policy framework to better address matters of cultural heritage conservation as it relates to waterways and water use**;
- This project will contribute to the **celebration of the cultural and natural heritage** of the Perth region, including its location in one of the most biodiverse regions in the world.

## BUDGET

The project has a budget of $200K, the majority of which includes NESP CAUL funds ($90K), with co-funding from UWA Research Priority Funds ($40K), Water Corporation ($30K), Department of Water and Environmental Regulation ($20K), Department of Biodiversity, Conservation and Attractions ($10K), and Department of Communities ($10K). A detailed budget forecast is presented in the appendix.

## CAUL TEAM

The Clean Air and Urban Landscapes Hub (CAUL) is a consortium of four Australian universities (University of Melbourne, RMIT, the University of Western Australia, and the University of Wollongong) funded by the National Environmental Science Program. The mission of CAUL is to take a holistic view on the sustainability and liveability of urban environments. CAUL's approach involves: a) collaboration across disciplines to tackle complex problems; b) engagement and partnerships with government, private industry and citizens; c) rigorous research with real-world impact; d) highlighting Indigenous perspectives in cities (https://www.nespurban.edu.au/). The current project counts with the support and contribution from UWA CAUL staff Dr Cristina Ramalho (project coordinator; School of Biological Sciences), Dr Natasha Pauli, Dr Bryan Boruff, Emma Ligtermoet (School of Agriculture and Environment), Rebecca Campbell and Professor Richard Hobbs (School of Biological Sciences).

## SUPPORTERS AND PARTNERS

Several stakeholder organizations have committed their support, in-kind and/or financial, to the project. Financial support has been committed, in-principle, by:

- Water Corporation
- Department of Water and Environmental Regulation
- Department of Biodiversity, Conservation and Attractions
- Department of Communities

In-kind support has been committed by:

- Perth NRM
- Department of Planning, Lands and Heritage (DPLH)
- Urbaqua
- City of Canning


## ACKNOWLEDGEMENTS

Aside from those that form the steering committee, several other people have helped shape the current project. A special thanks to Cesar Rodriguez and Glenn Shaw (Department of Planning, Lands and Heritage), Emma Yuen (CRC for Water Sensitive Cities), Joanne Burges and Vanessa Jackson (WALGA), Professor Jill Milroy (UWA Pro Vice Chancellor for Indigenous Studies), and Mike Mouritz (Curtin University).

## APPENDIX

| Description | Cost per unit | Unit1 | Unit2 | Unit3 | |
|---|---|---|---|---|---|
| **Salaries** | *UWA salaries* | *Plus oncosts* | *No years* | | *06 FTE* |
| Graduate research assistant L6 + 28.6% oncosts | $86,246 | $110,912 | 1.5 | | $99,821 |
| Project management Jun-Dec | | | | | |
| **Meetings & workshops & cultural consultations** | | | | | |
| *Fees* | *Cost / hour* | *No people* | *No hours / day* | *No days* | |
| Consultant fees | $140 | | | | |
| Senior consultant fees | $200 | | | | |
| Cultural consultation fees (cost per helf day) | $250 | | | | |
| Workshop facilitator fees | $200 | | | | |
| | $200 | | | | |
| Two half-day workshops for project co-design & planning (3h each) | | 15 (7 elders) | 3 | 4 | $30,240 |
| Consultation with individuals & families (3h each consultation) | | 30 | 3 | 1 | $22,500 |
| Two facilitators for the 2-days workshop (2 days x7h) | | 2 | 7 | 2 | $5,600 |
| Sitting fees at 2-day workshop (2 days x6h) (Noongar & heritage consultants) | | 20 (10 elders) | 6 | 2 | $20,800 |
| *Venue hiring* | *Venue hire / day* | *No days* | | | |
| Four half-day workshop for project co-design & planning (UWA/ECU) | $0 | | | | $0 |
| Two-day workshop | $1,500 | 2 | | | $3,000 |
| *Catering* | *Cost / person* | *No people* | *No days* | | |
| Morning/afternoon tea for 3 half-day co-design & planning workshops | $20 | 10 | 3 | | $600 |
| Two-day workshop with Noongar & planners ($40/person) | $40 | 50 | 2 | | $4,000 |
| Consultation with individuals & families (little snack to offer??) | $10 | 30 | 1 | | $300 |
| *Travel* | *Cost / half day* | *Flagball booking* | *Petrol price (10c/km x 30 km/trip)* | *No trips* | |
| Vechicle hire for consultation with individuals & families | $25 | $10 | $3.00 | 30 | $1,140 |
| Vechicle hire for visits & meetings with LGAs, libraries, etc | $25 | $10 | $3.00 | 20 | $760 |
| **Design & marketing** | | | | | |
| Report design (CAUL in-house capacity?) | $0 | | | | $0 |
| Report photography | | | | | |
| Report illustration (something like the Kart Koort Waanginy Strategy??) | | | | | |
| Report printing | $3,000 | | | | $3,000 |
| **Other operational costs** | | | | | |
| External hard drive | $117 | | | | $117 |
| Voice recorder | $94 | | | | $94 |
| Photocopies & printing | $60 | | | | $60 |
| Stationery for workshops | $200 | | | | $200 |
| **EXPENDITURE SUB-TOTALS** | | | | | |
| **Salaries** | | | | | $99,821 |
| **Meetings & workshops & collation of information** | | | | | $88,940 |
| Consultation fees | | | | | $79,140 |
| Venue hiring | | | | | $3,000 |
| Catering | | | | | $4,900 |
| Travel | | | | | $1,900 |
| **Marketing & design** | | | | | $3,000 |
| **Other operational costs** | | | | | $471 |
| **EXPENDITURE TOTAL** | | | | | **$192,232** |
| **COVERED BY CAUL UWA** | | | | | **$90,000** |
| **ADDITIONAL FUNDING TO BE OBTAINED** | | | | | **$102,232** |