CRC for Water Sensitive Cities

CRC for Water Sensitive Cities
Regional Advisory Panel Meeting – WA

25 January 2018 9.30am -11:30am

UWA CBD Office

WA Trustees Building, Level 2, 133 St Georges Terrace, Perth

Board Room

Zoom video: https://uwa.zoom.us/j/167288167

Dial-in phone line: +61 2 8015 2088 (Meeting ID: 167 288 167)

AGENDA

Chair: Mike Mouritz
Minutes: Su Boyd

Item No.	Topic	Whom	ATT#
5 mins	**INITIAL PROCEEDINGS**		
1.	**Welcome and apologies**	Mike Mouritz	
2.	**Acceptance of previous minutes**	Mike Mouritz	**Att 1**
3.	**Actions from previous minutes**	ALL	**Att 2**
4.	**Correspondence**	Mike Mouritz	
	CRC WATER SENSITIVE CITIES UPDATES		
5.	**Executive Update**	Barry Ball / Jurg Keller / Tony Wong	
6.	**Regional Manager Report** • IRPs 1-5 Project Steering Committee member update • TAPs Project Steering Committee member update	Emma Yuen PSC members	**Att 3 - update**
	ITEMS FOR DISCUSSION		
7.	**Update on Opportunities:** • Metronet • Knutsford • Andhra Pradesh	Mike Mouritz	**Att 4 - METRONET Proposal** **Att 5 - Andhra Pradesh proposal**
8.	**Tony's meeting with the DGs:** • What Questions will the DGs be interested in? • UDIA round table?	Mike Mouritz	
9.	**Update on LGA meeting** - Regular update and forum - How can we support water and sustainability plans?	Emma Yuen	
10.	**Future Budgets requests:** - Regional manager post December 2018 - Capacity Building 2018/2019	Mike Mouritz	
11.	How do we make sure progress continues with the IRP and TAPs?	Mike Mouritz	
	UPCOMING EVENTS		
12.	**Calendar of Events WA CRCWSC**	Mike Mouritz	**Att 6**

	OTHER BUSINESS		
13.	**Other Business**	Mike Mouritz	
14.	**Meeting close and next meeting:** **Wednesday, March 28, 2018**	Mike Mouritz	

CRC for Water Sensitive Cities

Regional Advisory Panel Special Meeting – Western Region

Meeting No. 28	Meeting Minutes	WA Trustees Building, L2, 133 St Georges Tce Board Room @ 8:00am
15/11/17		

Attendees		
Greg Claydon – DWER/CRCWSC Board – Inaugural Chair John Savell – DoC/CRCWSC EPRG Mike Mourtiz – CRCWSC Board Emma Yuen – CRCWSC Regional Manager	Shelley Shepherd – New WAter Ways Inc. Giles Pickard – City of Subiaco Nick Deeks - GHD Sergey Volotovski – Water Corporation Greg Ryan - LandCorp	Ben Harvey – DPLH Ajay Shah – KBR Emma Monk – DBCA Joanne Woodbridge – EMRC Sayed Iftekhar – UWA Matt Hipsey – UWA
Apologies		
Antonietta Torre – DWER/CRCWSC EPRG Max Hipkins – City of Nedlands	Bruce Young – Spatial Property Allison Hailes - UDIA	Neil Burbridge – City Of Armadale

Item No.	Agenda Topic	ATT
1.	**Welcome & Apologies** Greg opened the meeting at 8:00 am	
2.	**IRP2** Report for Work Plan 1 and Work Plan 3 will be available on the web soon. **Action:** Sayed will contact Shelley to see if it is possible to give a talk on the New WAterways series before Christmas on either Work Plan 1 or Work Plan 3. Sayed to keep in touch with Emma Y to provide further update on IRP2 next year.	
3.	**TAPS** A gap has been identified on how the toolkit can be applied to the immediate needs of the WA community. A budget of $50k has been requested to be allocated to complete a 4 months intensive review and prototyping of the software. The review is to commence in Feb 2018 and conclude in May/June 2018. The groundwater proposal has been tabled for the committee. **Action:** The UWA groundwater proposal was supported by WRAP. Matt Hipsey will provide a hands on session in June 2018	

Item No.	Agenda Topic	ATT
4.	**Executive Update** Tony Wong thanked Greg Claydon for his contributions to the CRC.	
5.	**Capacity Building National Priorities** Top 4 priorities were: • Learning and Development Framework for Integrated Water Management • Urban heat • Soft skills – business case development • Assets – maintenance These have been sent back to each of the organisations to rank again. The WRAP agreed on: • Urban heat • Soft skills – business case development • Assets – maintenance	
6.	**Acceptance of Minutes** • October 11 2017 (Optional Meeting) Item #7 - Update list of demo sites. • September 20 2017 (Meeting #27) – Item #9 - dot point 2 change “Regional Development” to “MRA”.	
7.	**Actions from previous minutes** • Emma to coordinate a LGA meeting that will address outstanding actions and consider the involvement with WRAP. • **Meeting #26 Item 3** - Greg Claydon and Mike Mouritz will take the issue of urban water reform on the national agenda to the board (Meeting 26 action 3) • Sergey and Giles to discuss whether a Water Corporation person can take over Giles position on the Project Steering Committee.	
8.	**Correspondence** Letter sent to the CRCWSC about their input into WA polices on behalf of WRAP.	
9.	**Regional Managers Report** Minister will be attending the Water Sensitive Transition Network meeting on 6 December. Subiaco report has been released. Lindsay Beck coming to Perth on 21 & 22 November to do a private consultancy with the City of Canning and also Mandurah. **Action:** • Regional Manager’s report to include time for Project Steering Committee members for IRPs to report back. • Mike M and Greg C will raise the proposal of IRP3 at the Board meeting in November.	
10.	**Ideas for workshops** Workshop priorities were: • Liveability METRONET • Brabham • MRA standards for WSUD including Subiaco Oval, Knutsford, workshops with staff	

Item No.	Agenda Topic	ATT
	• Wanju District **Note:** East Perth was removed and a greater emphasis put on policy aspects of the projects. The RAP decided not to list SPP2.9 as a separate idea for workshop and assume it will go through a different process.	
11.	**IRP4** The project proposal was approved by the Board in August 17. Next stages: - Develop project plan - Develop case studies - Quantitative analysis tool (ready in next 2 months) - Case study library with typology (ready in July/August 2018 and will be circulated for feedback) The WRAP identified that there was quite a substantial gap with incremental infill development. **Action:** ALL to provide suggestions on questions to IRP4 to Greg Ryan by the end of the week.	
12.	**Support for exemplar WSUD projects** **Action:** Emma Y to request 2-3 projects from the UDIA committee / Allison Hailes and then bring together relevant committee members that may include Emma M, Water Corporation via Sergey, DWER via Greg Claydon/Antonietta, Mike Mouritz, Health and relevant LGA.	
13.	**RAP Terms of reference** **Action:** Make the following changes to the ToR: • **Role item 2**: change “oversee” to “liaise with respect to” • **Role item 5**: change “provide direction” to “provide advice” • **Membership 3rd paragraph**: amend sentence “The Chair of each Regional Advisory Panel will be elected by majority vote from its members for an agreed term. They will not be from a research provider and will provide WA representation on the CRCWSC Advisory Committee.”	
14.	**Other business** Mike Mouritz was elected the new chair of the WRAP with John Savell acting as deputy.	
15.	**Calendar of Events** **Action:** Send any event to Su to update the calendar.	
16.	**Meeting close and next meeting** Greg thanked and acknowledged the WRAP committee members for their support and hard work during the time he was Chair.	

Item No.	Agenda Topic	ATT
	There will not be a meeting in December. Bimonthly meetings to continue in 2018 with the next meeting on the last week of January 2018.	

CRC for Water Sensitive Cities

WESTERN Regional Advisory Panel

Legend
Done
Not Done
Deferred
On Agenda

Actions	Description	Who	When	Not Relevant
	Actions from Meeting No. 28			
1.	Sayed will contact Shelley to see if it is possible to give a talk on the New WAterways series before Christmas on either Work Plan 1 or Work Plan 3. Sayed to keep in touch with Emma Y to provide further update on IRP2 next year.	Sayed Iftekhar		
2.	Mat Hipsey to provide a hands on session in June 2018	Matt Hipsey	June 2018	
3.	Make the following changes to minutes: • October 11 2017 (Optional Meeting) Item #7 - Update list of demo sites. • September 20 2017 (Meeting #27) – Item #9 - dot point 2 change “Regional Development” to “MRA”.	Su Boyd		
4.	Emma to coordinate a LGA meeting that will address outstanding actions and consider the involvement with WRAP.	Emma Y		
5.	Meeting #26 Item 3 - Greg Claydon and Mike Mouritz will take the issue of urban water reform on the national agenda to the board	Greg C & Mike M	27 Nov	
6.	Sergey and Giles to discuss whether a Water Corporation person can take over Giles position on the Project Steering Committee.	Sergey		
7.	Regional Manager’s report to include time for Project Steering Committee members for IRPs to report back.	Emma Y		

Actions	Description	Who	When	Not Relevant
8.	Mike M and Greg C will raise the proposal for IRP3 at the Board meeting in November	Greg C & Mike M	27 Nov	
9.	ALL to provide suggestions on questions to IRP4 to Greg Ryan by the end of the week.	ALL	17 Nov	
10.	Make the following changes to the ToR: • **Role item 2**: change "oversee" to "liaise with respect to" • **Role item 5**: change "provide direction" to "provide advice" • **Membership 3rd paragraph**: amend sentence "The Chair of each Regional Advisory Panel will be elected by majority vote from its members for an agreed term. They will not be from a research provider and will provide WA representation on the CRCWSC Advisory Committee."	Su Boyd		

	Outstanding actions from all 2017 meetings			
A.	EY to finalise the 4 pager development sector brochure for HIA event and ask for help from CRCWSC Communications	Emma Y		
B.	Barry to circulate the decision paper on utilities of future to the WRAP	Barry Ball		
C.	Sharon Dignard suggests that CRCWSC should advocate for urban water reform on the national agenda. John Savell to write a letter to the CRCWSC Executive regarding this.	John Savell		
D.	WRAP to provide detail on currently known limitations or difficulties of application of existing TAPS to WA conditions to Nicholas Deeks, Giles Pickard and Matt Hipsey.	All	Ongoing	Mat Hipsey
E.	WRAP to recommend a case study which can be used for beta testing of current TAPs. This should be an existing project so that results of application of the TAPs can be compared with known outcomes. This project could also explore and highlight gaps in the TAPs re consideration of groundwater (including servicing and surface water iterations). Suggestions include Wungong (which has a benefit of re-engaging	All	ASAP	

	with MRA) or Byford, as both have pre and post development monitoring information.			
F.	TAPS PSC and Christian to provide detailed proposals to WRAP for comment prior to submission to executive within 2 months.	Christian Urich and Nicholas Deeks, Giles Pickard and Matt Hipsey.	October	
G.	Optimise opportunities for IRP3 & 4 case studies to test TAPs. This is built into both project proposals. Will need transparent scopes/budgets to allocate clear responsibilities for budget expenditure and delivery.	Shelley Shepherd, Ben Harvey, Greg Ryan and Geoffrey London	Ongoing	
H.	Nicholas and Ant to provide linkages from IRP5 with TAPs. Consider opportunities to leverage testing of TAP at Brabham (IRP5 case study).	Nicholas Deeks & Antonietta Torre	Ongoing	
I.	All to think about the value of the urban metabolism model as a component in TAPs acknowledging it is already embedded in IRP4. Then communicate this via the PSC to Christian.	All	ASAP	
J.	Identify opportunities for knowledge transfer and training/testing of beta versions and refined modules in WA. Budget exists for at least 1 workshop per year in WA.	Christian Urich	Ongoing	

Western Region Manager Update

WRAP 25th January 2018

Activity title	Outcomes achieved	Priority going forward	Items for RAP to advise upon
CRCWSC executive	Jamie Ewert and the WA representative from Mumbai signed a MoU in December for $1M through Australian water partnership. This will be similar to the MoU between Victoria and Jiangsu but instead for Andhra Pradesh. Stakeholder annual report is due to be delivered soon.	Tonys visit will include a DGs meeting, Watercorporation Board training, Networking session, UDIA breakfast roundtable, Ceda lunch and meeting with essential participants.	For discussion: What Questions will the DGs or UDIA be interested in hearing?
CRCWSC Board	27 November board meeting discussed the research adoption activities and how they connect to tranche 1 outputs. Simon Biggs (CRCWSC Board member) will be the Deputy Vice chancellor at UWA in 2018 Board met with Queensland RAP	Annual strategic planning session 28 February with Board, EPRG and AC	Information: Greg Claydon is staying on the board while his Executive Director role at DWER will be undertaken by Susan Worley and then Paul Brown (3 months each)
CRCWSC AC	November meeting was deferred until February 2018	Annual strategic planning session 28 February with Board, EPRG and AC	Information: Incoming Chair of the RAP, Mike Mouritz, will join this group
EPRG	Held 9 November	Annual strategic planning session 28 February with Board, EPRG and AC	Information: Positions will remain unchanged
Tranche 1	Draft Water Words and Visuals Database is on the website but is currently being reviewed.		
General operations and Regional Manager	Emma Yuen Joined Swan NRM committee- to help guide the strategy.		
Adoption - IRP1	TN Industry representatives (Alison, Mike, Shelley, Josh) met with Minister for Water on the 9th and invited him to the TN meeting Dec 6. His priorities were around climate change, water and urban development The TN formed the following subgroups • Policy • Community engagement • Technical • Research	Finalise Implementation Plan. Community Engagement group to develop a one page overview.	Information: PSC member to provide update Information: TN could consider new members and is asking for nominations for subgroups
IRP2	Released the Subiaco report.	Work with participants and stakeholders to follow up on Ideas for Subiaco Development of database for Benefit Transfer Tool Benefit Cost Analysis Tool development Will have similar capacity building workshops on IRP2	Information: PSC member to provide update
IRP3	Held a PSC meeting in mid-December where Ryan was introduced as supporting Chris.	Will not be ready for the 27 Feb board meeting	Information: PSC member to provide update
IRP4	Exploring Knutsford as a case study		Information: PSC member to provide update
IRP5	Website is up.	Delays in start mean GHD will not deliver state of knowledge report until March 2018 IRP5 workshop to be planned for 2018.	Information: PSC member to provide update
Opportunities – policy	Discussions with CRCWSC executive discussed SPP 2.9 being supported through an issues paper, case study in IRP3 and as an Ideas for policy. A number of councils are undertaking sustainability plans		Agenda Item: How can we support councils developing sustainability plans?
Opportunities - Projects	METRONET – proposal developed Subiaco Oval – potential ideas for MRA policy project Hamilton Hill School redevelopment – IRP4 case study Bushmead– building stronger relationships with Cedar woods Knutsford – Met with CRC Low Carbon Living at Curtin	Meeting to discuss “Unicity” a sustainable development around curtin with Ministers for Housing, Water etc.	Information: METRONET Proposal provided to Glenn Finn before Christmas

	Hackathon – infill development		
Grants - Smart Cities	Smart Cities round of funding was been announced: • Resilient Energy and Water Systems in broader Fremantle including Knusford precinct, Curtin University • Smart Cities Collaboration, City of Perth • Smart Monitoring and Management Yellagonga Wetlands, City of Joondalup • RailSmart Planning in Wanneroo, University of Western Australia • Automated Vehicle Trial, RAC • Solar Energy Solutions, Waardi Limited • Energy Efficient Housing, City of Gosnells • Smart Emergency and Fire Management, Shire of Collie	Build collaboration with: Curtin Uni around Knutsford	Discussion: Are there other opportunities that linked CRCWSC activities and goals in addition to the Curtin Knutsford project?
TAP1 - WSC index	Index accreditation workshops in 2 cohorts. The first is planned for 6 Feb (Cockburn) followed by accreditation materials development 22 February in Melbourne. The first cohort was selected based on experience in the Perth Pilot and facilitation/ capacity building expertise, Urbaqua and JBA have been invited in the first cohort. The second cohort will include other participants (GHD, KBR, watertechnology etc) and will occur later in the year dependant on demand for workshops.		
TAP2 – planning scale	Christian Ulrich has been notified that the RAP is in support of Matt Hipsey's proposal		
TAP3 – detailed	As above for TAP2.		
Adoption - WA Research and Adoption Plan	WRAP Business Plan has been finalized.	Barry has cancelled the workshop on Research Adoption for February 1 and instead will provide a first draft of the plan to the March RAP for feedback.	
KAT – capacity building	Interest in running a National Masterclass on WSUD by IPWEA		
Analysis: Evaluation	Potentially only one demo project nationally will be funded		
Conferences	See full list in calendar of events		
Stakeholder engagement by Regional Manager	Meetings with: CRC Low Carbon Living at Curtin - Knutsford Ali Wheeler - Cedar woods Nadja Kammpfhenkel- Lendlease Alex Gardner - UWA Carmen Lawrence - UWA Vanessa Rauland - Climate Clever Initiative Victoria Weir - WESROC Katie Stubley – Centre for Social Impact	Re-engage with UWA (and potentially Curtin) re their campus planning Barry will run a workshop with consultants to assess skills and capacity to undertake projects that the CRCWSC is unable to do internally.	
Development sector engagement	UDIA have put a call for nominations for their committees • Environment • Housing Diversity • Industry Diversity • Infrastructure • Land Use Planning • Outlook • Urban Water Finalised the development sector strategy	Finalise the 2 pager FAQs brochure for Developers Coordinate meeting between UDIA, state and LGAs to discuss ways forward for a Flagship project approval process. Lunch and learn at Cedar woods.	Discussion: Is there support for a meeting to discuss the "Flagship multi-agency assessment committee"?
Local Government sector engagement	Lindsay has been undertaking LGA visioning with Canning and Mandurah in November. Many councils are doing sustainability plans (Perth, Claremont, Cambridge) Meeting 15 January with participant LGAs who didn't want another committee but instead a LGA specific update quarterly.	Lindsay will run the Cockburn workshop on February 6. Possible meeting with Technical Western Suburbs Group in 2018. Waiting on communications to finalise a 2 page brochure on value proposition for LGAs	
Water utility engagement	Tony is being brought out by the Water Corporation on 5th and 6th Feb.	Follow up on Subiaco ideas: • Possible "innovation shed" • Water management strategy	

Water Sensitive Initiatives

Proposal | CRC for Water Sensitive Cities Ltd

Ideas for METRONET

METRONET

December, 2017

CRC for
Water Sensitive Cities

About the Project

This proposal outlines how the Cooperative Research Centre for Water Sensitive Cities (CRCWSC) can provide METRONET with innovative ideas for new rail stations, precincts and rail corridors.

METRONET will see the extension of the rail network and development of precincts around major transport nodes. A well planned METRONET will not only minimise congestion on Perth's roads but create opportunities around liveable and attractive places for local residents and visitors alike.

The various stages of development will present different opportunities and necessitate different workshops processes. As of December 2017, METRONET Forrestfield were in the statutory planning stage meanwhile Thornlie and Yanchep were still in the project definition and precinct master planning stages.

This project will develop ideas for achieving

- Liveability delivered through cool green public spaces surrounding stations through fit for purpose water supplies and landscaping.
- An engaged community through the development of physical spaces that support social cohesion and social platforms that facilitate decision making and interaction
- Effective use of the rail reserve through Water Sensitive Urban Design of walking/bike paths and or Public Open Space
- Best Practice Management of Stormwater through onsite retention, water quality improvement and reuse in natural drainage systems
- Alternative water sources for public open space

Evidence based

The CRCWSC will help METRONET to identify and harness the latest research knowledge to inform these ideas. Experts and Researchers from a range of disciplines will participate in a design workshop to explain their research and apply this knowledge to a Water Sensitive METRONET.

Co-design of ideas

New ideas for the case study will be developed with input from both researchers and industry stakeholders. A design-led approach is employed so that the discussions identify and integrate novel solutions that meet METRONET's needs.

No status

The process is led by CRCWSC to ensure that the ideas developed have CRCWSC branding and no official status. This ensures that there is no obligation for industry participants to implement any or all of the recommendations and results in a more expansive palette of ideas.

Context

The Forrestfield line will provide a vital link between the Perth CBD with the Airport and beyond to Forrestfield. Planning began in 2008, with the project finally launched in 2014 following approval from the state government. It is due for completion in 2020.
The CRCWCS can assist by drawing upon its research in:

- Design of the tree canopy and green infrastructure to mitigate urban heat and provide aesthetic amenity
- Alternative water sources for public open space
- Creating a business case that includes non-market values
- How to influence behaviour to support sustainability initiatives

Proposed Approach

Our Research Synthesis process

The CRCWSC has developed an effective two-day 'design charrette' process to suit projects such as METRONET. This process provides a rapid way to integrate the research of the CRCWSC into specific solutions that can be further developed by the host organisation.

Past participants have described the value of Research Synthesis projects as:

- multi-stakeholder conversations within a safe and neutral environment.
- involving senior level organisational representatives and stakeholders.
- generating novel ideas, and applying the research in real-world situations.
- the notion that organisations were not obliged to commit to any of the ideas discussed.
- the learning experiences offered by participating in the workshops.

Examples of Research Synthesis projects can be found here: https://watersensitivecities.org.au/solutions/research-synthesis/

Workshop Structure

The Research Synthesis workshop creates a forum for researchers and industry stakeholders to collaborate and respond to the challenges for community engagement through a Water Sensitive METRONET.

The structure of the two day workshop option includes:

- A site tour to highlight current initiatives and emerging challenges
- Briefings from METRONET and other stakeholders to set the context for the workshop
- Overviews of the emerging research findings from different scientific disciplines
- Co-design of innovative ideas to respond to site context
- A pitch of ideas to senior management.

Following the workshop, the key ideas and recommendations will be captured in an *Ideas for METRONET* report.

Participants

Key workshop participants may include:

- CRC for Water Sensitive Cities
- METRONET
- State and local government
- Developers and utilities / service providers
- Experts in urban heat, urban design, economics, landscape architecture and or community engagement

Content

A CRCWSC research synthesis team will be assembled with experience in:

- Community engagement and communications
- Stakeholder visioning
- Precinct planning and Urban design

Activities

1. Workshop design

Location: Teleconference
Date: January 2018
Format: Discussion to finalise the workshop agenda, stakeholder participation, industry inputs and CRCWSC outputs
Participation: CRCWSC, METRONET

2. Site visit

Location: METRONET
Date: January/ February 2018
Format: Bus tour led by METRONET on day 1 of the workshop to visit key sites and other features of the station and precinct.
Participation: All workshop participants

3. Ideas workshop

Venue: TBC
Date: January/ February 2018
Format: 2 day workshop with agenda to include:
- Welcome by METRONET senior management
- Context setting presentations
- Problem identification
- Research presentation/discussion
- Idea generation refinement
- Pitch to METRONET senior management

Participation: METRONET and stakeholders.

4. Report

Date: Typically one month following the workshop
Format: Report outlining the ideas and relevant research links as a part of CRCWSC's "*Ideas for ...*" series

CRCWSC acknowledges that broader dissemination of this report (or other outcomes of this project) by CRCWSC requires permission by the project partners so as not to conflict with the communication and engagement strategy.

Agenda Template

This template is used to develop the agenda for each Research Synthesis workshop.

Day One (9.00 am – 4.30pm)

Introduction

Site tour

BREAK

Define the workshop challenges

- Context presentations
- Setting workshop questions

LUNCH

Generating ideas*

- Research presentations followed by table discussion to generate ideas that respond to the workshop questions

BREAK

Generating Ideas (cont.)

Share ideas

Day one wrap up

Day Two (9.00 – 2.30 pm)

Recap of Day one

CRCWSC presentation of a connecting narrative/framework for the ideas

Scoping the ideas in detail

BREAK

Assessing the feasibility of the ideas and implementation pathways

LUNCH

Prepare presentations

BREAK

Pitch ideas

Workshop summary

CLOSE

Research Synthesis Team

The proposed Research Synthesis team from the CRCWSC includes*:

Team member	CRCWSC Research Project/Affiliation	Relevance to the project
Nigel Tapper	Monash University – Urban heat	Heat mitigation
Chris Tanner	Tanner Bligh consultants	Water Sensitive Urban Design
Zoe Myers	UWA AUDRC	Creating public spaces for social interaction and mental health
Greg Claydon	Urban Water Planning and governance expert	Urban Water Planning
David Pannell/ Sayed Iftekhar	UWA – Resource Economics	Non market values of WSUD
Geoffrey London	UWA – School or Architecture	Urban Planning
Anas Ghadouani	UWA – Engineering	Ecological Engineering
Mike Mouritz	Water Sensitive Urban Design expert	Water Sensitive Urban Design

* The availability of individual team members will depend upon the agreed workshop date. In some circumstances, logistics necessitate the substitution of individuals with another representative of the relevant research project. CRCWSC participation will be confirmed prior to the workshop.

The workshop will be facilitated by CRCWSC National Engagement Manager Jamie Ewert and or CRCWSC Regional Manager Emma Yuen. Operational support will be provided by the CRCWSC through their Melbourne Office.

Fee Estimate – Two day workshop

The CRCWSC will provide in-kind costs associated with researchers' participation in this project as well as a Partnership Subsidy to support research adoption via selected Research Synthesis projects.

METRONET will fund the costs associated with the project as estimated ex. GST below.

CRCWSC Expenses	**CRCWSC contribution** (Excl. GST)
Participation of 8x CRCWSC researchers in the 2 day workshop	$26,400
CRCWSC Partnership Subsidy	$10,000
Total	**$36,400**

METRONET Expenses*	**Partner contribution** (Excl GST)	**Tick to approve expenses**
Includes: • Domestic travel and accommodation for interstate members of CRCWSC Team • Workshop facilitation and report writing • 2 day catering/ venue/ bus (approx. 30 PAX) • Desktop publishing and materials	$44,989	
local content and context experts (to be negotiated)	$22,800	
Less Partnership Subsidy	-$10,000	
Total	$57,789	
Options		
Report printing	Add $1,100	

Acceptance

To accept this proposal, including the following Proposal Terms, please sign as indicated below and return the original. If you have any questions please do not hesitate to contact us.

Acceptance of proposal and Terms on behalf of METRONET	
Signed:	**Date:**
Name:	**Position:**

Proposal Terms

1. Cooperative Research Centre for Water Sensitive Cities (CRCWSC) is engaged by METRONET to conduct the project specified herein as an independent contractor.

2. Client will make the contributions, pay the reimbursements and fees plus any applicable GST as specified in this proposal. Payment will be made within 30 days of invoice from CRCWSC.

3. A 20% mobilisation fee will be invoiced at the project commencement with the balance invoiced upon project completion.

4. CRCWSC will provide the report and deliverables as stated herein. CRCWSC will retain copyright in its report but grants the Client a non-exclusive, royalty and fee-free right to copy and use such reports for its own purposes.

5. Client acknowledges and agrees that any ideas, information and reports provided by CRCWSC are for general information only and are not specific advice. Client acknowledges and agrees that it is solely responsible for assessing any information it receives and that CRCWSC has provided no warranties in relation thereto. CRCWSC maximum liability in relation to all matters arising from this proposal is limited to the total payments it receives and retains from Client.

6. Either party may terminate this engagement upon fourteen days' notice to the other, provided that termination shall not affect the rights or obligations which have accrued up to the date of termination and the Client shall pay for any unavoidable expenses.

Disclaimer

The CRC for Water Sensitive Cities will endeavour to ensure that all information provided is correct. It makes no warranty with regard to the accuracy of the information provided and will not be liable if the information is inaccurate, incomplete or out of date nor be liable for any direct or indirect damages arising from its use. The information provided should not be used as a substitute for seeking independent professional advice.

About CRCWSC

The Cooperative Research Centre for Water Sensitive Cities (CRCWSC) was established in July 2012 to help change the way we design, build and manage our cities and towns by valuing the contribution water makes to economic development and growth, our quality of life, and the ecosystems of which cities are a part.

The CRCWSC is an Australian research centre that brings together many disciplines, world-renowned subject matter experts, and industry thought leaders who want to revolutionise urban water management in Australia and overseas.

Our vision

We envision future cities and towns, and their regions, to be sustainable, resilient, productive and liveable.

To deliver this, we:

Research and develop world-class science, technology, innovation, and design;

Synthesise knowledge across disciplines, in collaboration with our industry partners; and

Influence, lead, empower, and partner with stakeholders across all sectors.

About Research Synthesis

Research synthesis is key to successful research application and adoption.

A facilitated design process, the CRCWSC Research Synthesis Portfolio brings 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.

Research synthesis is a highly effective tool for exploring collaboration and innovation. The open-minded environment of a research synthesis design charrette (or facilitated group-think workshop) which is founded on science, and where no individual organisation leads or owns the conversation, supports an un-biased dialogue that enables the discovery of new and creative ideas.

Recent projects include:

Ideas for Bentley: a 25 Ha urban renewal project in Perth

Ideas for Batavia Coast Bentley*:* an urban development site in Geraldton

Ideas for Subiaco: a strategic resource precinct in the buffer zone of the Subiaco Wastewater treatment plant

Further Information

We hope to work together to deliver a water sensitive METRONET. Please do not hesitate to contact us.

Please do not hesitate to contact us:

Mr Jamie Ewert
National Engagement Manager
jamie.ewert@monash.edu
0410 239 573

CRC for Water Sensitive Cities (Head Office)
Level 1, 8 Scenic Blvd (Bldg 74), Monash
University Clayton Campus, VIC 3800
+61 3 9902 4985
www.watersensitivecities.org.au

Water sensitive concept for Plummer Street, Port Melbourne | Ideas for Fishermans Bend

Australian Government

Australian Consulate General

Chennai

Proposal to the Andhra Pradesh Government regarding an Andhra Pradesh-Australia Water Sensitive Cities Partnership

14 August 2017

Introduction:

Australia is seeking to partner with Andhra Pradesh (AP) to establish an **AP-Australia Water Sensitive Cities Partnership** to share Australia's globally recognised expertise as AP builds a new, modern capital city and fast-tracks the rehabilitation of its existing cities.

The Partnership would focus on a technical assistance project with two key components:

a) build Australia's world-leading water sensitivity practice into the development of Amaravati; and

b) a pilot project to demonstrate how alternative approaches to drainage infrastructure can be retrofitted in the existing city of Vijayawada to seed a transformation to more sustainable urban water management.

Rationale:

Under the Australia-AP Economic Cooperation Working Group, Australia and AP have identified water cooperation as a priority agenda item. Representatives from the Australian Consulate-General and the Australian Water Partnership met with the Hon. Devineni Uma Maheswara Rao, AP Minister for Irrigation, Command Area Development and Water Resources Management in September 2016 as part of an Australian water delegation to AP to discuss potential collaboration around the establishment of a Water Centre for Excellence and Water Science University in AP.

This complements Australia and India's existing relationship regarding the sharing of water policy and technical experiences, underpinned by an MOU on Water Resource Management, established in 2009 and renewed in front of Prime Ministers in November 2014. The MOU recognises that mutual cooperation between India and Australia will benefit both countries in adapting to climate change and securing water for present and future generations.

In December 2016, the States of Western Australia and Andhra Pradesh established a Sister-State Agreement to develop further business, education and cultural links between the two States. This agreement focuses on four key economic areas – including mining, agriculture, energy and higher education. The Andhra Pradesh-Australia Water Sensitive Cities Partnership provides an opportunity to support the Sister-State Agreement. The Western Australian Government is represented in the Cooperative Research Centre for Water Sensitive Cities by the Department of Communities and the Department of Water and Environmental Regulation. Other Western Australian partners of the Cooperative Research Centre for Water Sensitive Cities include the University of Western Australia, Water Corporation, Landcorp as well as a number of local governments and private sector companies.

Proposed project:

This project proposal results from the participation of the Cooperative Research Centre for Water Sensitive Cities in the Australian Water Partnership workshop with AP authorities on a Water Centre for Excellence and Water Science University and subsequent discussions between the Australian Consul-General for South India, Mr Sean Kelly, with a variety of AP officials, including from the AP Capital Region Development Authority and the Collector of Vizag, about the need for building water sensitivity into urban planning. The proposed AP-Australia Water Sensitive Cities Partnership serves as a strategic first step towards the Water Centre for Excellence.

It presents an opportunity for Australia to share its world-class capabilities in relation to urban water management by partnering with one of India's most progressive State Governments.

By modernising and leapfrogging the linear evolution of water services, the aim of the project is to make cities in AP exemplars for all of India regarding water sensitivity.

The attached prospectuses outline Australia's capabilities in regards to water sensitive design and the types of expertise capable of being built into this project.

Proposed total budget:

- Approximately Rs. 500 Lakh (A$1 million) – depending on the final design and scope of the project.
- Funding would be sought as a co-investment between Australian and AP partners: Australian Water Partnership - A$250,000, Department of Foreign Affairs and Trade, India Desk - A$250,000 AP partners - A$500,000 (Approximately Rs. 250 Lakh).

Proposed AP partners:

- AP Department of Planning
- AP Department of Municipal Administration and Urban Development (APDMAUD)
- AP Capital Region Development Authority (APCRDA)
- AP Urban Infrastructure and Asset Management Ltd.

Proposed lead Australian partner:

- Cooperative Research Centre for Water Sensitive Cities

Based out of Monash University in Melbourne, the Cooperative Research Centre for Water Sensitive Cities (CRCWSC) was established in July 2012 to help change the way cities are designed, built and managed by valuing the contribution water makes to economic development and growth, quality of life, and the ecosystems of which cities are a part.

The CRCWSC is a research centre established under an Australian Government initiative that brings together many disciplines, world-renowned subject matter experts, and industry thought leaders who want to revolutionise urban water management in Australia and internationally. With partners and projects located across three continents and seven states of Australia, the CRCWSC is making a global impact.

The approach of the CRCWSC is grounded in an understanding of 'integrated water cycle management' the vision of which is to provide long-term water security via holistic socio-technical management of the urban water cycle, using an integrated mix of policies, community engagement, urban planning and centralised and decentralised infrastructure to deliver water services, protect and enhance the health of receiving waterways, reduce flood risk and create green public spaces that capture and clean water.

The CRCWSC will enlist the support of its specialist partner organisations from the university, government and private sector to deliver the partnership.

Further information about the CRCWSC can be found at: https://watersensitivecities.org.au/

CRCWSC Vision:

Cities that are resilient, liveable, productive and sustainable.

CRCWSC Principles[1]:

1. Cities are being planned with water in mind from the outset – visions and outcomes for the city are developed and the way water management can assist in achieving these outcomes is considered from the outset.
2. Greater security of water supply in cities is achieved through alignment and integration of urban water services with a regenerative approach through minimal waste, harnessing the full potential of water resources generated in cities and human settlement. Cities are managed as water supply catchments with key consideration in land-use planning and control being given to implications on the resource potential inherent in cities.
3. Provision of safely managed wastewater services for all. Improved population health in all cities through sanitation and appropriate management of treated sewage delivered in a combination of centralised and decentralised schemes and linked to the recovery of inherent resources (water, energy, nutrients).
4. Stormwater drainage in global cities is linked to urban planning, framed by a network of blue and green corridors that cleanse and manage stormwater as a resource while providing flood protection through safe passage and detention of stormwater during high intensity and extreme storm events. These corridors also serve to provide urban heat mitigation and enhance urban biodiversity. Healthy aquatic and terrestrial eco-systems in and surrounding urban areas enhance amenity and liveability.
5. Social capital for sustainability and resilience is secured through: (i) improved water literacy amongst citizens, with communities freely adopting the principles and practice of multi-source fit-for-purpose water use; (ii) an industry with the professional capacity to innovate with water-sensitive technologies adapted to suit local context, opportunities and constraints; and (iii) government developing enabling policies for integrated urban water management and water sensitive cities (or equivalent) initiatives.
6. Extreme weather events, such as droughts and floods, are managed without causing significant damage to property. Community inconvenience is minimised, adaptive responses are systemic and recovery is coordinated and rapid.
7. The financial logic of investment decisions supports water-sensitive design and investments are underpinned by a clear and transparent process that can attribute the aesthetic, amenity, economic and social value of water-sensitive design to private and community beneficiaries.

[1] Professor Tony Wong, CEO of Australia's Cooperative Research Centre for Water Sensitive Cities. In: Paper prepared for High Level Panel on Water, invited by the Australian Water Partnership, 2016. Full paper available at https://waterpartnership.org.au/

Project outline:

This project creates the alignment amongst stakeholders that is needed to deliver the new generation of urban water services. It also facilitates innovation in infrastructure designs to realise this vision in the specific AP context.

The project initially engages stakeholders in a dialogue to establish the vision and principles for better water management in AP. It then delivers these principles through two parallel project opportunities – contributing to the design of the greenfield city of Amaravati and retrofitting the existing city of Vijayawada. This project structure is summarised below:

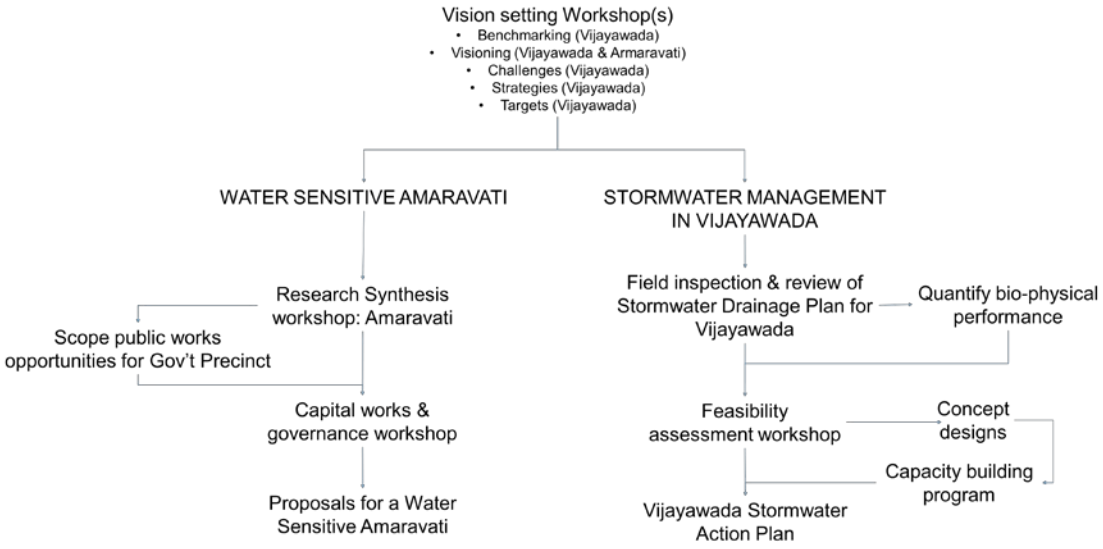


Figure 1 – Proposed project phases

(a) A vision for enhancing urban quality of life in AP: the role of water

The CRCWSC will facilitate a common agreement on key water management outcomes amongst the different stakeholders who manage and influence the delivery of urban water services in AP using Vijayawada and Amaravati as reference cities. These services include water supply, sanitation (ie underground drainage systems) and stormwater drainage. The steps in this phase are outlined below.

1. Undertake a diagnosis of the water sensitivity of Vijayawada using the Water Sensitive Cities Index tool[2] recently developed by the CRCWSC – this will rate the district in accordance the urban water management regime framework depicted in Figure 2;
2. Action a multi-stakeholder envisioning process[3] to develop a common vision for a water sensitive cities in AP. This step will develop context-specific water sensitive urban planning and design principles and objectives that will direct the overall master planning process for Amaravati and drainage capital works programs for Vijayawada.

[2] goo.gl/8oDqUP

[3] A typical output from this process can be found via this link: goo.gl/BXIP6P

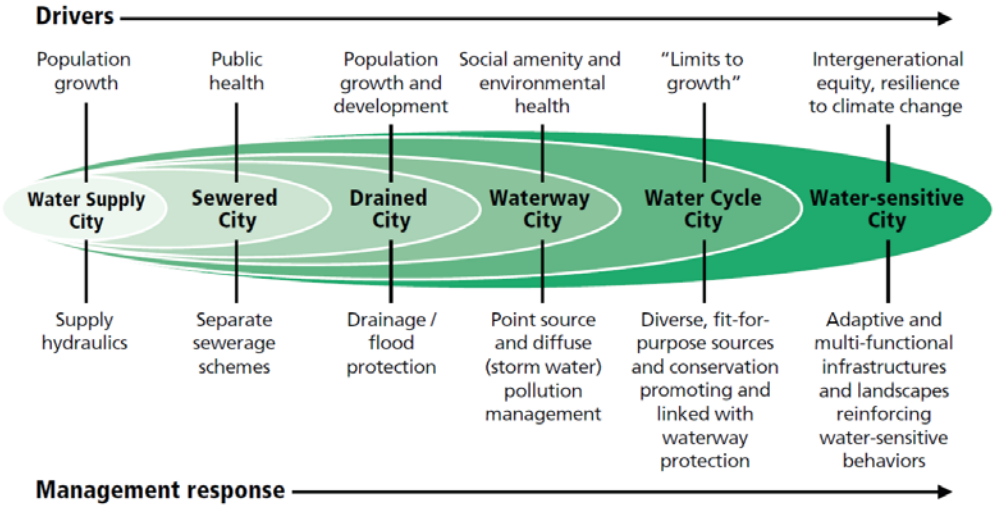


Figure 2 – Evolution of urban water management regimes. Source: ADB 2013, adapted from Brown et al. 2009[4].

Key Outcomes:

(i) the **establishment of collaborative partnership** amongst key stakeholder organisations, within and between these key cities, including:

a. Stakeholder organisations, consulting partners to the APCRDA and the CRCWSC to guide the development of sustainable and resilient urban water infrastructure for Amaravati;

b. the Municipal Government of Vijayawada, stakeholder organisations and consulting firms delivering the drainage capital works program for Vijayawada.

(ii) **a water sensitive index rating** for Vijayawada accompanied by a **diagnostic report** of the biophysical, water services infrastructure and urban water governance characteristics and the corresponding water challenges and the water security resilience capacity.

(iii) a common understanding and agreement amongst these stakeholders on key challenges and opportunities, and a **vision for sustainable and resilient urban water services in Amaravati**;

(iv) the **preparation of key design principles** that could be adopted to guide the (a) vision for the new capital being developed by the Centre for Liveable Cities, (b) master planning of the Government Precinct by Foster and Partners, and (c) waterway design for Amaravati by Arcadis; and (d) drainage capital works programs by consultants TLT in Vijayawada.

(v) a common **understanding and ownership of the roles and responsibilities** of the respective stakeholder organisations in fostering the critical whole-of-government approach required to deliver sustainable water outcomes through the three activities described in (iii).

[4] Brown RR, Keath N and Wong THF, 2009. 'Urban water management in cities: historical, current and future regimes'. Water Science and Technology 59 (5), 847-855.

Key Output:

Amaravati: The key output is a **water master plan** outlining the opportunities to deliver sustainable and resilient water management through the overall master plan for the city's development. Components will include:

a. An agreed vision for sustainable water management that will enhance quality of life in each city.

b. Design principles to operationalise the vision.

c. Strategies, actions and targets to overcome identified barriers to achieving the vision.

d. A framework for roles and responsibilities of key stakeholder organisations in delivering the vision.

Vijayawada: The key output is a **water strategy for the city** outlining opportunities for improved water sustainability and resilience for the city of Vijayawada, particularly in relation to identification of suitable retrofits of its stormwater drainage system to demonstrate water sensitive urban design to enhance quality of life for its residents.

Progress Point:

This step will take four months to complete, involving a series of workshops in Andhra Pradesh, each building from the deliberations and common understanding achieved from the previous workshop. Significant work will be undertaken between workshops to prepare background material and technical diagnostics to support deliberations at each workshop. The achievement of the above outputs and outcomes could be used as 'hold point' performance indicators before proceeding to the next project stage.

(b) Proposals for a Water Sensitive Amaravati

The project will implement the vision in Amaravati to provide an exemplar of best practice greenfield development.

1. Working with the APCRDA, apply water sensitive principles in the design and development of Amaravati by facilitating a **water sensitive cities design charrette** [5]. This charrette will identify innovation opportunities to incorporate the water sensitive principles in the design of key green infrastructure and water management elements in the public realm of the Government Precinct and the constructed waterway within Amaravati.

   Key Outcomes:

   (i) **continued strengthening of the collaborative partnership** between key stakeholder organisations through a focused process of synthesising contemporary concepts and practices from multiple disciplines into an integrated strategy for Amaravati;

   (ii) **Innovation ideas** that will demonstrate the application of water sensitive design principals in the public realm of the Government Precinct.

   Key Outputs:

   (i) a **discussion paper 'Ideas for a Water Sensitive Government Precinct in Amaravati'** outlining a set of ideas for innovation in open space, water elements and urban design in the public realm within the Government Precinct. These are referred to as "ideas" that reflect world best practice in sustainable urban water management that would be independently assessed by relevant stakeholder organisations for adoption;

   (ii) a **first past assessment by relevant key stakeholder organisations** of the technical practicality and financial viability of these ideas.

[5] A typical output from this process can be found via this link: goo.gl/DfJ0W3

Progress Point:

The preparation of the two discussion papers is anticipated to take four months to complete. The assessment of the technical practicality and financial viability of the ideas by relevant stakeholder organisations may take a further two to three months. The achievement of the above outputs and outcomes could be used as 'hold point' performance indicators before proceeding to the next stage of developing a prioritised works program.

2. Facilitate an implementation workshop with the APCRDA, Arcadis and other relevant consulting partners to integrate the ideas in the proposed public works of the Government Precinct, test the feasibility of these designs and to propose an operation and maintenance model to de-risk the delivery and ongoing maintenance.

   Key Outcome:

   (i) **Enhanced public realm designs** for the Government Precinct public realm that deliver sustainable water management outcomes and provide exemplars for the remaining precincts in Amaravati.

   (ii) **Ownership by key stakeholder organisations** of the enhanced public realm design.

   (iii) A **governance model** outlining roles and responsibilities.

   Key Outputs:

   (i) A **list of priority capital works projects** for the public realm within the Government precinct.

   (ii) a **discussion paper on a possible framework** for the construction, operation and maintenance of the water sensitive public realm identified for Amravati.

(c) Demonstration of Water Sensitive Stormwater Management in Vijayawada

The project will work with the relevant AP authorities including the Municipal Administration and Urban Development Department and the Municipality of Vijayawada to put the water sensitive principles into practice through a number of demonstrations of green infrastructure retrofits in Vijayawada by leveraging opportunities in the planned drainage capital works program.

This will provide examples of alternative delivery of drainage infrastructure and seeds longer-term partnerships to scale the pilot up to broader, city-wide implementation.

1. Review of Vijayawada Drainage Program, field inspections and facilitation of a workshop to **identify innovation opportunities** that could be retrofitted into the city as a part of the drainage capital works program. This workshop will employ the CRCWSC's research synthesis approach, which integrates the latest research with international best practice and local knowledge to design tailored project ideas.

   Key Outcomes:

   (i) the **establishment of a collaborative partnership amongst key stakeholder organisations**;

   (ii) a common understanding, built through a **detailed analysis of the challenges and opportunities,** of ways to enhance quality of life (through the lenses of sustainability, resilience, liveability) in Vijayawada through improvements in urban drainage.

   (iii) **Innovation ideas** that will demonstrate the application of water sensitive design principals in urban drainage.

   Key Outputs:

   (i) a **discussion paper outlining proposals for retrofitting drainage infrastructure and an governance framework** that respond to the specific context of the biophysical, socio-economic and cultural characteristics of Vijayawada;

   (ii) a first past **assessment by relevant stakeholder organisations of the technical practicality and financial viability** of the ideas presented based on their current appetite for innovation proposed.

   Progress Point:

The research synthesis process is anticipated to take four months to complete. The achievement of the above outputs and outcomes could be used as 'hold point' performance indicators before proceeding to the next stage of developing a prioritised works program.

2. **Develop a list of demonstration project opportunities** to be implemented (external to this partnership project) in the later stages of the 30 month drainage capital works program for Vijayawada by reviewing the works program in collaboration with AP stakeholders and selecting a suitable precinct for these demonstration projects;

   Key Outcomes:

   (i) A **list of possible demonstration projects** that can provide tangible examples of new practice. These demonstration projects will involve local stakeholders in 'hands-on' learning and seed the growth of key partnerships, both in terms of collaborative efforts as well as local skill-base for detailed design and construction.

   (ii) **a collaborative partnership** amongst key stakeholder organisations to deliver the capital works program.

   Key Output:

   (i) **an agreed list of demonstration retrofit works** to be implemented by local stakeholders as part of the drainage capital works program.

3. Work with AP stakeholders to develop concept designs for the proposed demonstration projects, test their feasibility and propose an accompanying capacity-building program to engage and educate local consultants, planners, engineers and constructors in the new designs.

   Key Outcome:

   (i) **Concept designs** and feasibility assessments for the proposed demonstration projects.

   (ii) **Continued strengthening of collaborative partnerships between key stakeholder organisations**, particularly APDMAUD, and the CRCWSC and associated Australian specialists.

   (iii) **Strengthening of local design and construction capacity** for water sensitive infrastructure

   Key Output:

   (i) an **Action Plan for the selected precinct of Vijayawada** that includes **innovation ideas**, concept designs for demonstration projects and a **proposed capacity building program**.

Australian contacts

Sean Kelly, Australian Consul-General to South India
Sean.Kelly@dfat.gov.au

Sophie Smith, Second Secretary and Consul, Australian Consulate-General, Chennai
Sophie.Smith@dfat.gov.au

John Dore, Senior Water Resources Specialist, Australian Department of Foreign Affairs and Trade
John.Dore@dfat.gov.au

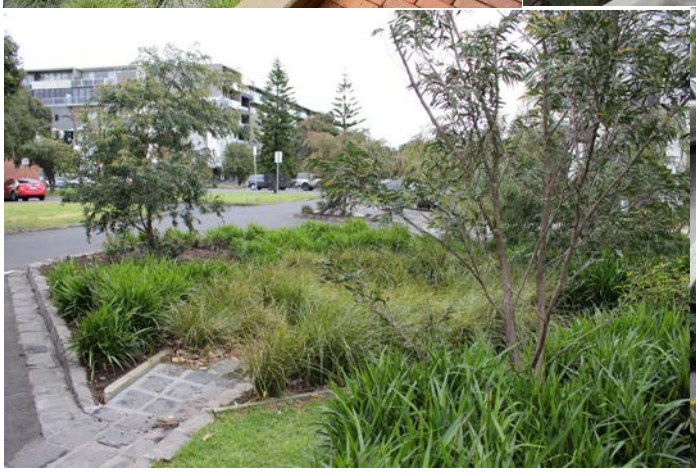
Svetha Venkatram, Government Relations Manager, Australian Consulate-General, Chennai
Svetha.Venkatram@dfat.gov.au

APPENDIX 1 – EXAMPLES OF WATER SENSITIVE PROJECTS

1. **Constructed water quality treatment wetlands in city parks**

2. **Biofilters – using plant based technologies to collect and treat stormwater in high profile urban spaces**

3. **Raingardens –street scale treatment and cleansing of stormwater runoff**



APPENDIX 2 – KEY COMPONENTS OF THE CRCWSC APPROACH

Benchmarking
This process uses the Water Sensitive Cities Index to provide a diagnostic insight of a city to improvement urban water management.

The Water Sensitive Cities Index is populated by stakeholders in an interactive, one day workshop, complemented by simple diagnostics of the urban water systems.

The index uses 34 indicators under seven water sensitive city goals: good governance; community capital; ecosystem health; adaptive infrastructure; equity of essential services; productivity and resource efficiency; quality urban spaces.

Tailoring the indicators to AP will be discussed.

Vision setting
Visioning complements the Index and helps city stakeholders develop a common understanding of the current situation and future drivers of change to reach agreement on a preferred future state.

A one day workshop will explore the historical and future drivers , and the role of water in shaping the overall city.

The outputs include a description of the vision, outcome statements and objectives for urban water management. Barriers to change are also diagnosed and prioritized.

This CRCWSC process has a proven record of delivering greater alignment and better coordination amongst stakeholders.

Planning and action setting
A series of one day workshops that move the focus form analysis to the development of strategies and action plans.

Here the focus is on addressing the barriers to change/implementation of the vision, and defining a roadmap to overcome these barriers.

Actions may include a range of technical, governance, policy and social initiatives.
The workshops cover aspects of:

- Identifying strategies and actions – developing actions to address barriers to change.
- Setting targets and action planning – operationalizing the actions.

Research synthesis
A multi-day design charrette involving CRC researchers and local stakeholders. The aim is to co-design specific water sensitive projects by integrating new knowledge from research with local context and a whole-of-water-cycle approach.

The process follows a number of steps:

- Site visit
- Ideas workshop
- Prototyping and ‘pitch’ to stakeholders
- First pass feasibility assessment.

CRC for Water Sensitive Cities

ATTACHMENT 6: CRCWSC Western Region EVENT SCHEDULE 2018

	Event	Topic	Organisation(s) in charge
2018	2018	2018	2018
14 Dec 17 – 30 Jan 18	WA School Holidays		
18 January	IRP5	Project Steering Committee Meeting	Nick Deeks
25 January	Regional Advisory Panel		CRCWSC WR
1 February	Delivering products and services on behalf of the CRCWSC		Barry Ball
9 February	IRP1	Project Steering Committee meeting	Katie Hammer
12 – 15 February	10th International Water Sensitive Urban Design	WSUD 2018 & Hydropolis 2018 Crown Towers, Perth	Engineers Aust, AWA Stormwater WA
28 February	CRCWSC Board Meeting/ Annual EPRG Meeting	Board and Executive Committee Meeting	CRCWSC
28 Feb – 2 March	Developing WA	UDIA State Conference	UDIA
28 March	Regional Advisory Panel		CRCWSC WR
14 April – 29 April	WA School Holidays	T1 WA School Holidays	
30 May	Regional Advisory Panel		CRCWSC WR
6 June	CRCWSC Board Meeting	Board Meeting	CRCWSC
30 June – 15 July	WA School Holidays	T2 WA School Holidays	
25 July	Regional Advisory Panel		CRCWSC WR
29 August	CRCWSC Board Meeting	Board Meeting	CRCWSC
22 Sept – 7 Oct	WA School Holidays	T3 WA School Holidays	
26 September	Regional Advisory Panel		CRCWSC WR
24 October	CRCWSC Extraordinary Board Meeting	Board Meeting	CRCWSC
28 November	Regional Advisory Panel		CRCWSC WR
27 November	CRCWSC Board Meeting	Board Meeting	CRCWSC
14 Dec – 3 Feb 2019	WA School Holidays	T4 WA School Holidays	

CRC Board, Executive or Committee Meeting	CRC Project Event	CRC Special Event
CRC Project Team Meeting	CRC Synthesis Event	National External Event
Regional Advisory Panel Meeting	Capacity Building – Public	WA External Event
	Capacity Building – Invite	WA School Holidays