

CRCWSC Commonwealth Agreement Variations to February 2015

Variation 2, 26Feb15

Purpose:

- to change the Department's name to the Department of Industry and Science
- to amend Schedule 1 - Specified Personnel
- to amend Schedule 2 – Activities

Variation 1, 17Sep13

- to change the Department's name to Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education
- to amend Schedule 1 Specified Personnel
- to amend Schedule 4 – Budget
- to add the Department of Housing (WA) to the list of Essential Participants

**Prepared by Robyn McLachlan
Chief Operating Officer
27th February 2015**



Department of Industry and Science

CRC Programme Deed of Variation

Commonwealth of Australia (**Commonwealth**)

CRC for Water Sensitive Cities Ltd (**Recipient**)

Details

Date

26 / 02 / 2015
day month year

Parties

Name	The Commonwealth of Australia as represented by the Department of Industry and Science
ABN	74 599 608 295
Short form name	Commonwealth
Name	CRC for Water Sensitive Cities Ltd
ABN	19 158 409 137
Short form name	Recipient

Background

- A On 26 June 2012 the Commonwealth and the Recipient entered into a Commonwealth Agreement in relation to the Cooperative Research Centre for Water Sensitive Cities ("the CRC").
- B On 23 December 2014 the Department of Industry was renamed the Department of Industry and Science and assumed responsibility for the "Commonwealth's" (as defined in the Commonwealth Agreement) obligations under the Commonwealth Agreement.
- C The Parties have varied the Commonwealth Agreement by Deed of Variation on 17 September 2013.
- D The Commonwealth and the Recipient have agreed to vary the terms of the Commonwealth Agreement in accordance with this Deed.

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Agreed terms

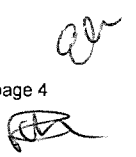
1. Defined terms and interpretation

Defined terms

- (a) In this Deed, unless the contrary intention appears:
 - (i) the terms used in this Deed which start with capital letters and which are not defined in this Deed have the same meaning as in the Commonwealth Agreement.
 - (ii) **Deed** means this deed, including all annexures;
 - (iii) **Effective Date** means the date the last Party executes this Deed;
 - (iv) **Commonwealth Agreement** means the funding agreement described in paragraph A of the Background;
 - (v) **Participant** means persons, bodies or organisations, who are Essential Participants or Other Participants who have agreed to support the Activities and provide Contributions to the CRC. For the avoidance of doubt, this does not include the Recipient; and
 - (vi) **Parties** or **Party** means the parties or a party to this Deed.

2. Variation to Commonwealth Agreement

- (a) The Commonwealth Agreement is varied as set out in Annexure 1 to this Deed.
- (b) Subject to the exceptions outlined below, the variations as set out in Annexure 1 to this Deed have effect from the Effective Date:
 - (i) the variation in respect of the renaming of the Department of Industry and Science takes effect from 23 December 2014



3. Affirmation of Commonwealth Agreement

- (a) The parties affirm in all other respects the covenants and conditions in the Commonwealth Agreement as varied by this Deed.
- (b) The Commonwealth Agreement, as varied by this Deed, comprises the entire agreement between the parties.
- (c) The parties acknowledge and agree that the Commonwealth Agreement as varied by this Deed is and continues to be in full force and effect.

4. Costs and Stamp Duty

- (a) Each party must meet or pay its own costs and expenses in respect of the preparation, negotiation, execution and completion of this Deed.
- (b) The Recipient must pay any stamp duties and registration or other fees (including fines, penalties and interest relating to such duties and fees) which are payable or are assessed by a relevant government body or other person to be payable in relation to this document or any transaction contemplated by it.

5. Miscellaneous

Counterparts

- (a) This Deed may be executed in counterparts. All executed counterparts constitute one document.

Governing law and jurisdiction

- (b) This Deed is governed by the law of the Australian Capital Territory and each party irrevocably submits to the non-exclusive jurisdiction of the courts of the Australian Capital Territory.

Severability

- (c) A term or part of a term of this Deed that is illegal or unenforceable may be severed from this Deed and the remaining terms or parts of the terms of this Deed continue in force.

Signing page

EXECUTED as a deed.

Signed for and on behalf of the Commonwealth of Australia as represented by the Department of Industry and Science by its duly authorised delegate in the presence of:

Jenni Phillipot
Signature of witness

Jenni Phillipot
Name of witness (print)

← [Signature] ←
Signature of delegate

STEVE STIRLING
Name of delegate (print)

GM SERVICE CENTRE + CRCs Australia
Position of delegate (print)

Signed by CRC for Water Sensitive Cities Ltd in accordance with section 127 of the Corporations Act 2001 in the presence of:

[Signature]
Signature of director

ROB STIRLING
Name of director (print)

← [Signature] ←
Signature of director or company secretary or sole director who is also the sole company secretary
(Please delete as appropriate)

ROBIN McLACHLAN
Name of director/company secretary/sole director and sole company secretary (print)

Annexure 1

The Commonwealth Agreement is varied as set out below.

1. Renaming of the Department

On 23 December 2014 the Department representing the Commonwealth of Australia changed its name to the Department of Industry and Science from Department of Industry.

In the Commonwealth Agreement, all references to the Department of Industry are deleted and replaced with the Department of Industry and Science.

2. Schedule 1 (Agreement Details)

Schedule 1 of the Commonwealth Agreement is replaced with the schedule set out at Annexure 2 of this Deed.

3. Schedule 2 (Activities)

Schedule 2 of the Commonwealth Agreement is replaced with the schedule set out at Annexure 3 of this Deed.

Annexure 2

Schedule 1 – Agreement Details

Item number	Description	Reference	Details
1.	Commonwealth	1.1	Commonwealth of Australia as represented by the Department of Industry and Science NISHI Building 2 Philip Law St New Acton ACT 2601 ABN 51 835 430 479
2.	Recipient	1.1	CRC for Water Sensitive Cities Ltd Building 74, Clayton Campus Monash University Victoria 3800 ABN: 19 158 409 137
3.	Commonwealth Representative	1.1 and 12.1	General Manager Service Centre & CRC Branch
4.	Recipient Representative	1.1 and 12.1	Professor Tony Wong Chief Executive Officer CRC for Water Sensitive Cities
5.	CRC Indicia	1.1 and 20	The Commonwealth's licence to the Recipient is subject to the conditions set out in any relevant Guidelines issued by the Commonwealth from time to time, and as amended from time to time.
6.	Commencement Date	1.1 and 3	01/07/2012
7.	End Date	1.1 and 3	30/06/2021
8.	Guidelines	1.1 and 4.1	The Cooperative Research Centres Program Guidelines issued by the Commonwealth and as amended from time to time.
9.	Policy and requirements – in addition to clause 30.17, 30.18 and 30.19	4.1	No specific policies
10.	Acknowledgment of support	20	Acknowledgement of support must be made in accordance with any relevant Guidelines issued by the Commonwealth from time to time, and as amended from time to time.
11.	Subcontractors	14.1	Not applicable
12.	Specified Personnel	1.1 and 14	Cheryl Batagol Chair Time commitment 7% Vacant (non-research essential participants nominee) Board member Time commitment 10% Vacant (non-research essential participants

Item number	Description	Reference	Details
			<p>nominee) Board member Time commitment 10%</p> <p>Rob Skinner (research essential participants nominee) Board member Time commitment 10%</p> <p>John Dell (research essential participants nominee) Board member Time commitment 10%</p> <p>Kerry Stubbs (independent, essential nominee) Board member Time commitment 10%</p> <p>Steve Frost (local government, other participants nominee) Board member Time commitment 10%</p> <p>Nick Apostolidis (other participants nominee) Board member Time commitment 10%</p> <p>Dominic Dolan (other participants nominee) Board member Time commitment 10%</p> <p>Greg Claydon (board nominee) Board member Time commitment 10%</p> <p>Tony Wong CEO Time commitment 100%</p> <p>Robyn McLachlan COO Time commitment 100%</p> <p>Jurg Keller Interim Chief Research Officer & Acting Program Leader of RP1 Time commitment 80%</p> <p>Briony Rogers Deputy Program Leader of RP1 Time commitment 51%</p>

Item number	Description	Reference	Details
			<p>Nigel Tapper Darryl Low Choy Co-Program Leaders of RP2 Time commitment 60%</p> <p>Zhiguo Yuan Program Leader of RP3 Time commitment 51%</p> <p>Fiona Chandler Co-Program Leader of RP4 Time commitment 50%</p> <p>Jamie Ewert Regional Executive Director: Southern Region Time commitment 51%</p> <p>Anas Ghadouani Regional Executive Director: Western Region Time commitment 55%</p> <p>Sandra Hall Interim Regional Executive Director: Eastern Region Time commitment 51%</p> <p>Tbc Regional Executive Director: Singapore Time commitment tbc</p> <p>Brian Head Key Researcher Time commitment 45%</p> <p>David Pannell Key Researcher Time commitment 21%</p> <p>John Thwaites Key Researcher Time commitment 21%</p>
13.	Commonwealth Material	1.1 and 16	Not applicable
14.	Confidential Information	1.1 and 21	<p>Commonwealth Confidential Information:</p> <p>Commonwealth Material. Period of confidentiality: perpetual</p> <p>Recipient Confidential Information</p> <p>Nil</p>

Item number	Description	Reference	Details
15.	Address for Notices	29	<p>Commonwealth: General Manager Service Centre & CRC Branch GPO Box 9839 Canberra ACT 2601 2 Philip Law St New Acton ACT 2601 crc.program@industry.gov.au</p> <p>Recipient: Chief Executive Officer CRC for Water Sensitive Cities PO Box 8000 Monash University LPO Wellington Road Clayton, Victoria 3800 Building 74, Clayton Campus Monash University Victoria 3800 tony.wong@monash.edu</p>

Annexure 3

Schedule 2– Activities

2. Overview (clause 1.1)

The Australian government has made the creation of liveable, sustainable and productive cities a national priority and identified reform of urban water systems as a key goal.

The economic health of our cities and towns are in many ways, either directly or indirectly, influenced by the strategies we adopt in the provision of urban water services. By urban water services, we mean all facets of services including those services beyond the traditional association with water supply, sewerage and drainage (stormwater and groundwater) infrastructure. Specifically, our definition of urban water services includes ecosystem services to the built and natural environment.

The benefits of Water-Sensitive approaches to urban water management are well known but the practical tools required for implementation on a large scale are not currently available. The challenge is that there is no one clearly definable problem and hence no one big solution - there are many small mutually dependent problems involving multiple sectors and disciplines that must be tackled as systems, or as systems within systems. Collaborative efforts across multiple industry and community sectors and across social and biophysical research disciplines are essential to address this very complex and multi-disciplinary problem.

The CRC for Water Sensitive Cities will address the key challenge of ensuring the water services and planning processes in Australian cities and towns can meet the challenges of population growth, and economic and climatic uncertainty. Our end-users, including various departments at all levels of governments, the water sector and the land development sector, recognise that our research will guide capital investments of more than \$100 billion by the Australian water sector and more than \$550 billion of private sector investment in urban development over the next 15 years. It will facilitate orderly and sustainable growth of cities.

The CRC will deliver the planning, technology and decision support tools required to improve the efficiency and effectiveness of urban water systems. To achieve this, the CRC has four complementary research programs, comprising 19 high priority projects. These programs are: (1) Society; (2) Water sensitive urbanism; (3) Future technologies; and (4) Adoption pathways

The CRC will produce a blueprint or “how to” guide to the management of urban water resources for practitioners and developers to apply water sensitive design principles to the planning of urban developments and re-developments; toolkits including novel technology software packages and frameworks that will be instrumental in supporting the delivery of the blueprint; and capacity building and demonstration sites that provide opportunities for urban communities and for the public and private sectors to participate in the development of social and institutional capital associated with the establishment of water sensitive cities.

These outputs will provide support legislative and regulatory reform, investment prioritisation, the design and construction of water sensitive cities, and the education and training of a skilled workforce needed to secure safe, reliable and resilient water supplies for Australia’s towns and cities.

The total expected risk adjusted benefit associated with all CRC for Water Sensitive Cities research programs is \$165,432,960; the expected cost is \$98,522,304; resulting in an expected cost to benefit ratio for the CRC of 1.68.

3. Strategic Research Priorities (clause 1.1)

	SRP Challenge	Strategic Research Priority
Research Program 1 Society	Living in a changing environment	Enable societal transformation to enhance sustainability and wellbeing
Research Program 2 Water Sensitive Urbanism	Living in a changing environment	Identify vulnerabilities and boundaries to the adaptability of changing natural and human systems
Research Program 3 Future Technologies	Living in a changing environment	Manage risk and capture opportunities for sustainable natural and human systems
Research Program 4 Adoptive Pathways	Living in a changing environment	Manage risk and capture opportunities for sustainable natural and human systems

4. Milestones (clauses 1.1 and 4.1 (d))

3.1 Research Program No. 1 – Society will focus on understanding the social, attitudinal, behavioural, economic and political drivers that will help or hinder the transformations needed to support water sensitive cities. It will deliver governance models, policy tools and practical guidance that will facilitate social, institutional, regulatory and economic reforms that are mutually reinforcing, flexible and easily adapted to different social scales and contexts. The key activities to be undertaken in Program 1 are:

- establishment and operation of end user stakeholder advisory group to oversee program research activities
- development of new economic analysis tools and methodologies (supported by training manuals) for the valuation of the economic, social and ecological costs/benefits of water sensitive technologies and systems
- conduct of cost/benefit assessments of the new water sensitive technologies developed in Program 3 and cost/benefit assessments of regulatory frameworks developed in Program 1
- conduct of economic modelling of extreme weather events to inform planning for such events by state department, water utilities and local government
- preparation of information sheets targeting a broad 'lay' audience
- conduct of focus groups and large scale surveys to increase understanding of community attitudes and behavioural drivers
- development of a typology of water use contexts and attitudes
- development of a behaviour assessment database where behaviour are assessed for greatest impact on water sensitivity and greater ease of influence
- development of a process for participatory scenario building and piloting of approach in three Australian cities to assist the development of scenarios for water sensitive cities
- development of roadmap for water sensitive transition that focuses on priority behaviours for changing, campaigning/influencing actions and monitoring of progress
- conduct of multiple stakeholder forums/workshops to gain input into projects and communicate project findings

- literature review of advances in deliberative governance in urban planning, environment and water management
- pilot study of model for deliberative governance/decision making with one or more CRC partner agencies
- development of community water literacy and terminology database
- development of a modelling tool that simulates interactions between social acceptance, urban form, economics and technical feasibility

Output No.	Description	
1.1	Develop guidelines and accompanying tools for the economic assessment of water-sensitive technologies and systems.	
Output Milestones		Due date
1.1.1	A project level stakeholder advisory group, including end users is established	30 June 2013
1.1.2	Establishment of framework and approaches for valuing intangibles from water-supply portfolios and decentralised systems has commenced	30 June 2013
1.1.3	Initial overarching integrated economic assessment framework and associated guidance material released to end users	30 June 2014
1.1.4	Development of integrated economic assessment tools for water-sensitive infrastructure has commenced	30 June 2014
1.1.5	1 st version of integrated economic assessment results for water-sensitive infrastructure released to CRC participants	30 June 2015
1.1.6	Application of assessment tool (guidelines and methods) on at least two end-user projects has commenced	31 March 2016
1.1.7	Integrated economic assessment results for at least two end-users' water-supply portfolios and decentralised systems are collated and provided to CRC participants	31 Dec 2016
1.1.8	Refinement of integrated economics of assessment tool (guidelines and methods) for valuation of water-supply portfolios and associated infrastructure following feedback from early adopters training has commenced	31 Dec 2016
1.1.9	Final guidelines for valuing intangibles from water-supply portfolios and decentralised systems and associated training materials provided to end users	30 June 2017
1.1.10	Development of integrated economics of assessment tool (guidelines and methods) for valuation of water-supply portfolios and associated infrastructure is completed	30 June 2017
1.1.11	Final guidelines for the economic assessment of water-sensitive technologies and systems and associated training materials provided to end users	30 June 2017
1.1.12	A report, endorsed by CRC Essential Participants, outlining recommendations for adoption of the economic assessment of	30 June 2017

water-sensitive technologies and systems is provided to planning and water authorities	
1.1.13 Refinement of the economic analysis methods and guidelines in consultation with end users	30 June 2018
1.1.14 Refinement of the economic analysis methods and guidelines in consultation with end users	30 June 2019
1.1.15 Final revised guidelines for economic analysis of water sensitive technologies and systems made available to end users	30 June 2020

Output No.	Description	
1.2	A behaviour assessment database and behavioural roadmap/guidelines/ policy recommendations to support effective behaviour-change strategies.	
Output Milestones		Due date
1.2.1	Consultations with stakeholders, including End users, to identify ideal/new behaviours for reducing individual and collective water footprints have been conducted	30 June 2013
1.2.2	Ideal/new behaviours list for inclusion in behavioural database is completed and endorsed by end users	30 June 2014
1.2.3	Key target audiences for future behaviour change interventions have been identified and are endorsed by end users	30 June 2014
1.2.4	Ideal/new behaviours have been assessed for impact and ease of influence	30 June 2015
1.2.5	A prioritised roadmap of behaviours for change has been developed in consultation with end users	30 June 2016
1.2.6	Development of change strategy guidelines and policy recommendations has commenced, including trialling of key change strategies in pilot	30 June 2016
1.2.7	Behavioural change guidelines and policy recommendations are completed and endorsed by end users	30 June 2017

Output No.	Description	
1.3	Review and assessment reports relating to current regulatory frameworks for Water Sensitive Cities and recommendations for their improvement	
Output Milestones		Due date
1.3.1	A project level stakeholder advisory group, including end users, has been established	31 Dec 2012
1.3.2	A comprehensive literature review focused on establishment of best practice regulatory frameworks has commenced	30 June 2013
1.3.3	Assessment of international governance models for addressing regulatory transition challenges is completed	30 June 2014
1.3.4	Knowledge requirements for complex strategy development are	30 June 2014

	identified	
1.3.5	Initial stakeholder forums/workshops have been conducted	30 June 2014
1.3.6	Innovation models appropriate for systems at state, regional and local levels are assessed	30 June 2015
1.3.7	First suite of review and assessment reports looking at key issues with existing frameworks and canvassing change options is released to CRC participants for feedback	30 June 2015
1.3.8	Initial recommendations for best-practice governance models for state, regional and local scales are released to end users for feedback	30 June 2016
1.3.9	Stakeholder governance workshops to test evolving frameworks are held	30 June 2016
1.3.10	Recommendations for best-practice governance models for state, regional and local scales are finalised in consultation with stakeholders and accepted by stakeholders	30 June 2017
1.3.11	A cost-benefit analysis of recommended regulatory frameworks has commenced	30 June 2017
1.3.12	Simple and targeted communication outputs to support recommendation adoption are developed in consultation with end users	30 June 2017
1.3.13	A cost-benefit analysis of recommended regulatory frameworks is completed and distributed to end users	30 June 2018

Output No.	Description	
1.4	A new model for risk assessment and risk diversification for the water sector.	
Output Milestones		Due date
1.4.1	A project level stakeholder advisory group is established	30 June 2013
1.4.2	A comprehensive review of current approaches to risk taking and risk management has commenced	30 June 2013
1.4.3	Initial stakeholder forums/workshops are conducted	30 June 2014
1.4.4	Preliminary new models for risk assessment and diversification are developed, in consultation with end users	30 June 2015
1.4.5	Risk assessment and diversification models are tested across state and local levels	30 June 2016
1.4.6	Refined risk assessment and risk diversification models released to end users for feedback	30 June 2017
1.4.7	Revised risk assessment and risk diversification models accepted by end users	30 June 2018
1.4.8	Application of risk assessment and risk diversification models expanded to two additional cities	30 June 2018
1.4.9	Training modules and other communications material to support	30 June 2018

effective adoption and application of new risk models have been developed in consultation with end users	
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Output No.	Description	
1.5	Socio-technical modelling software package to examine urban water management scenarios. This software tool will enable users to simulate of the interactions between social acceptance, urban form, economics and technical feasibility to examine possible urban water management scenarios.	
Output Milestones		Due date
1.5.1	A framework of the software tool has been designed, in consultation with end users	30 June 2013
1.5.2	Development of economics, biophysical and societal transition modules has commenced	30 June 2014
1.5.3	Development of the initial software package and guidance material has commenced	31 Dec 2014
1.5.4	Initial versions of the economics, biophysical and societal transition modules are finalised	30 June 2016
1.5.5	Software user guide and training material to support beta version published	31 Dec 2016
1.5.6	Beta software package released for testing by end users	31 Dec 2016
1.5.7	Beta testing of software completed and refinement of initial software package in response to feedback from beta testing has commenced	30 June 2017
1.5.8	Incorporation of additional features into software package resulting from Program 1, 2 and 3 outcomes	30 June 2017
1.5.9	Ongoing incorporation of additional features into software package resulting from Program 1, 2 and 3 outcomes	31 Dec 2017
1.5.10	Updated software user guide and training material to support enhanced version additional features into software package resulting from Program 1, 2 and 3 published	30 June 2018
1.5.11	Ongoing incorporation of additional features into software package resulting from Program 1, 2 and 3 outcomes	30 June 2019
1.5.12	Beta testing of enhanced software completed and finalisation of software has commenced	30 June 2019
1.5.13	Beta testing completed and release of comprehensively updated software package and updated training materials to industry for use	30 June 2020

Output No.	Description	
1.6	Database of community water literacy and community-friendly water terminology and recommendations for effective community engagement strategies.	
Output Milestones		Due date
1.6.1	Database framework established in consultation with end users	30 June 2014
1.6.2	Focus groups and expert interviews to establish baseline of community understanding of water terminology and population of database have commenced	30 June 2015
1.6.3	Development of recommendations for effective community engagement has commenced	30 June 2015
1.6.4	Population of database is completed	30 June 2016
1.6.5	Development of effective community engagement framing and message delivery mode completed and experimental testing has commenced	30 June 2016
1.6.6	Testing of effective community engagement framing and message delivery mode completed and recommendations for community engagement strategies/modes is prepared and distributed to CRC Participants for feedback	30 June 2017
1.6.7	Report outlining detailed recommendations for community engagement strategies/modes, endorsed by end users, is completed and distributed to CRC Participants	30 June 2018

Utilisation No.	Description	
U1.1	Early adopters are identified and trained in the usage of new cost/benefit guidelines/tools, and this experience is utilised to ensure tools are adopted more broadly (output 1.1)	
Utilisation Milestones		Due date
U1.1.1	Initial 'early adopter' jurisdiction water and planning departments and water utilities (WA most likely to be early adopter) are identified	30 June 2015
U1.1.2	Training for early adopter staff in use of the guidelines/tools being developed has been delivered	31 June 2016
U1.1.3	'beta' guidelines have been trialled in 'early adopter' jurisdiction(s)	30 June 2016
U1.1.4	Final guidelines are used on a sub-set of investment decisions in the early adopter jurisdiction	30 June 2017
U1.1.5	The 'early adopter' jurisdiction has worked in partnership with the CRC to further refine guidelines and associated communications material to facilitate adoption by other jurisdictions	30 June 2017
U1.1.6	A 'fast follower' jurisdiction is identified	30 June 2018
U1.1.7	The 'early adopter' jurisdiction has worked in partnership with the	30 June 2018

CRC to facilitate adoption by other jurisdictions	
U1.1.8 Training for 'fast-follower1' staff in use of the guidelines/tools has commenced	Dec 2018
U1.1.9 Guidelines in 'early adopter' jurisdiction have expanded so that use is 'standard practice' across investment decision making	30 June 2019
U1.1.10 Final guidelines in 'fast-follower1' jurisdiction are used on a sub-set of investment decisions	30 June 2019
U1.1.11 Final guidelines in 'fast-follower1' jurisdiction are used on a sub-set of investment decisions	30 June 2020
U1.1.12 A further 2 'fast-follower' jurisdictions are identified	30 June 2020
U1.1.13 Training for 'fast-followers 2&3' staff in use of the guidelines/tools has been delivered	Dec 2020
U1.1.14 Final guidelines are used by 'fast-followers 2&3' jurisdictions on a sub-set of investment decisions	30 June 2021
U1.1.15 Guidelines in 'fast follower1' jurisdiction have expanded so that use is 'standard practice' across investment decision making	30 June 2021

Utilisation No.	Description	
U1.2	Outputs 1.2 (behavioural assessment database and behaviour change strategy) is utilised by key end users.	
Utilisation Milestones		Due date
U1.2.1	Workshops with stakeholders, including end users, to identify ideal/new behaviours for reducing individual and collective water footprints in pilot cities are completed	30 June 2013
U1.2.2	Workshop with end users to review and finalise ideal/new behaviours list and key target audiences for future behaviour change interventions in pilot cities is completed	30 June 2014
U1.2.3	Workshop with end users to review and discuss impact and ease of influence of behaviours list is completed	30 June 2015
U1.2.4	Workshops with stakeholders, including end users, to finalise behaviour change roadmap in pilot cities are completed	30 June 2016
U1.2.5	A range of end users communication and engagement activities, including forums and workshops, have been delivered to promote guidelines and recommendations for fostering behaviour for reducing individual and collective water footprints.	30 June 2017
U1.2.6	Targeted communications and training activities are delivered to potential behaviour influencers and initial behaviour change initiatives in pilot cities have commenced	30 June 2017
U1.2.7	Initial pilot behaviour change initiatives in pilot cities have been implemented	30 June 2018
U1.2.8	A range of forums and workshops have been held with end users to promote guidelines and recommendations for fostering behaviour	30 June 2018

for reducing individual and collective water footprints and lessons learned from implementation of initial pilot initiatives	
U1.2.9 Ongoing communications and training activities are delivered to potential behaviour influencers	30 June 2018
U1.2.10 A range of forums and workshops have been held with end users to promote guidelines and recommendations for fostering behaviour for reducing individual and collective water footprints and lessons learned from implementation of initial pilot initiatives	30 June 2019
U1.2.11 Ongoing communications and training activities are delivered to additional potential behaviour influencers	30 June 2019
U1.2.12 Behaviour change initiatives in pilot cities is expanded to new cities	30 June 2019
U1.2.13 A range of forums and workshops have been held with end users to promote guidelines and recommendations for fostering behaviour for reducing individual and collective water footprints and lessons learned from implementation in pilot and new cities	30 June 2020
U1.2.14 A range of forums and workshops have been held with end users to promote guidelines and recommendations for fostering behaviour for reducing individual and collective water footprints and lessons learned from implementation in pilot and new cities	30 June 2021

Utilisation No.	Description
U1.3	Outputs 1.3 (improved regulatory frameworks) is utilised by key end users.
Utilisation Milestones	
	Due date
U1.3.1 New regulatory /governance model has been implemented in pilot cities	30 June 2017
U1.3.2 Ongoing implementation support training for governance stakeholders to assist adoption of recommendations is provided	30 June 2018
U1.3.3 At least one additional city is engaged in planning for adoption of regulatory/ governance changes	30 June 2018
U1.3.4 New regulatory practices are becoming embedded as standard practice in pilot cities	30 June 2019
U1.3.5 Ongoing implementation support training for governance stakeholders to assist adoption of recommendations is provided	30 June 2019
U1.3.6 At least one additional city is engaged in planning for adoption of regulatory/ governance changes	30 June 2019
U1.3.7 At least two additional cities have commenced adoption of new regulatory/ governance framework	30 June 2020

Utilisation No.	Description	
U1.4	Outputs 1.4 (risk assessment and diversification models) is utilised by key end users.	
Utilisation Milestones		Due date
U1.4.1	Pilot of 'beta' risk assessment and diversification models in pilot cities (likely Brisbane, Melb, Perth) has commenced	30 June 2016
U1.4.2	CRC has engaged with stakeholders to build risk management capabilities and encourage broader adoption of risk models	30 June 2017
U1.4.3	Broader changes to risk assessment/ management procedure in pilot cities are implemented	30 June 2018
U1.4.4	Ongoing implementation support training to build stakeholder risk management capability and adopt risk models is provided	30 June 2019
U1.4.5	At least two additional new cities/states are engaged in planning for adoption of risk assessment changes	30 June 2019
U1.4.6	At least two additional new cities/states are implementing recommended risk assessment and diversification model	30 June 2020

Utilisation No.	Description	
U1.5	Outputs 1.5 (socio-technical modelling software) is utilised by key end users.	
Utilisation Milestones		Due date
U1.5.1	Development of software utilisation and adoption plan has commenced	30 June 2015
U1.5.2	Participant workshop(s) on application of beta version of socio-technical model for FY15/16 delivered	30 June 2016
U1.5.3	Participant workshop(s) on application of revised beta version of socio-technical model for FY16/17 delivered	30 June 2017
U1.5.4	At least one end-user has commenced planning for the application of the software in one of its catchments/jurisdiction or precincts	30 June 2017
U1.5.5	Participant workshop(s) on application of enhanced version with additional features into software package resulting from Program 1, 2 and 3 for FY17/18 delivered	30 June 2018
U1.5.6	Development of software utilisation and adoption plan is completed and endorsed by end users	30 June 2018
U1.5.7	At least one end-user has commenced applying the software in their planning function of one of its catchments/jurisdiction or precincts	30 June 2018
U1.5.8	At least one additional end-user has commenced planning for the application of the software in one of its catchments/jurisdiction or precincts	31 Dec 2018
U1.5.9	Participant workshop(s) on application of enhanced version with additional features into software package resulting from Program 1, 2 and 3 for FY18/19 delivered	30 June 2019

U1.5.10	At least one additional end-user has commenced applying the software in their planning function of one of its catchments/jurisdiction or precincts	30 June 2020
U1.5.11	Participant workshop(s) on application of enhanced version with additional features into software package resulting from Program 1, 2 and 3 for FY19/20 delivered	30 June 2020
U1.5.12	Participant workshop(s) on application of comprehensively updated version of socio-technical model completed	30 June 2021

Utilisation No.	Description	
U1.6	Outputs 1.6 (database of water literacy) is utilised by key end users.	
Utilisation Milestones		Due date
U1.6.1	Participant workshop(s) on development of recommendations for effective community engagement completed	30 June 2016
U1.6.2	At least one CRC Participant has commenced trialling recommended community engagement method and framing and message delivery mode	30 June 2017
U1.6.3	A range of forums and workshops have been held with CRC Participants to promote effective community engagement framing and message delivery mode for promoting water sensitive cities practices for FY16/17	30 June 2017
U1.6.4	A range of forums and workshops have been held with CRC Participants to promote effective community engagement framing and message delivery mode for promoting water sensitive cities practices for FY17/18	30 June 2018
U1.6.5	At two CRC Participants have adopted and applied the recommended community engagement method and framing and message delivery mode	30 June 2019
U1.6.6	A range of forums and workshops have been held with CRC Participants to promote effective community engagement framing and message delivery mode for promoting water sensitive cities practices for FY18/19	30 June 2019
U1.6.7	A range of forums and workshops have been held with CRC Participants to promote effective community engagement framing and message delivery mode for promoting water sensitive cities practices for FY19/20	30 June 2020
U1.6.8	A range of forums and workshops have been held with CRC Participants to promote effective community engagement framing and message delivery mode for promoting water sensitive cities practices for FY20/21	30 June 2021

3.2 Research Program No. 2 - Water Sensitive Urbanism will focus on the influence of urban configurations on resource flows across a range of scales. It will apply green infrastructure and climate responsive design principles to water security, flood protection and the ecological health of terrestrial and aquatic landscapes from whole-of-catchment to street level. It will establish the integrative socio-technical urban planning and design processes that will deliver the practical tools required to improve resilience of Australian urban environments. The key activities to be undertaken in Program 2 are:

- centred on South East Queensland, Greater Perth, Greater Melbourne and selected regional centres, determination of the water budgets across multiple landscape types that will ensure water security for developing regions
- development of a method for calculating and representing the water footprint of cities
- determination of essential components of an integrated greenspace framework that incorporates natural ecosystems and green infrastructure and links cities to their regional catchments respecting their critical surface and subsurface hydrological conditions
- conduct alternative growth scenarios with regard to climate change and urban growth and assess the pros/cons of each in terms of water security and triple bottom line evaluation
- determine the important ecosystem and hydrological processes supporting urban wetscapes and test methods to reduce negative impacts including nuisance insects and algal blooms
- determine the attributes of vegetative buffer zones and riparian strips needed to support connectivity, provide thermal buffering to aquatic systems and improve water quality
- develop scenarios for the trajectory of urban riparian and buffer zones under climate change and urban growth and evaluate consequences in a risk framework
- determine community and industry attitudes to existing green infrastructure in urban environments and the role for public realm landscapes and develop indicators to measure success of interventions to increase water resilience and ecosystem services
- quantify the potential role of public realm landscape in biodiversity, water management, heat island mitigation, food supply under a range of climate and urban growth scenarios
- benchmarking of current planning, development and public realm practice, in particular regarding infill development, against international best practice
- preparation of a range of planning and development guidelines and change implementation supports based on water sensitive urban design (WSUD) and planning principles

Output No.	Description	
2.1	Scenarios of plausible futures for rapidly growing metropolitan regions that adopt a whole of landscape regional scale outlook that links cities ecologically and hydrologically to their regions (the city region).	
Output Milestones		Due date
2.1.1	Essential components of an integrated greenspace framework have been determined, in consultation with end users from cities and their regional settings	31 Dec 2014
2.1.2	A methodology for calculation of the water footprint for city regions is developed in consultation with end users.	30 June 2015
2.1.3	Development of planning frameworks and guidelines for the long	30 June 2015

	term growth of cities has commenced, in consultation with end users from city regions	
2.1.4	The methodology for the calculation of water footprint has been applied to real world scenarios in South East Queensland (SEQ), Greater Perth, and Greater Melbourne city regions, inclusive of cities and regional towns.	30 June 2016
2.1.5	A range of alternative urban growth scenarios for three major city regions that incorporate future climatic conditions have been developed, in consultation with end users from those regions, inclusive of cities and regional towns	30 June 2016
2.1.6	Reports on the application of water footprint methodology for city regions are provided to end users	31 Dec 2016
2.1.7	A report about growth scenarios and methods for incorporating ecological and water science into statutory planning approaches within each scenario is provided to end users from city regions	31 Dec 2016
2.1.8	An initial policy 'testbed' model which allows planners/policy makers to test policy impacts under multiple plausible growth scenarios (and associated guidance material) has been provided to end users from city regions	30 June 2017
2.1.9	Initial support materials for users of the test-bed have been developed	30 June 2017
2.1.10	A report outlining more detailed policy recommendations and planning support materials for long term growth scenarios, endorsed by end users, is released for public information	30 June 2018
2.1.11	The policy 'testbed' model has continued to be refined in consultation with end users	30 June 2019

Output No.	Description	
2.2	Waterway and wetlands health planning and monitoring/management toolkit which provides the ecological and hydrological basis for design and management guidelines for urban waterbodies that fulfil recreational and aesthetic expectations, optimise biodiversity values, meet wastewater disposal/recycling functions and minimise undesired impacts.	
Output Milestones		Due date
2.2.1	Important ecosystem and hydrological processes supporting urban waterscapes at scales ranging from habitats to catchments are determined through conceptual models in consultation with end users (linked to Output Milestone 2.3.1)	30 June 2013
2.2.2	Surveys of community and industry opinion and perception of existing green infrastructure are conducted (linked to Output Milestone 2.3.2)	30 June 2014
2.2.3	Assessment of desirable attributes of possible intervention measures for protection of important ecosystem and hydrological processes in an urban development setting in consultation with end	30 June 2015

	users is completed	
2.2.4	A suite of indicators for the assessment of key interventions for protection of important ecosystem and hydrological processes in an urban development setting have been established (in conjunction with stakeholders and validated in subsequent demonstration sites) (Linke to Output Milestone 2.3.5)	30 June 2016
2.2.5	At least two projects for demonstration of key intervention measures for protection of important ecosystem and hydrological processes identified in consultation with end users (linked to Output Milestone 2.3.4)	30 June 2016
2.2.6	A web portal for information dissemination about protection of important ecosystem and hydrological processes in an urban development setting has been established	30 June 2016
2.2.7	Reports assessing effectiveness of initial approaches for protection of important ecosystem and hydrological processes in an urban development setting tested are released to end users	30 June 2017
2.2.8	Policy and action guidelines for protection of important ecosystem and hydrological processes in an urban development setting are released to end users for feedback	30 June 2017
2.2.9	Policy and action guidelines for protection of important ecosystem and hydrological processes in an urban development setting finalised and endorsed by end users	30 June 2018
2.2.10	Industry communication materials to support the adoption of policy and action guidelines for protection of important ecosystem and hydrological processes in an urban development setting have been produced in consultation and distributed to end users	30 June 2018
2.2.11	Updated policy and action guidelines for protection of important ecosystem and hydrological processes in an urban development setting following completion of trials in pilot cities released to end users	30 June 2021
2.2.12	Updated industry communication materials to support the adoption of new approaches to protection of important ecosystem and hydrological processes in an urban development setting are developed in consultation with end users	30 June 2021

Output No.	Description
2.3	Public realm landscape design and management toolkit that provides planning and management guidelines to improve the level of ecosystem services provided by public realm landscapes.
Output Milestones	
	Due date
2.3.1	A draft conceptual model of the role of public realm landscape in the water sensitive city is released to end users for feedback (linked to Output Milestone 2.2.1)
2.3.2	A survey of public and industry opinions of the value and function of public realm landscapes is conducted (linked to Output Milestone

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2.2.2)		
2.3.3	A benchmarking report, of current standards and limitations of the role of public realm landscapes in the provision of ecosystem services is delivered and is endorsed by end users	30 June 2015
2.3.4	At least two demonstration projects into improved public realm landscapes have been identified (linked to Output Milestone 2.2.5)	30 June 2016
2.3.5	An evaluation framework for public realm landscapes demonstration projects is agreed by end users (linked to Output Milestone 2.2.4)	30 June 2016
2.3.6	Communication materials to support the adoption of new public realm landscapes approaches are produced in consultation with end users	30 June 2016
2.3.7	PRL demonstration projects have been evaluated in accordance with end user agreed framework	30 June 2019
2.3.8	A report on the public realm landscapes demonstration projects is released publically	30 June 2020
2.3.9	Revised communication materials to support the adoption of new public realm landscapes approaches are produced following evaluation of demonstration projects and in consultation with end users is completed and distributed to end users	30 June 2020

Output No.	Description	
2.4	An urban infill development design, planning and implementation toolkit to mitigate the negative water run-off loss and urban heat island consequences associated with current infill development practices and thereby reduce barriers to infill development through increasing community acceptance of such development which will in turn reduce planning delays (thereby reducing costs for infill development).	
Output Milestones		Due date
2.4.1	A study on national and international benchmarking of best practice infill development against water sensitive development objectives is delivered to the satisfaction of end users	30 June 2015
2.4.2	A set of goals for and measures of water sensitive infill development are established with stakeholders, including end users	30 June 2015
2.4.3	The development of staged infill development scenarios has commenced in consultation with end users	30 June 2015
2.4.4	An initial infill development toolkit and communication materials to build support for water sensitive infill development are produced and disseminated to end users	30 June 2016
2.4.5	An evaluation framework for infill demonstration projects is developed and issued to end users for feedback	30 June 2016
2.4.6	Demonstration project sites for the application of some identified best infill development practices are confirmed	30 June 2016
2.4.7	Demonstration projects involving water sensitive infill development	30 June 2017

	have commenced	
2.4.8	Communication materials and infill development toolkit are produced in consultation with end users	30 June 2017
2.4.9	An evaluation framework for infill demonstration projects is agreed by end users	30 June 2017
2.4.10	Evaluation of infill demonstration projects in accordance with end user agreed framework have commenced	30 June 2018
2.4.11	Evaluation of infill demonstration projects in accordance with end user agreed framework is completed	30 June 2020
2.4.12	A report on infill demonstration projects is released publically	30 June 2020
2.4.13	Release of revised infill development toolkit incorporating lessons learnt from demonstration projects	30 June 2021

Utilisation No.	Description	
U2.1	Outputs 2.1, 2.2 and 2.3 are utilised by local and state government planning and water authorities.	
Utilisation Milestones		Due date
U2.1.1	Development of project outputs utilisation and adoption plan has commenced	30 June 2015
U2.1.2	At least 2 demonstration projects into key interventions for protection of important ecosystem and hydrological processes and improved public realm landscapes are agreed by end users and have commenced	30 June 2016
U2.1.3	A utilisation and adoption plan for the policy 'test-bed', new approaches to protection of important ecosystem and hydrological processes, and public realm landscapes approaches, has been developed and agreed by stakeholders	30 June 2017
U2.1.4	Policy 'testbed' is being utilised by at least 2 planning authorities and water authorities	30 June 2018
U2.1.5	New approaches for protection of important ecosystem and hydrological processes and improved public realm landscapes have been promoted to a broad range of end users via workshops, forums and other activities (includes sharing of lessons learned from demonstration projects)	30 June 2018
U2.1.6	New approaches for protection of important ecosystem and hydrological processes and improved public realm landscapes have been promoted to a broad range of end users via workshops, forums and other activities (includes sharing of lessons learned from demonstration projects)	30 June 2019
U2.1.7	The policy 'testbed' is becoming standard practice in at least 2 state and local planning and water authorities	30 June 2020
U2.1.8	At least 5 jurisdictions (not involved in demonstrations) are adopting	30 June 2021

new approaches for protection of important ecosystem and hydrological processes and improved public realm landscapes	
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Utilisation No.	Description	
U2.2	Output 2.4 is utilised by consultants, infill developers and local and state government planning authorities.	
Utilisation Milestones		Due date
U2.2.1	Development of a utilisation and adoption plan for new water sensitive infill approaches has commenced	30 June 2015
U2.2.2	At least 2 demonstration projects involving water sensitive infill development are agreed by end users and have commenced	30 June 2017
U2.2.3	A utilisation and adoption plan for new water sensitive infill approaches is developed and agreed by stakeholders	30 June 2017
U2.2.4	Infill policy is being utilised by at least 2 planning authorities	30 June 2018
U2.2.5	The new infill approaches have been promoted to a broad range of end users via workshops, forums and other strategies (includes dissemination of lessons from demonstration projects)	30 June 2018
U2.2.6	Infill policy is being utilised by at least 2 additional planning authorities	30 June 2019
U2.2.7	The new infill approaches have been promoted to a broad range of end users via workshops, forums and other strategies (includes dissemination of lessons from demonstration projects)	30 June 2019
U2.2.8	The new infill approaches have been promoted to a broad range of end users via workshops, forums and other strategies (includes dissemination of lessons from demonstration projects)	30 June 2020
U2.2.9	At least a further 2 additional jurisdictions (city and regional settings) government has adopted changed infill planning guidelines/practices	30 June 2021

3.3 Research Program No. 3 - Future Technologies will focus on the development and management of highly integrated and multi-functional urban water systems that manage and/or use multiple water sources at a range of scales. It will deliver innovative technologies for: integrative management of the urban water systems; fit-for-purpose production of water; the recovery of energy, nutrients and other valuable materials embedded in urban water; minimising the carbon footprint and ecological impacts of water systems; and maximising the potential multiple beneficial values of urban water services.

The key activities to be undertaken in Program 3 are:

- collect and analyse existing data from systems (graywater, blackwater, groundwater, stormwater, etc) already installed and implemented around Australia to gain learning experience of existing suboptimal systems
- characterise, chemically and biologically, urban stormwater pollution
- build conceptual model for influence of catchment characteristics on stormwater quality and develop monitoring methods and recommendations

- development, demonstration, evaluation and refinement of novel urban water treatment technologies for different sources, scales and development types
- development, demonstration, evaluation and refinement of biological / physical processes to concentrate nutrients and energy from dilute wastewater streams
- development, demonstration, evaluation and refinement of biological/ chemical/physical processes to release and recover nutrients/energy from concentrated wastewater
- develop, calibrate, validate and field test a sedimentation and erosion model for sewer system
- undertake laboratory studies of the corrosion, odour and greenhouse emission impact of decentralised systems on sewers and develop mitigation strategies
- mathematical modelling of the corrosion, odour and greenhouse emission impact of decentralised systems on sewers and test mitigation strategies
- assess the interactions between decentralised and centralised water infrastructure and develop a modelling and optimisation framework and a range of system optimisation /decision support tools
- develop and optimise biofilter technologies for: the treatment of wastewater and polluted groundwater and enhancement of microclimate and waterway protection; and optimization of managed aquifer recharge for multiple water sources
- develop operational and maintenance regimes for biofilters and prepare adoption guidelines for biofilter technologies that include design and maintenance specifications

Output No.	Description	
3.1	Novel energy-efficient, low-maintenance and cost effective technologies for distributed water production, and associated implementation training and support materials, are developed in consultation with end users.	
Output Milestones		Due date
3.1.1	Characterisation of urban stormwater pollution has commenced	31 Dec 2012
3.1.2	Assessment of data from systems/technologies already in operation (such as grey water, blackwater, groundwater, stormwater, etc) has commenced	31 Dec 2012
3.1.3	Development of validation and monitoring methodologies for technologies for distributed water production has commenced	30 June 2013
3.1.4	Characterisation of urban stormwater pollution is completed to the satisfaction of end users	30 June 2014
3.1.5	Assessment of existing systems/technologies already in operation is completed to the satisfaction of end users	30 June 2014
3.1.6	Development of first batch of novel technologies for distributed water production has commenced	30 June 2014
3.1.7	Validation and monitoring methodologies for first batch of novel technologies for distributed water production are completed and are endorsed by end users	30 June 2015
3.1.8	Preliminary cost/benefit analysis of first batch technologies is	30 June 2015

completed	
3.1.9 First 'stage gate' review of technologies to prioritise project resources to highest potential technologies is completed	31 Dec 2015
3.1.10 Development of first batch of novel technologies for distributed water production is completed	31 Dec 2015
3.1.11 Testing, validation of refinement of first batch of technology prototypes is completed	30 June 2016
3.1.12 Cost/benefit assessment of first batch technologies is completed	30 June 2016
3.1.13 Training, implementation and operation support materials for first batch of technologies ready for implementation is complete	30 June 2016
3.1.14 Development of second batch of novel technologies for distributed water production has commenced	30 June 2016
3.1.15 Validation and monitoring methodologies for second batch of novel technologies for distributed water production are completed and are endorsed by end users	31 Dec 2016
3.1.16 Preliminary cost/benefit analysis of second batch technologies is completed	31 Dec 2016
3.1.17 Further testing, validation of refinement of first batch of technology prototypes in preparation for field application is completed	30 June 2017
3.1.18 Second batch of novel technologies for distributed water production is developed	30 June 2017
3.1.19 Testing, validation of refinement of second batch of technology prototypes in preparation for field application is completed	30 June 2018
3.1.20 Cost/benefit assessment of second batch technologies is completed	30 June 2018
3.1.21 Training, implementation and operation support materials for second batch of technologies ready for implementation is complete	30 June 2018
3.1.22 Documentation of further testing, validation and refinement of first batch technologies for demonstration projects completed and issued to CRC Participants	31 Dec 2018
3.1.23 Demonstration projects to showcase and evaluate performance of first batch technologies are completed and documented	30 June 2019
3.1.24 Further testing, validation of refinement of second batch of technology prototypes in preparation for field application completed	30 June 2019
3.1.25 Demonstration projects to showcase and evaluate performance of second batch technologies is completed and documented	30 June 2020
3.1.26 Documentation of performance of novel technologies in demonstration projects, associated project learnings and refinement of design guidelines for these technologies completed and distributed to CRC participants.	30 June 2021

Output No.	Description	
3.2	Cost-effective technology for the recovery of resources (e.g. energy and phosphorous) from waste-water. These technologies will include: biological and physical processes (e.g. Algae, Microbial accumulation, Physical separation) to concentrate nutrients and energy for dilute wastewater streams; biological and physical processes (e.g. anaerobic digestion) to release and recover nutrients and energy from concentrated wastewater streams; chemical and physical processes to recover nutrient streams as high-value substitutes to existing commercial nutrient products.	
Output Milestones		Due date
3.2.1	Project planning and establishment of technology assessment stage gate review system, agreed by CRC participants and end users, is complete	30 June 2014
3.2.2	Concurrent research projects into concentration, release and recovery of nutrients and energy from wastewater streams have commenced	30 June 2015
3.2.3	Preliminary cost/benefit analysis of first batch technologies is completed	31 Dec 2015
3.2.4	A first 'stage gate' technology review to reprioritise project resources to highest potential technologies has been conducted	31 Dec 2015
3.2.5	First batch of technology prototypes for concentration, release and recovery are developed	30 June 2017
3.2.6	Cost/benefit assessment of first batch technologies is completed	30 June 2017
3.2.7	Pilot-scale projects for first batch of technologies for concentration, release and recovery are complete	30 June 2018
3.2.8	Work on the second batch of technology development projects has commenced	30 June 2018
3.2.9	Preliminary cost/benefit analysis of second batch technologies is completed	31 Dec 2018
3.2.10	A second 'stage gate' technology review to reprioritise project resources to highest potential technologies has been conducted	31 Dec 2018
3.2.11	First batch of technologies (and implementation support materials) have been transferred to end users for application and further development	31 Dec 2018
3.2.12	Second batch technology prototypes for concentration, release and recovery are developed	30 June 2020
3.2.13	Cost/benefit assessment of second batch technologies is completed	30 June 2020
3.2.14	Pilot-scale projects for second batch of technologies for concentration, release and recovery are complete	30 June 2021
3.2.15	Second batch of technologies (and implementation support materials) have been transferred to end users for application and further development	30 June 2021
3.2.16	Evaluations of effectiveness of implemented technologies are	30 June 2021

complete	
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Output No.	Description
3.3	Knowledge and models for decision support for the protection of centralised wastewater collection/treatment systems.
Output Milestones	Due date
3.3.1 A project plan for the development of strategies for protection of centralised wastewater collection and treatment systems is completed and is endorsed by end users	31 Dec 2013
3.3.2 Conceptual model of sedimentation and erosion in sewers is developed	31 Dec 2014
3.3.3 Laboratory studies of corrosion, odour and greenhouse emission impacts of decentralised systems have commenced	30 June 2015
3.3.4 Laboratory studies of sedimentation and corrosion, odour and greenhouse emission impacts of decentralised systems are completed	30 June 2016
3.3.5 Preliminary cost/benefit analysis of in-sewer sediment reduction technology is completed	30 June 2016
3.3.6 Field testing of in-sewer sediment reduction technology has commenced	30 June 2016
3.3.7 Mathematical modelling of corrosion, odour and greenhouse gas impacts is completed	31 Dec 2016
3.3.8 Development of an optimisation framework for systems integration is completed	31 Dec 2016
3.3.9 Development of decision support tool for protection of the central wastewater collection/treatment systems has commenced	30 June 2017
3.3.10 Write up of case studies of sedimentation and erosion in sewer model applications is completed	30 June 2017
3.3.11 Phase 2 of project, developing technology that makes active use of storm water to reduce in-sewer sediments, has commenced	30 June 2017
3.3.12 A report outlining recommendations to improve interaction of central and decentralise water systems, endorsed by end users, has been released	30 June 2018
3.3.13 An initial decision support tool for the protection of the central wastewater collection/treatment systems has been released to end users?	30 June 2018
3.3.14 Implementation support materials for the decision support tool have been developed in consultation with end users	30 June 2018
3.3.15 A prototype of technology for in-sewer sediment reduction has been developed	30 June 2018
3.3.16 A cost/benefit analysis of the technology for in-sewer sediment	31 Dec 2018

reduction is completed	
3.3.17 The decision support tools refined and expanded to incorporate other methods to improve interaction of central and decentralise water systems have been completed and provided to end users for feedback	30 June 2019
3.3.18 Field testing/validation of in-sewer sediment reduction technology is complete	30 June 2019
3.3.19 Further refinement of decision support tools to improve interaction of central and decentralise water systems has been undertaken and final decision support tool provided to end users	30 June 2020

Output No.	Description	
3.4	Technologies for treatment and reuse of multiple water sources within urban landscapes supported by suite of training, design, implementation and operation support materials.	
Output Milestones		Due date
3.4.1	A project plan for development of technologies for treatment and reuse of multiple water sources within urban landscapes is formulated and endorsed by end users	31 Dec 2013
3.4.2	Research into biofilter optimisation of submerged zone (SZ) for effective nitrogen and phosphorus removal from wastewater and groundwater has commenced	30 June 2014
3.4.3	Research and development of biofilter optimisation for effective nitrogen removal is completed	30 June 2015
3.4.4	Phase one hybrid biofilters development has commenced	30 June 2015
3.4.5	Preliminary cost/benefit analysis of hybrid biofilters technologies is completed	31 Dec 2015
3.4.6	Phase one hybrid biofilter technology 'stage gate' review has been conducted	31 Dec 2015
3.4.7	Field testing/ demonstration of phase one hybrid biofilters is completed	30 June 2017
3.4.8	Cost/benefit analysis of phase one hybrid biofilters is completed	30 June 2017
3.4.9	Phase two hybrid biofilter development projects have commenced	30 June 2017
3.4.10	Design guidelines and specifications of operational and maintenance regimes for phase one hybrid biofilters has been developed	31 Dec 2017
3.4.11	Modelling algorithms for assessing phase one hybrid biofilter system performance have been developed	31 Dec 2017
3.4.12	Preliminary cost/benefit analysis of phase two hybrid biofilter is completed	31 Dec 2017
3.4.13	Phase two hybrid biofilter technology 'stage gate' review has been	31 Dec 2017

conducted	
3.4.14 Phase one hybrid biofilters (and associated guidance material) have been transferred to end users for application and further refinement	30 June 2018
3.4.15 Field testing /demonstration of phase two hybrid biofilters is completed	30 June 2019
3.4.16 Cost/benefit analysis of phase two hybrid biofilters is completed	30 June 2019
3.4.17 Design guidelines and specifications of operational and maintenance regimes for phase two hybrid biofilters has been developed	31 Dec 2019
3.4.18 Modelling algorithms for assessing phase two hybrid biofilter system performance have been developed	31 Dec 2019
3.4.19 Phase two hybrid biofilters (and associated guidance material) have been transferred to end users for application and further refinement	30 June 2020

Output No.	Description	
3.5	Data analysis tools and information presentation systems to better support urban water system optimisation and achievement of "smart urban water systems".	
Output Milestones		Due date
3.5.1	A project plan for data analysis tools and information presentation systems to better support urban water system optimisation is developed and endorsed by end users	30 June 2013
3.5.2	Development of sensing protocols and context-aware data stream mining has commenced	31 Dec 2013
3.5.3	Development of multi-objective genetic algorithms for pumping system optimisation has commenced	31 Dec 2014
3.5.4	Assessment of approaches for data analysis tools and information presentation systems to ensure that they balance requirement for high quality information with reasonable deployment and maintenance costs has commenced	30 June 2015
3.5.5	Trialling of initial methods and software for sensing protocols and data mining is complete	31 Dec 2015
3.5.6	Trialling of initial multi-objective genetic algorithms for pumping system optimisation is complete	30 June 2016
3.5.7	Case study reports on effectiveness of approaches data analysis tools and information presentation systems for are published and distributed to CRC Participants	30 June 2016
3.5.8	Initial software and algorithms for pumping system optimisation are provided to end users for application and further refinement	30 June 2017
3.5.9	Guidelines for sensor placement and operational protocols are released to end users for application and further refinement	30 June 2017
3.5.10	Ongoing refinement, testing and demonstration of software and	30 June 2018

	algorithms for pumping system optimisation, in collaboration with end users, has been undertaken	
3.5.11	Ongoing refinement, testing and demonstration of software and algorithms for pumping system optimisation, in collaboration with end users, has been undertaken	30 June 2019
3.5.12	Case study reports on effectiveness of revised software and algorithms for pumping system optimised are released for broader end user comment and endorsement	30 June 2019
3.5.13	Guidelines for sensor placement and operational protocols are finalised and endorsed by end users	30 June 2020

Utilisation No.	Description	
U3.1	Output 3.1 is utilised initially in demonstration projects, then in the broader applications of the urban water management strategy and technologies by CRC industry technology partners (including Australian SMEs), and finally in the installation of new decentralised water production systems within new greenfields urban developments	
Utilisation Milestones		Due date
U3.1.1	A utilisation and adoption plan for output 3.1 is developed in consultation with end users	30 June 2016
U3.1.2	A range of forums and workshops have been held with end users to promote technologies and disseminate results of cost/benefit analysis undertaken and lessons learned for distributed water production	30 June 2016
U3.1.3	First batch of technologies for distributed water production have been applied to two larger scale demonstration projects involving a total of 2000 dwellings (1000 dwellings is the average development project scale)	30 June 2017
U3.1.4	A range of forums and workshops have been held with end users to promote technologies and disseminate results of updated cost/benefit analysis undertaken and lessons learned for distributed water production	30 June 2017
U3.1.5	Agreements with end users are in place that ensure prototype technologies will be transferred to the end user organisations for further development and demonstration	30 June 2017
U3.1.6	A range of forums and workshops have been held with end users to promote technologies and disseminate results of updated cost/benefit analysis undertaken and lessons learned for distributed water production	30 June 2018
U3.1.7	Additional agreements with end users are in place to secure subsequent batches of prototypes can be transferred and further developed by end users	30 June 2018
U3.1.8	A range of forums and workshops have been held with end users to promote technologies and disseminate results of updated cost/benefit analysis undertaken and lessons learned for distributed	30 June 2019

water production	
U3.1.9 There is evidence that at least 2 jurisdictions, that were not involved in demonstration projects will adopt the novel approaches to distributed water production developed in output 3.1	30 June 2019
U3.1.10 Continue roll-out of technologies at implementation project(s) of at least a total of 2000 dwellings involving reduction in the demand for conventional potable water supply augmentation by 190ML per annum (95ML per 1000 dwellings)	30 June 2019
U3.1.11 Continued roll out of technologies at implementation project(s) for decentralised fit-for-purpose water production directed at savings of 190ML of conventional potable mains water per annum	30 June 2020
U3.1.12 Continued roll out of technologies at implementation projects for decentralised fit-for-purpose water production directed at savings of 190ML of conventional potable mains water per annum	30 June 2021

Utilisation No.	Description	
U3.2	Output 3.2 is initially applied to smaller demonstration wastewater treatments plants, and then is more broadly adopted by various jurisdictions across Australia	
Utilisation Milestones		Due date
U3.2.1	A utilisation and adoption plan for output 3.2 is developed in consultation with end users	30 June 2016
U3.2.2	Agreements with end users are in place that ensure prototype technologies will be transferred to the end user organisations for further development and demonstration	30 June 2016
U3.2.3	A range of forums and workshops have been held with end users to promote and disseminate the lessons learned for concentration, release and recovery technologies	30 June 2017
U3.2.4	A range of forums and workshops have been held with end users to promote and disseminate the lessons learned for concentration, release and recovery technologies	30 June 2018
U3.2.5	Demonstration plant 1 (up to 25,000 person capacity) fitted with technology	30 June 2018
U3.2.6	Agreements with different end users are in place that ensure prototype technologies will be transferred to end user organisations for further development and demonstration	30 June 2018
U3.2.7	Demonstration plant 2 (up to 25,000 person capacity) fitted with technology	30 June 2019
U3.2.8	A range of forums and workshops have been held with end users to promote and disseminate the lessons learned for concentration, release and recovery technologies	30 June 2019
U3.2.9	A range of forums and workshops have been held with end users to promote and disseminate the lessons learned for concentration,	30 June 2020

release and recovery technologies	
U3.2.10 There is evidence that new technologies for the concentration, release and recovery of energy and nutrients from waste water will be adopted by at least 2 jurisdictions that were not involved in the demonstration projects	30 June 2021

Utilisation No.	Description	
U3.3	Output 3.3 is utilised by various state water utilities.	
Utilisation Milestones		Due date
U3.3.1	A utilisation and adoption plan for output 3.3 is developed in consultation with end users	30 June 2016
U3.3.2	At least two CRC participant water utilities have allowed field testing of sedimentation and corrosion models	30 June 2016
U3.3.3	A range of forums and workshops have been held with end users to promote and disseminate lessons learned about in-sewer sediment reduction technologies and the decision tool..	30 June 2017
U3.3.4	At least one CRC participant water utility has commenced trial of the beta decision support tool across 5% of its network	30 June 2018
U3.3.5	A range of forums and workshops have been held with end users to promote and disseminate lessons learned about in-sewer sediment reduction technologies and the decision tool.	30 June 2018
U3.3.6	At least one CRC participant water utility has allowed field testing and validation of prototype sewer sediment reduction technologies	30 June 2019
U3.3.7	There is evidence that at least 2 end users, which were not involved in trials, will adopt in-sewer sediment reduction guidelines and the decision support tool	30 June 2019
U3.3.8	At least one CRC participant water utility has adopted updated decision support tools	30 June 2020
U3.3.9	One CRC participant water utility has commenced adoption of in-sewer sediment reduction guidelines across 5% of its network	30 June 2021

Utilisation No.	Description	
U3.4	Output 3.4 is utilised by consultants (engineering and design), decentralised water system technology manufacturers and service providers, urban land developers, building contractors, local and state planning authorities and water utilities.	
Utilisation Milestones		Due date
U3.4.1	An implementation and utilisation plan for output 3.4 is developed in consultation with end users	31 Dec 2015
U3.4.2	A range of forums and workshops have been held with end users to promote and disseminate lessons learned about hybrid biofilter technology	30 June 2016

U3.4.3	There is an agreement with at least 2 end users for the field testing of prototype 'phase one' hybrid biofilters	30 June 2016
U3.4.4	A range of forums and workshops have been held with end users to promote and disseminate lessons learned about hybrid biofilter technology	30 June 2017
U3.4.5	There is an agreement with at least 2 end users not involved in field tests for the implementation of 'phase one' hybrid biofilters	30 June 2017
U3.4.6	A range of forums and workshops have been held with end users to promote and disseminate lessons learned about hybrid biofilter technology	30 June 2018
U3.4.7	There is an agreement with at least 2 end users for the field testing of prototype 'phase two' hybrid biofilters	30 June 2018
U3.4.8	There is an agreement with at least 2 end users not involved in field test for the implementation of 'phase two' hybrid biofilters	30 June 2019
U3.4.9	At least two additional end users have adopted the validated hybrid biofilter technologies .	30 June 2020

Utilisation No.	Description	
U3.5	Output 3.5, sensor placement and operational protocols and software and algorithms for pumping station optimisation, is utilised by various state water utilities	
Utilisation Milestones		Due date
U3.5.1	Development of a utilisation and adoption plan for output 3.5 has commenced	31 Dec 2014
U3.5.2	Two urban water utilities have agreed to trial initial methods and software	30 June 2015
U3.5.3	A utilisation and adoption plan for output 3.5 is developed in consultation with end users	31 Dec 2015
U3.5.4	At least two urban water utilities have commenced trials of initial methods and software	30 June 2016
U3.5.5	Training of staff within two early adopter urban water utilities is completed	30 June 2017
U3.5.6	At least two urban water utilities have completed their trials and have expanded larger scale testing and demonstration of refined methods and software	30 June 2018
U3.5.7	Training of staff within two additional urban water utilities has commenced	30 June 2018
U3.5.8	Training of staff within two additional urban water utilities is completed	30 June 2019
U3.5.9	At least two urban water utilities (with combined annual water supply of 375GL/annum) move to full scale adoption of the methods and software	30 June 2019

U3.5.10 Ongoing training of staff within adopter urban water utilities for FY19/20 completed	30 June 2020
U3.5.11 Sensor placement and operational protocols and software and algorithms for pumping station optimisation fully operational for at least two urban water utilities are fully operational	30 June 2021
U3.5.12 Ongoing training of staff within adopter urban water utilities for FY20/21 completed	30 June 2021

3.4 Research Program No. 4 - Adoption Pathways will integrate the outputs of all the CRCWSC research programs and make them accessible to and usable by the organisations and individuals responsible for on-the-ground implementation and operation of (water sensitive) urban water systems.

The key activities to be undertaken in Program 4 are:

- establishment of national learning community alliance and web portal. This activity is presently being developed by the International Water Centre and the CRC will contribute to the activities of the community of practice
- key industry participants will cash and in-kind support to accelerate the incubation of the national alliance
- development of educative case studies and demonstration projects at the lot, street, precinct and city scales to build networks between organisations and practitioner skills
- regular information dissemination and discussion forums and workshops including regular speakers forum across Australia to share research insights and outcomes, share industry experiences and learn from international practices
- preparation and distribution of a regular E-newsletter
- preparation and dissemination of a range of fact sheets targeting the spectrum of water stakeholders
- development and delivery (often on site) of tailored practitioner training materials and training workshops to provide learning opportunities for industry partners and other water industry professionals
- analyse Science Policy partnership arrangements (including in Victoria and Queensland) to develop models for building new partnership arrangements
- develop new science Policy partnership arrangements in industry partner jurisdictions (e.g. Western Australia) explore the potential for Science Policy relationships to be established at local government and national government scales ; test and refine partnership model at all three levels of government
- delivery of a suite of PhD, Masters and Graduate Certificate programs for WSC practitioners

Output No.	Description	
4.1	Establishment and operation of national learning community alliance and portal. The Alliance will provide a variety of virtual and face-to-face forums where stakeholders can interact, experiment, exchange information and learn together at a national and local level. The objective of the alliance is to ensure all CRC outputs are utilised by state and local govt agencies; water utilities; technology developers; land developers; consultants; and, the community sector.	
Output Milestones		Due date
4.1.1	A web portal for the Alliance has been established	30 June 2013
4.1.2	An draft communication and engagement program for all CRC Participants has been established and distributed to CRC participants for feedback	30 June 2013
4.1.3	Two workshops where research outputs are disseminated to all CRC Participants for FY12/13 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations.	30 June 2013
4.1.4	A CRC communication and engagement program is finalised and agreed by CRC Participants	31 Dec 2013
4.1.5	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress.	31 Dec 2013
4.1.6	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY13/14 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations.	30 June 2014
4.1.7	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress.	31 Dec 2014
4.1.8	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY14/15 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2015
4.1.9	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress.	31 Dec 2015
4.1.10	A research design workshop to develop the second round of projects to commence in FY16/17 has been successfully convened	30 June 2016
4.1.11	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY15/16 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2016

4.1.12	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress	31 Dec 2016
4.1.13	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY16/17 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2017
4.1.14	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress	31 Dec 2017
4.1.15	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY17/18 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2018
4.1.16	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress	31 Dec 2018
4.1.17	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY18/19 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2019
4.1.18	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress	31 Dec 2019
4.1.19	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY19/20 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2020
4.1.20	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY20/21 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2021

Output No.	Description
4.2	Tutorials and industry short-course materials are developed in consultation with end users for practitioner training/upskilling.
Output Milestones	Due date
4.2.1	A strategy for industry short courses and national/international seminar and conference series is developed in consultation with end users
	30 June 2014

4.2.2	Industry short-courses, seminar and conferences have been successfully delivered	30 June 2015
4.2.3	Ongoing refinement and industry short-course, seminar and conferences have been successfully delivered	30 June 2015
4.2.4	Ongoing refinement and industry short-course, seminar and conferences have been successfully delivered	30 June 2016
4.2.5	Ongoing refinement and industry short-course, seminar and conferences have been successfully delivered	30 June 2017
4.2.6	Ongoing refinement and industry short-course, seminar and conferences have been successfully delivered	30 June 2018
4.2.7	Ongoing refinement and industry short-course, seminar and conferences have been successfully delivered	30 June 2019
4.2.8	Ongoing refinement and industry short-course, seminar and conferences have been successfully delivered	30 June 2020

Output No.	Description	
4.3	Establishment a means for SMEs to engage with the CRCWSC to foster implementation of current best practice.	
Output Milestones		Due date
4.3.1	A plan for admitting SMEs into the CRC is implemented	30 June 2014
4.3.2	CRCWSC has convened at least one research synthesis workshop for a CRC Participant in FY13/14	30 June 2014
4.3.3	At least 10 SME have joined the CRCWSC	30 June 2014
4.3.4	CRCWSC has convened at least one research synthesis workshop for a CRC Participant in FY14/15	30 June 2015
4.3.5	SME membership of the CRCWSC has grown to at least 15 in FY14/15	30 June 2015
4.3.6	At least one research synthesis workshop for a CRC Participant in FY15/16	30 June 2016
4.3.7	SME membership of the CRCWSC has grown to at least 20 in FY15/16	30 June 2016
4.3.8	CRCWSC has convened at least one research synthesis workshop for a CRC Participant in FY16/17	30 June 2017
4.3.9	SME membership of the CRCWSC has grown to at least 25 in FY16/17	30 June 2017
4.3.10	CRCWSC has convened at least one research synthesis workshop for a CRC Participant in FY17/18	30 June 2018
4.3.11	SME membership of the CRCWSC has grown to at least 30 in FY17/18	30 June 2018
4.3.12	CRCWSC has convened at least one research synthesis workshop	30 June 2019

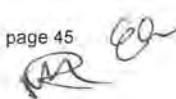
for a CRC Participant in FY18/19	
4.3.13 SME membership of the CRCWSC is maintained at more than 30 in FY18/19	30 June 2019
4.3.14 CRCWSC has convened at least one research synthesis workshop for a CRC Participant in FY19/20	30 June 2020

Output No.	Description	
4.4	PhD, Masters and Graduate Diploma completions (from across whole of CRC activities).	
Output Milestones		Due date
4.4.1	Formulation of cooperation and governance structure for higher degree Water Sensitive Cities courses has commenced	30 June 2013
4.4.2	Enrolment of PhD candidates in relevant universities has commenced	30 June 2013
4.4.3	Market research for new courses demand at Masters and Graduate Diploma levels is completed	31 Dec 2013
4.4.4	First cohort of at least 28 PhD candidates have enrolled in participating universities	30 June 2014
4.4.5	Proposals for new Master and Graduate Diploma modules are completed, agreed by tertiary education institution and arrangements are in place such that students can commence programs from 1 January 2015	31 Dec 2014
4.4.6	First cohort of at least 15 students have commenced new Master or Graduate Diploma modules	30 June 2015
4.4.7	At least 80% of first cohort of Master or Graduate Diploma students have successfully complete their modules	30 June 2016
4.4.8	Second cohort of at least 25 students have commenced new Master or Graduate Diploma modules	30 June 2017
4.4.9	Second cohort of at least 20 PhD candidates have enrolled in participating universities	30 June 2017
4.4.10	At least 80% of second cohort of Master or Graduate Diploma students have successfully complete their modules	30 June 2018
4.4.11	At least 80% of first cohort of PhD candidates successfully completed	31 Dec 2018
4.4.12	Third cohort of at least 30 students have commenced new Master or Graduate Diploma modules	30 June 2019
4.4.13	At least 80% of Third cohort of Master or Graduate Diploma students have successfully complete their modules	30 June 2020
4.4.14	Fourth cohort of at least 30 students have commenced new Master or Graduate Diploma modules	30 June 2021

Utilisation No.	Description
U4.1	Output 4.1, 4.2 and 4.3 are utilised by state and local govt agencies; water utilities; technology developers; land developers; consultants; and, the community sector.
Utilisation Milestones	
	Due date
U4.1.1 An average attendance of greater than 50 end users in the two CRC Workshops convened in FY12/13	30 June 2013
U4.1.2 An average attendance of greater than 50 end users in the two CRC Workshops convened in FY13/14	30 June 2014
U4.1.3 A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 14/15	30 June 2015
U4.1.4 An average attendance of greater than 50 end users in the two CRC Workshops convened in FY14/15	30 June 2015
U4.1.5 A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 15/16	30 June 2016
U4.1.6 A research design workshop to develop the second round of projects to commence in FY16/17 attended by at least 50% of CRC Participants	30 June 2016
U4.1.7 An average attendance of greater than 50 end users in the two CRC Workshops convened in FY15/16	30 June 2016
U4.1.8 A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 16/17	30 June 2017
U4.1.9 An average attendance of greater than 50 end users in the two CRC Workshops convened in FY16/17	30 June 2017
U4.1.10A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 17/18	30 June 2018
U4.1.11An average attendance of greater than 50 end users in the two CRC Workshops convened in FY17/18	30 June 2018
U4.1.12A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 18/19	30 June 2019
U4.1.13An average attendance of greater than 50 end users in the two CRC Workshops convened in FY18/19	30 June 2019
U4.1.14A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 19/20	30 June 2020
U4.1.15An average attendance of greater than 50 end users in the two CRC Workshops convened in FY19/20	30 June 2020
U4.1.16A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 20/21	30 June 2021
U4.1.17An average attendance of greater than 50 end users in the two CRC Workshops convened in FY20/21	30 June 2021

3.5 Transition Plan

Transition Milestones	Due date
T1.1.1 Provide, to the satisfaction of the Commonwealth, a Preliminary Transition Plan	30 June 2014
T1.1.2 Provide, to the satisfaction of the Commonwealth, a comprehensive and detailed revised Transition Plan	30 June 2015
T1.1.3 Provide, to the satisfaction of the Commonwealth, a revised Transition Plan	30 June 2016
T1.1.4 Provide, to the satisfaction of the Commonwealth, a revised Transition Plan	30 June 2017
T1.1.5 Provide, to the satisfaction of the Commonwealth, a revised Transition Plan	30 June 2018
T1.1.6 Provide, to the satisfaction of the Commonwealth, a revised Transition Plan	30 June 2019
T1.1.7 Provide, to the satisfaction of the Commonwealth, a final Transition Plan	30 June 2020



Department of Industry, Innovation,
Climate Change, Science, Research and
Tertiary Education

CRC Program Deed of Variation

Commonwealth of Australia (**Commonwealth**)

CRC for Water Sensitive Cities Ltd (**Recipient**)

Details

Date

17 / 09 / 2013
day month year

Parties

Name The Commonwealth of Australia as represented by the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education
ABN 74 599 608 295
Short form name **Commonwealth**

Name CRC for Water Sensitive Cities Ltd
ABN 19158409137
Short form name **Recipient**

Background

- A On 26 June 2012, the Commonwealth and the Recipient entered into a Contract in relation to the Cooperative Research Centre for CRC for Water Sensitive Cities ("the CRC").
- B This is the first contract variation.
- C On 26 March 2013, the Department representing the Commonwealth of Australia changed its name to Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education for Department of Industry, Innovation, Science, Research and Tertiary Education.
- D The Commonwealth and the Recipient have agreed to vary the terms of the Contract in accordance with this Deed.


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Agreed terms

1. Defined terms and interpretation

1.1 Defined terms

In this Deed, unless the contrary intention appears:

- (a) the terms used in this Deed which start with capital letters and which are not defined in this Deed have the same meaning as in the Contract.
- (b) **Contract** means the contract described in paragraph A of the Background;
- (c) **Deed** means this deed, including all annexures;
- (d) **Effective Date** means the date the last Party executes this Deed;
- (e) **Participant** means persons, bodies or organisations, who are Essential Participants or Other Participants who have agreed to support the Activities and provide Contributions to the CRC. For the avoidance of doubt, this does not include the Recipient; and
- (f) **Parties** or **Party** means the parties or a party to this Deed.

2. Variation to Contract

2.1 The Contract is varied as set out in Annexure 1 to this Deed.

2.2 Subject to the exceptions outlined below, the variations as set out in Annexure 1 to this Deed have effect from the Effective Date:

- the contract variation in respect of Commonwealth department name takes effect from 26 March 2013.

3. Affirmation of Contract

- (a) The parties affirm in all other respects the covenants and conditions in the Contract as varied by this Deed.
- (b) The Contract, as varied by this Deed, comprises the entire agreement between the parties.
- (c) The parties acknowledge and agree that the Contract as varied by this Deed is and continues to be in full force and effect.

4. Costs and Stamp Duty

- (a) Each party must meet or pay its own costs and expenses in respect of the preparation, negotiation, execution and completion of this Deed.
- (b) The Recipient must pay any stamp duties and registration or other fees (including fines, penalties and interest relating to such duties and fees) which are payable or are assessed by a relevant government body or other person to be payable in relation to this document or any transaction contemplated by it.

5. Miscellaneous

5.1 Counterparts

This Deed may be executed in counterparts. All executed counterparts constitute one document.

5.2 Governing law and jurisdiction

This Deed is governed by the law of the Australian Capital Territory and each party irrevocably submits to the non-exclusive jurisdiction of the courts of the Australian Capital Territory.

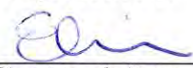
5.3 Severability

A term or part of a term of this Deed that is illegal or unenforceable may be severed from this Deed and the remaining terms or parts of the terms of this Deed continue in force.

Signing page

EXECUTED as a deed.


Signed for and on behalf of the
**Commonwealth of Australia as
represented by the Department of
Industry, Innovation, Climate Change,
Science, Research and Tertiary
Education** by its duly authorised delegate in
the presence of



Signature of witness

Elizabeth Kirk

Name of witness (print)

←  ←

Signature of delegate

Jenni Phillipson

Name of delegate (print)

Alq General Manager CRC Bench

Position of delegate (print)


**Executed by CRC for Water Sensitive
Cities Ltd** in accordance with section 127 of
the *Corporations Act 2001* in the presence of



Signature of director

ROB SKINNER

Name of director (print)

←  ←

Signature of ~~director or~~ company secretary or ~~sole~~
~~director who is also the sole company secretary~~
(Please delete as applicable)

ROBIN MCLACHLAN

Name of ~~director~~/company secretary/~~sole director and~~
~~sole company secretary~~ (print)

Annexure 1

Change of Commonwealth department name

On 26 March 2013, the Department representing the Commonwealth of Australia changed its name to Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education for Department of Industry, Innovation, Science, Research and Tertiary Education.

Schedule 1

Schedule 1 is varied by amendments to Other Specified Personnel. The contents of Schedule 1, Item 12 Specified Personnel is deleted and replaced with the contents provided in Annexure 2 of this Deed.

Schedule 4

Schedule 4 of the Contract is varied by replacing Table 1a, 1b, 2, 3 and 4 with the tables in Annexure 3 of this Deed.

Schedule 5

Schedule 5 of the Contract is varied by the addition of the Department of Housing (WA) to the list of Essential participants. The contents of Schedule 5 is deleted and replaced with the contents provided in Annexure 4 of this Deed.

Annexure 2

Schedule 1 - Agreement Details

Item number	Description	Reference	Details
12	Specified Personnel	1.1 and 14	<p>Cheryl Batagol Chair Time commitment 7%</p> <p>Shaun Cox (MW) (non-research essential participants nominee) Board member Time commitment 10%</p> <p>Greg David (DW) (non-research essential participants nominee) Board member Time commitment 10%</p> <p>Rob Skinner (Monash) (research essential participants nominee) Board member Time commitment 10%</p> <p>Barry Ball (UQ) (research essential participants nominee) Board member Time commitment 10%</p> <p>Kerry Stubbs (independent, essential nominee) Board member Time commitment 10%</p> <p>Steve Frost (local government, other participants nominee) Board member Time commitment 10%</p> <p>Nick Apostolidis (other participants nominee) Board member Time commitment 10%</p> <p>Dominic Dolan (other participants nominee) Board member Time commitment 10%</p> <p>Tony Wong CEO Time commitment 100%</p> <p>Rebekah Brown Program Leader of RP1</p>

Item number	Description	Reference	Details
			<p>Time commitment 51%</p> <p>Tbc Program Leader of RP2 Time commitment 60%</p> <p>Zhiguo Yuan Program Leader of RP3 Time commitment 51%</p> <p>Jamie Ewert Co-Program Leader of RP4 Time commitment 50%</p> <p>Fiona Chandler Co-Program Leader of RP4 Time commitment 50%</p> <p>Ana Deletic Regional Executive Director: Southern Region Time commitment 51%</p> <p>Anas Ghadouani Regional Executive Director: Western Region Time commitment 55%</p> <p>Jurg Keller Regional Executive Director: Eastern Region Time commitment 51%</p> <p>Tbc Regional Executive Director: Singapore Time commitment tbc</p> <p>Brian Head Key Researcher Time commitment 45%</p> <p>David Pannell Key Researcher Time commitment 21%</p> <p>John Thwaites Key Researcher Time commitment 21%</p>

Annexure 3

Schedule 4 - Budget: CRC for Water Sensitive Cities

TABLE 1: IN-KIND CONTRIBUTIONS

TABLE 1a: STAFF

NOTE: When valuing any Shortfall under clause 7, the following full-time equivalent (FTE) dollar amounts will apply to each of the categories of Staff In-Kind Contributions

\$400,000 for Program Leader/ Senior Manager
 \$270,000 for Project/ Theme Leader/ Key Researcher/ Manager
 \$210,000 for Researcher/ Professional
 \$170,000 for Other (support staff - technical, administrative etc.)

NOTE: FTE FIGURES MUST BE ENTERED TO 1 DECIMAL PLACE ONLY

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	GRAND TOTAL
	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE
ESSENTIAL PARTICIPANTS											
Department of Housing WA											
<i>Program Leader/Senior Manager</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Key Researcher/Manager/Project/Theme Leader</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Researcher/Professional</i>	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.9
<i>Other Support Staff</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.9
Department of Sustainability and Environment Vic											
<i>Program Leader/Senior Manager</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Key Researcher/Manager/Project/Theme Leader</i>	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
<i>Researcher/Professional</i>	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.9
<i>Other Support Staff</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	1.3
Department of Water WA											
<i>Program Leader/Senior Manager</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Key Researcher/Manager/Project/Theme Leader</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Researcher/Professional</i>	0.7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	2.3
<i>Other Support Staff</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	2.3

Melbourne Water Corporation

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[illegible]

Researcher/ Professional	6.7	7.3	7.3	6.4	5.5	5.3	4.8	1.1	1.1	0.0	45.4
Other (support staff - technical, administrative etc.)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
GRAND TOTAL	16.5	17.2	16.9	14.5	12.5	11.8	10.4	1.6	1.6	0.0	102.9

TOTAL STAFF (FTE) OTHER PARTICIPANTS											
Program Leader/ Senior Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Project/ Theme Leader/ Key Researcher/ Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Researcher/ Professional	17.6	18.0	17.4	14.7	12.5	11.8	10.3	3.4	3.4	0.0	109.1
Other (support staff - technical, administrative etc.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GRAND TOTAL	17.6	18.0	17.4	14.7	12.5	11.8	10.3	3.4	3.4	0.0	109.1
TOTAL STAFF IN-KIND	34.1	35.2	34.3	29.2	25.0	23.6	20.7	5.0	5.0	0.0	212.0

NOTE: FIGURES MUST BE GST EXCLUSIVE AND ENTERED IN \$'000. FIGURES MUST BE IN WHOLE DOLLARS WITH NO HIDDEN DECIMALS.

Table 1b NON-STAFF IN-KIND

ESSENTIAL PARTICIPANTS	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	GRAND TOTAL
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Department of Housing	0	0	0	0	0	0	0	0	0	0	0
Department of Sustainability and Environment	0	0	0	0	0	0	0	0	0	0	0
Department of Water	0	0	0	0	0	0	0	0	0	0	0
Melbourne Water Corporation	0	0	0	0	0	0	0	0	0	0	0
Monash University	216	266	325	86	77	4	0	0	0	0	974
Queensland Urban Utilities	0	0	0	0	0	0	0	0	0	0	0
South East Water Limited	0	0	0	0	0	0	0	0	0	0	0
University of Queensland	35	67	83	77	6	0	0	0	0	0	268
University of Western Australia	11	84	78	96	0	0	0	0	0	0	269
TOTAL ESSENTIAL PARTICIPANTS (revised 18 Jun 13)	262	417	486	259	83	5	0	0	0	0	1,512
TOTAL OTHER PARTICIPANTS	367	1,695	1,597	1,397	70	58	58	58	58	0	5,358
TOTAL NON-STAFF IN-KIND	629	2,112	2,083	1,656	153	63	58	58	58	0	6,870

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TABLE 2: PARTICIPANTS' CASH CONTRIBUTIONS, OTHER FIRM CASH AND CRC PROGRAM FUNDING

NOTE: FIGURES MUST BE GST EXCLUSIVE AND ENTERED IN \$'000. FIGURES MUST BE IN WHOLE DOLLARS WITH NO HIDDEN DECIMALS.

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	GRAND TOTAL
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
ESSENTIAL PARTICIPANTS' CASH CONTRIBUTIONS											
Department of Housing	150	150	150	150	150	150	150	150	150	0	1,350
Department of Sustainability and Environment	221	500	500	500	500	500	500	500	500	0	4,221
Department of Water	150	150	150	150	150	150	150	150	150	0	1,350
Melbourne Water Corporation	300	300	300	300	300	300	300	300	300	0	2,700
Monash University	650	650	250	250	200	200	200	200	200	0	2,800
Queensland Urban Utilities	120	120	120	120	120	120	120	120	120	0	1,080
South East Water Limited	100	100	100	100	100	100	100	100	100	0	900
University of Queensland	200	200	200	200	200	200	200	200	200	0	1,800
University of Western Australia	200	200	200	200	200	200	200	200	200	0	1,800
TOTAL ESSENTIAL PARTICIPANTS' CASH CONTRIBUTIONS	2,091	2,370	1,970	1,970	1,920	1,920	1,920	1,920	1,920	0	18,001
TOTAL OTHER PARTICIPANTS' CASH CONTRIBUTIONS	1,478	1,378	884	720	570	570	570	570	570	0	7,310
OTHER FIRM CASH	0	0	0	0	0	0	0	0	0	0	0
CRC PROGRAM FUNDING	2,398	3,715	6,851	5,906	3,815	3,815	3,500	0	0	0	30,000
TOTAL CASH (REVISED 12Jun13)	5,967	7,463	9,705	8,596	6,305	6,305	5,990	2,490	2,490	0	55,311

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TABLE 3: EXPENSES

NOTE: Expenses are accrual expenses

Employee Expenses include salaries, direct salary on-costs, fellowships and student stipends

Supplier Expenses include direct and indirect costs of research, such as consumables, conference attendance, training, travel, etc.

Capital Expenses are assets of a durable nature, the value of which exceeds \$20,000

Other Expenses include provision for net GST, taxation liabilities, depreciation/amortisation of assets

NOTE: FIGURES MUST BE GST EXCLUSIVE AND ENTERED IN \$'000. FIGURES MUST BE IN WHOLE DOLLARS WITH NO HIDDEN DECIMALS.

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	GRAND TOTAL
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Employee Expenses	3,331	6,849	7,285	6,426	4,477	4,224	3,834	1,921	1,710	0	40,057
Supplier Expenses	1,170	2,011	2,191	2,073	1,828	2,081	2,156	965	779	0	15,254
Capital Expenses	0	0	0	0	0	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0	0	0	0	0	0
TOTAL EXPENSES	4,501	8,860	9,476	8,499	6,305	6,305	5,990	2,886	2,489	0	55,311

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TABLE 4: ALLOCATION OF RESOURCES ACROSS ALL RESEARCH PROGRAMS

NOTE: Grand totals must balance with Tables 1a, 1b and 2

NOTE: Resources for each Research Program must include the full costs of that Research Program, i.e. research, utilisation and administration costs

NOTE: The Annual Report Guidelines will require CRCs to report on the breakdown of expenditure into research, utilisation and administration costs overall

NOTE: \$ FIGURES MUST BE GST EXCLUSIVE AND ENTERED IN \$'000 WITH NO HIDDEN DECIMALS.
NOTE: FTE FIGURES MUST BE ENTERED TO 1 DECIMAL PLACE ONLY

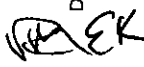
	2012-13			2013-14			2014-15			2015-16			2016-17		
	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)
RP1: Society	1,045	143	11.6	2,652	564	12.0	2,510	566	11.8	2,080	485	10.9	1,577	3	9.2
RP2: Water Sensitive Urbanisation	1,353	191	6.6	2,402	610	7.3	2,643	670	8.0	2,119	485	5.7	1,576	82	4.9
RP3: Future Technologies	1,169	7	4.3	1,482	406	5.0	2,195	412	4.9	2,034	412	4.3	1,576	6	3.7
RP4: Adoption Pathways	934	288	11.5	2,323	532	10.9	2,127	434	9.5	2,266	275	8.4	1,576	62	7.1
Administration & Operation															
TOTAL	4,501	629	34.0	8,859	2,112	35.2	9,475	2,082	34.2	8,499	1,657	29.3	6,305	153	24.9
Available resources from Tables 1 & 2	5,967	629	34.1	7,463	2,112	35.2	9,705	2,083	34.3	8,596	1,656	29.2	6,305	153	25.0

	2017-18			2018-19			2019-20			2020-21			2021-22		
	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)
RP1: Society	1,577	0	8.7	1,498	0	7.6	0	0	0.0	0	0	0.0	0	0	0.0
RP2: Water Sensitive Urbanisation	1,576	0	4.5	1,497	0	4.0	0	0	0.0	0	0	0.0	0	0	0.0

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RP3: Future Technologies	1,576	0	3.5	1,497	0	3.1	0	0	0.0	0	0	0.0
RP4: Adoption Pathways	1,576	63	6.7	1,498	58	5.9	2,886	58	5.0	2,490	0	0.0
Administration & Operation												
TOTAL	6,305	63	23.4	5,990	58	20.6	2,886	58	5.0	2,490	0	0.0
Available resources from Tables 1 & 2	6,305	63	23.6	5,990	58	20.7	2,490	58	5.0	2,490	0	0.0

GRAND TOTALS		Available resources from Tables 1 & 2
Cash (\$'000)	55,310	55,311
Non staff In-kind (\$'000)	6,870	6,870
In-kind staff (FTE)	211.6	212.0



Annexure 4

Schedule 5 – Participants List

1. Essential Participants (clause 1.1 and 6)

Name	Organisation Type	ABN	Role
Department of Housing (WA)	State government	76 667 185 896	End-User
Department of Sustainability and Environment (Vic)	State government	90 719 052 204	End-User
Department of Water (WA)	State government	28 420 443 065	End-User
Melbourne Water Corporation	State government	81 945 386 953	End-User
Monash University	University	12 377 614 012	Research Provider
South East Water Limited (Vic)	Industry / Private Sector	89 066 902 547	End-User
The University of Queensland	University	63 942 912 684	Research Provider
University of Western Australia	University	37 882 817 280	Research Provider
Central SEQ Distributor – Retail Authority trading as Queensland Urban Utilities	Industry / Private Sector	86 673 835 011	End-User

Department of Industry, Innovation,
Science, Research and Tertiary Education

CRC Program Funding Agreement number 20110044

Commonwealth of Australia (**Commonwealth**)

CRC for Water Sensitive Cities Ltd (**Recipient**)

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Details

Date

26 / June / 2012
day month year

Parties

Name The Commonwealth of Australia as represented by the Department of Industry, Innovation, Science, Research and Tertiary Education

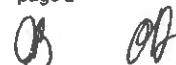
Short form name **Commonwealth**

Name CRC for Water Sensitive Cities Ltd

Short form name **Recipient**

Background

- A The Objective of the Cooperative Research Centres Program (the CRC Program) is to deliver significant economic, environmental and social benefits to Australia by supporting end-user driven research partnerships between publicly funded researchers and end-users to address clearly articulated, major challenges that require medium to long-term collaborative efforts.
- B The Commonwealth provides the Commonwealth Funding under the CRC Program to support the Activities of the:
- "Cooperative Research Centre for Water Sensitive Cities" ("the CRC"), being the Recipient constituted by its corporate constitution to operate as the CRC and governed and managed by CRC's constitution and the arrangements between the Participants set out in the Participants Agreement when completed, is designated as a CRC under the CRC Program.
- C The Minister for Tertiary Education, Skills, Science and Research approved funding of the CRC on the conditions set out in this Agreement on 21 November 2011.
- D The Recipient, Essential and Other Participants have, or will within the time period stipulated in this Agreement, enter into the Participants Agreement to establish, manage, govern and otherwise participate in the CRC.
- E The Commonwealth is required by law to ensure accountability for the Commonwealth Funding and accordingly the Recipient is required to be accountable for all Commonwealth Funding received.
- F The Commonwealth has agreed to provide the Commonwealth Funding to the Recipient for the purposes of the Activities, subject to the terms and conditions of this Agreement.
- G The Recipient accepts the Commonwealth Funding for the purpose of the Activities, and subject to the terms and conditions of this Agreement.



Funding Agreement

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Agreed terms

Part 1 – Activities and Commonwealth Funding

1. Definitions and interpretation

1.1 Defined terms

In this Agreement, except where the contrary intention is expressed, the following definitions are used:

Account	the account the Recipient must establish under clause 10.5.
Accounting Standards	the standards of that name maintained by the Australian Accounting Standards Board (created by section 226 of the <i>Australian Securities and Investments Commission Act 2001</i> (Cth)) or other accounting standards which are generally accepted and consistently applied in Australia.
Activities	the activities of the CRC described in Schedule 2.
Advisers	(a) the financial or legal advisers of a party; and (b) the respective officers and employees of those financial or legal advisers.
Advance Payment	an amount up to \$100,000 set out under Schedule 3, subtracted from the first instalment of the Commonwealth Funding, that may only be paid to the Recipient prior to the completion of the Participants Agreement where the CRC is established on or after 1 July 2009.
Agreed Terms	clauses 1 to 30 of this Agreement, which set out terms and conditions agreed by the parties.
Agreement	this agreement between the Commonwealth and the Recipient, as varied from time to time in accordance with clause 30.4 and includes its schedules and any attachments.
Agreement Material	all Material brought or required to be brought into existence as part of or for the purpose of the Recipient performing this Agreement, including documents, equipment, information and data stored by any means. For the avoidance of doubt Agreement Material does not include any Commonwealth Material.
Agreement Period	the period from the Commencement Date to the End Date.
Annual Report	means a report the Recipient must prepare and provide to the Commonwealth under clause 12.
APRA	the Australian Prudential Regulation Authority.
Asset	any item of tangible property purchased, leased, created or otherwise brought into existence either wholly or in part with use of the Commonwealth Funding, but does not include Agreement Material.
Budget	the budget set out in Schedule 4 as varied from time to time in accordance with this Agreement.

Business Day	a day that is not a Saturday, Sunday, public holiday or bank holiday in the place where the act is to be performed or where the Notice is received.
Capital Item	means an Asset of a durable nature, the purchase price of which exceeds \$20,000.
Cash Contribution	means money, which is not a loan, that is immediately available for use for the Activities.
Chairperson	the person who is the chair of the CRC Board who is independent of, and has no financial interest in, the Essential Participants or Other Participants.
Chief Executive Officer	the person appointed as the Chief Executive Officer of the CRC (whether known as Chief Executive Officer or another title such as director or manager).
Commencement Date	the date on which this Agreement commences, as specified in item 6 of Schedule 1.
Commonwealth	means the Commonwealth of Australia as represented by the Department.
Commonwealth Funding	the amounts payable by the Commonwealth under this Agreement as specified in Schedule 3.
Commonwealth Government Entity	<ul style="list-style-type: none"> (a) a department of State of the Commonwealth, or (b) a department of the Parliament, or (c) an executive agency, or statutory agency, within the meaning of the Public Service Act 1999, or (d) a Commonwealth authority within the meaning of the Commonwealth Authorities and Companies Act 1997.
Commonwealth Material	any Material provided to the Recipient by the Commonwealth, including the Material (if any) specified in item 13 of Schedule 1.
Commonwealth Representative	the person identified in item 3 of Schedule 1.
Confidential Agreement Provisions	any provisions of this Agreement identified as confidential in item 14 of Schedule 1.
Confidential Information	<p>information that is by its nature confidential and:</p> <ul style="list-style-type: none"> (a) is designated by a party as confidential and is described in item 14 of Schedule 1; or (b) a party knows or ought to know is confidential, <p>but does not include:</p> <ul style="list-style-type: none"> (c) information that is or becomes public knowledge otherwise than by breach of this Agreement or any other confidentiality obligation.
Conflict	a conflict of interest, or an apparent or potential conflict of interest arising through the Recipient or Essential Participants or Other Participants engaging in any activity that is likely to interfere with or restrict the Recipient in meeting its obligations under this Agreement fairly and independently.
Contribution	all forms of contribution described in this Agreement.
Corporations Act	the <i>Corporations Act 2001</i> (Cth).

CRC	the Recipient constituted by its corporate constitution to operate the Cooperative Research Centre for Water Sensitive Cities and governed and managed by the arrangements between the Participants set out in the Participants Agreement.
CRC Board	the natural persons (a majority of whom must be independent of the CRC's Research Participants) who operate and manage the CRC to the same fiduciary and good governance standards required by law for incorporated bodies.
CRC Committee	the Cooperative Research Centres Committee appointed by the Minister for the purposes of advising the Minister on the CRC Program.
CRC Indicia	the terms "CRC", "Cooperative Research Centre", "CRC Australia" and the CRC Program logo including registered trade mark (No. 742859) and any additional items specified by the Commonwealth from time to time.
CRC Program	the Cooperative Research Centres Program administered by the Department.
CRC Title	the Title of the CRC as specified in Background B.
Department	the Department of Industry, Innovation, Science, Research and Tertiary Education and its successors, that administers the CRC Program
End Date	the date on which this Agreement will end (unless terminated earlier), as specified in item 7 of Schedule 1.
End-user	a person, organisation, industry or community capable of deploying the research Outputs of a CRC to deliver economic, environmental and/or social benefits to Australia.
Essential Participants	those persons, bodies or organisations listed in Schedule 5 as Essential Participants, who provide essential support (including essential cash or in-kind contributions) for the Activities of the CRC.
Essential Participant Contributions	the Cash Contribution and In-Kind Contributions (if any) from Essential Participants specified in Schedule 4 (Budget).
Exit Report	the report that the Recipient must prepare and provide under clause 12.10.
Financial Year	a period of 12 months ending on 30 June each year, or where the context necessitates a part of such period.
Funding Period	the period specified as such in Schedule 3, however the Funding Period ends if this Agreement is earlier terminated.
GST	the Goods and Services Tax as defined in <i>A New Tax System (Goods and Services Tax) Act 1999</i> (Cth) ("GST Law"). Any words and expressions which are not defined in this Agreement but which have a defined meaning in the GST Law have the same meaning as in the GST Law.
Guidelines	the guidelines listed under item 8 of Schedule 1, or as otherwise issued by the Commonwealth from time to time.
Head of Expenditure	any category of expenditure provided for in Schedule 4.
Impacts	the impacts of the Activities, as set out in Item 1 of Schedule 2.

In-Kind Contribution	Contributions other than cash as set out in Table 1 of Schedule 4.
Intellectual Property or IP	includes all copyright (including rights in relation to phonograms and broadcasts), all rights in relation to inventions (including patents), plant varieties, trade marks (including service marks), designs, circuit layouts, all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields and any right to have confidential information kept confidential, but does not include Moral Rights or rights of performers.
Invoice	an invoice submitted in accordance with the requirements of CRC Online (www.crc.gov.au).
Law	any applicable statute, regulation, by-law, ordinance or subordinate legislation in force from time to time in Australia, whether made by a State, Territory, the Commonwealth, or a local government, and includes the common law and rules of equity as applicable from time to time.
LEADR	the dispute resolution association with that name and the Australian Business Number 69 008 651 232.
Material	includes property, information, software, firmware, documented methodology or process, documentation or other material in whatever form, including any reports, specifications, business rules or requirements, user manuals, user guides, operations manuals, training materials and instructions, and the subject matter of any category of Intellectual Property.
Management Data Questionnaire	the questionnaire provided by the Commonwealth to the Recipient and identified by the Commonwealth as the management data questionnaire, and to which the Recipient is to respond in its Annual Report.
Milestone	The activities, targets or performance indicators to be achieved in a given time frame, which define a CRC's critical path in delivering the proposed Outputs.
Minister	means the Commonwealth Minister having for the time being responsibility for the administration of the CRC Program
Moral Rights	has the same meaning as in the <i>Copyright Act 1968</i> (Cth).
National Research Priorities	the focus of the Australian Government's research effort into those areas that can deliver significant economic, social and environmental benefits to Australia as defined by the Australian Government from time to time and described on the Department's web site.
Notice	a notice, demand, consent, approval or communication issued under this Agreement.
Other Firm Cash	money provided by a person other than a Participant, which is immediately available for use for the Activities and may include donations and grants from other funding programs, but does not include anticipated future earnings.
Other Participants	Participants who are not Essential Participants.
Other Participant Contributions	the aggregate of Cash Contributions and In-Kind Contributions (if any) from Other Participants specified in Schedule 4 (Budget).

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Outputs	the end products of a CRC's activities and includes publications, patents, prototypes and student completions.
Participant	persons, bodies or organisations, who are Essential Participants or Other Participants who have agreed to support the Activities and provide Contributions to the CRC.
Participants Agreement	the agreement between the Recipient and the Participants, referred to in the Background at D.
Personnel	in relation to a party, any employee, officer, agent, or professional adviser of that party, and in the case of the Recipient, of any subcontractor.
Qualified Accountant	means: (a) a person registered as a company auditor or a public accountant under a law in force in a State or Territory; or (b) a member of the Institute of Chartered Accountants in Australia or a CPA member of the Australian Society of Certified Practising Accountants or a Professional National Accountant Member of the National Institute of Accountants; who is independent of the Recipient, Participants and the management of the CRC and free of any business or other relationship that could materially interfere with the exercise of their judgement.
Quarter(s)	a period of 3 months or, where the context necessitates part or multiples of that period, ending on 31 March, 30 June, 30 September or 31 December.
Research Participant	a Participant whose principal activity is undertaking and providing research in or to the CRC, or any employee or agent of an organisation whose principal activity is undertaking and providing research in or to the CRC.
Recipient	the party specified in item 2 of Schedule 1.
Recipient Representative	the person identified in item 4 of Schedule 1.
Report	the reports to be provided under clause 12.
Schedules	the schedules to this Agreement.
Shortfall	any deficit in the total contributions received by the Recipient during a Financial Year and the contributions which should have been received by the Recipient during that Financial Year as specified in Schedule 4 (Budget).
Specified Personnel	means those persons specified in item 12 of Schedule 1 as undertaking work as part of the Activities.
Transition Plan	the plan that the Recipient must prepare and provide under clause 12.8.
Utilisation	technology transfer and take-up and use of research Outputs by end-users. Commercial utilisation includes the manufacture, sale, hire or other exploitation of a product or process, or the provision of a service, incorporating Intellectual Property developed by the CRC (CRC IP), or licensing of any third party to do any of those things, or otherwise licensing or assigning the CRC IP.
Wind-up Plan	the plan that the Recipient must prepare and provide under clause 12.9.

1.2 Interpretation

In this Agreement, except where the contrary intention is expressed:

- (a) the singular includes the plural and vice versa, and a gender includes other genders;
- (b) another grammatical form of a defined word or expression has a corresponding meaning;
- (c) a reference to a clause, paragraph or schedule is to a clause or paragraph of, or schedule to, this Agreement;
- (d) a reference to a document or instrument includes the document or instrument as novated, altered, supplemented or replaced from time to time;
- (e) a reference to A\$, \$A, dollar or \$ is to Australian currency;
- (f) a reference to time is to Canberra, Australia time;
- (g) a reference to a party is to a party to this Agreement, and a reference to a party to a document includes the party's executors, administrators, successors and permitted assignees and substitutes;
- (h) a reference to a person includes a natural person, partnership, body corporate, association, governmental or local authority or agency or other entity;
- (i) a reference to a statute, ordinance, code or other law includes regulations and other instruments under it and consolidations, amendments, re-enactments or replacements of any of them;
- (j) the meaning of general words is not limited by specific examples introduced by including, for example or similar expressions;
- (k) any agreement, representation, warranty or indemnity by two or more parties (including where two or more persons are included in the same defined term) binds them jointly and severally;
- (l) any agreement, representation, warranty or indemnity in favour of two or more parties (including where two or more persons are included in the same defined term) is for the benefit of them jointly and severally;
- (m) a rule of construction does not apply to the disadvantage of a party because the party was responsible for the preparation of this Agreement or any part of it;
- (n) if a day on or by which an obligation must be performed or an event must occur is not a Business Day, the obligation must be performed or the event must occur on or by the next Business Day; and
- (o) headings are for ease of reference only and do not affect interpretation.

1.3 Completion of Schedules

To the extent that the parties have not completed items in a Schedule, unless otherwise stated in the Schedule, those items will be taken to be 'not applicable' for the purpose of this Agreement.

2. Priority of documents

If there is inconsistency between any of the documents forming part of this Agreement, those documents will be interpreted in the following order of priority to the extent of any inconsistency:

- (a) Agreed Terms;

- (b) Schedules;
- (c) any attachments to the Schedules;
- (d) Guidelines; and
- (e) documents incorporated by reference in this Agreement (including the Participants Agreement).

3. Duration of Agreement

This Agreement begins on the Commencement Date and continues until the End Date unless terminated in accordance with clause 27 or when the Recipient has completed all of the reporting obligations to the Commonwealth, which ever is the later.

4. Activities

4.1 Undertaking the Activities

The Recipient must:

- (a) undertake the Activities set out in Schedule 2;
- (b) undertake the Activities diligently, effectively, to a high professional standard and in accordance with:
 - (i) all applicable Laws;
 - (ii) the Guidelines and principles specified in item 8 of Schedule 1; and
 - (iii) any Commonwealth policies and specific requirements set out in item 9 of Schedule 1;
- (c) complete the Activities within the Agreement Period; and
- (d) meet the due dates for the Milestones as specified in Schedule 2.

4.2 Warranties

The Recipient represents and warrants that:

- (a) it has the right to enter into this Agreement;
- (b) it and its subcontractors and Personnel, including the Specified Personnel, have the necessary experience, skill, knowledge, expertise and competence to undertake the Activities and (where appropriate) will hold such licences, permits or registrations as are required under any State, Territory or Commonwealth legislation to undertake the Activities, and are fit and proper people;
- (c) if the Recipient is a trustee, it enters this Agreement personally and in its capacity as trustee and has the power to perform its obligations under this Agreement;
- (d) at the Commencement Date and for the entire term of this Agreement, the Participants Agreement will require the Participants to:
 - (i) conduct the Activities at the times and in the manner specified in Schedule 2;
 - (ii) make the Contributions to the Recipient which are specified individually for an Essential Participant or in aggregate for Other Participants in Schedule 4 of this Agreement;

- (iii) cooperate with and provide to the Recipient any information, about the Contributions and Activities reasonably required by the Recipient;
- (iv) be bound to equivalent terms and conditions to those of this Agreement, except where due to the context it is not relevant to do so, or there is a specific exception detailed in Schedule 6; and
- (e) where terms of this Agreement are expressed to survive termination or expiry of this Agreement, that equivalent terms used in the Participants Agreement are expressed to survive termination or expiry of the Participants Agreement.

5. Management and Governance of the CRC

5.1 Governance

The Recipient must through the CRC Board ensure the CRC is managed and governed under the CRC Title and ensure that the Activities are at all times carried out in accordance with this Agreement. At all times the Recipient must through the CRC Board operate to the same fiduciary and good governance standards that apply to incorporated bodies under Australian law.

5.2 In the event the Recipient is unable to meet obligations

The Recipient must notify the Commonwealth immediately upon becoming aware of any circumstances that are likely to adversely affect the Recipient's ability to comply with the terms of this Agreement, in particular its solvency or ability to ensure that the Activities are carried out in accordance with this Agreement. The giving of Notice by the Recipient pursuant to this clause 5.2, will not, in any way, limit the obligations of the Recipient under this Agreement or excuse the Recipient in any way from the performance of those obligations.

5.3 Company, Partnership or Trust

The Recipient must:

- (a) ensure its corporate constitution or other contractual arrangements between constituent members that form the Recipient is consistent with the obligations under clauses 4 and 5.1, and otherwise allows it to meet its obligations under this Agreement;
- (b) ensure no variation or alteration is made to any arrangement described in clause 5.3(a) that is, or may be, inconsistent with this Agreement without the prior written consent of the Commonwealth; and
- (c) provide the Commonwealth with a copy of any proposed alteration or variation described under clause 5.3(b) within 10 Business Days of completion of the change.

5.4 CRC Board

The Recipient must ensure that:

- (a) the Chairperson of the CRC Board is independent of each Essential Participant and Other Participant and the management of the CRC and is free of any business or other relationship that could materially interfere, or could reasonably be perceived to materially interfere with, the exercise of their unfettered and independent judgement; and
- (b) the CRC Board is comprised of a majority of members independent of the Research Participants; and
- (c) the Chairperson and Chief Executive Officer are not the same individual.

5.5 Change to the Participants Agreement

The Recipient must ensure there are no changes to the Participants Agreement which:

- (a) affect the Recipient's ability to comply with any of the Recipient's obligations under this Agreement, without prior written approval of the Commonwealth; or
- (b) changes to any of the Essential Participants from those listed in Schedule 5 without complying with the requirements of clause 6 [Essential Participants and Other Participants Requirements].

Having obtained the Commonwealth's prior written approval to any change the Recipient must provide the Commonwealth with a copy of any alteration or variation to the Participants Agreement within 10 Business Days of execution of the amendment or variation.

5.6 Breach of the Participants Agreement

The Recipient must, within 5 Business Days of becoming aware of a breach or suspected breach of the Participants Agreement that would affect the Recipient's ability to comply with its obligations under this Agreement:

- (a) provide Notice to the Commonwealth of that breach or suspected breach;
- (b) provide all information reasonably required by the Commonwealth in relation to the breach or suspected breach;
- (c) identify to the Commonwealth the steps the Recipient and CRC Board intend to take to address the matter;
- (d) keep the Commonwealth informed of any action it takes, including action requiring remedy of the breach; and
- (e) provide Notice to the Commonwealth once the breach is remedied, or if not remedied upon the matter being resolved.

6. Essential Participant and Other Participant Requirements

6.1 Essential Participants

The Recipient must list all Essential Participants in Schedule 5, and must at all times have among the Essential Participants, and approved by the Commonwealth, at least one:

- (a) Australian End-user; and
- (b) Australian Higher Education Institution,

as those terms are defined in the Guidelines.

6.2 Change of Essential Participants

Subject to clauses 4.2, 6.1 and 6.3 and any further obligations under this Agreement the Recipient may substitute or change Essential Participants during the Funding Period, with the Commonwealth's prior written approval.

6.3 Notification of change of Essential Participants

Payment of Commonwealth Funding is dependant on the ongoing support of the CRC by Essential Participants. The Recipient must notify the Commonwealth 60 days prior to any proposed substitution or change of an Essential Participant. This Notice must include:

- (a) the details of the exiting Essential Participant, any incoming Essential Participant, and a breakdown comparison of their contributions to enable side by side comparison of component parts;
- (b) the amount of any Shortfall in the Budget for that Financial Year, or any future Financial Years that is anticipated to arise from the substitution or change in Essential Participant,

and any steps the Recipient proposes to take to resolve or otherwise deal with the Shortfall;

- (c) an assessment as to the degree to which the CRC's viability or capacity to undertake the Activities and achieve the Milestones is likely to be affected.

After receiving a Notice under clause 6, the Commonwealth in its sole discretion and on 10 Business Days Notice to the Recipient, may without limiting any of its other rights under this Agreement or at law, exercise its rights to reduce, suspend or terminate Commonwealth Funding under clause 27 [Termination, Suspension and Reduction] where it is satisfied that the proposed substitution or change of an Essential Participant is likely to impact on the continued viability of the CRC or its capacity to undertake the Activities or achieve the Milestones.

6.4 Other Participants

Other Participants are not required to be individually listed under Schedule 5. The Recipient may substitute or change Other Participants during the Funding Period without any requirement to notify this to the Commonwealth, subject to any conditions of the Participants Agreement and other terms of this Agreement.

7. Contributions

7.1 Participant Contributions

Each Financial Year the Recipient must procure:

- (a) the Essential Participant Contributions;
- (b) the Other Participant Contributions; and
- (c) any Other Firm Cash,

specified in Schedule 4 for that Financial Year.

7.2 Shortfall in Participant Contributions

The Recipient must notify the Commonwealth, as part of each Annual Report, of any Shortfall in the Contributions, as specified in Schedule 4, for the corresponding Financial Year. The notification of any Shortfall in an Annual Report must include the following:

- (a) the amount and value of the Shortfall;
- (b) the reasons for the Shortfall;
- (c) any remedial action proposed or undertaken; and
- (d) any impact the Shortfall is expected to have on the current or future capacity of the Recipient to undertake the Activities and/or meet its obligations under this Agreement.

The Commonwealth will not require notification under this clause 7.2 or issue a Notice under clause 7.3, unless the Shortfall is equal to, or exceeds 10% of the:

- (e) annual Cash Contributions specified in Schedule 4; or
- (f) value of the non-staff In-Kind Contributions specified in Schedule 4; or
- (g) staff In-Kind Contributions, full-time equivalent, specified in Schedule 4 for that Financial year.

7.3 Recipient to make good any Shortfall in Participant Contributions

Where the Recipient is required to provide notification of a Shortfall under clause 7.2 the Commonwealth may, by Notice, require the Recipient to make good the Shortfall and/or take

other remedial action and to report on any matters specified in the Notice within the period specified in the Notice (or if not specified within 10 Business Days). The Recipient must comply with any such Notice issued by the Commonwealth within the time period specified.

If the Recipient is unable to obtain Participant Contributions to make good the Shortfall and/or does not take other remedial action as specified in the Notice to the Commonwealth's satisfaction within the period specified in the Notice, or does not report on any matters specified in the Notice, the Commonwealth may in its absolute discretion, and without limiting any of its other rights under this Agreement or at law, reduce the total amount of Commonwealth Funding by all or a part of the value of the Shortfall.

Nothing in clause 7.3 affects the Commonwealth's rights under clause 27 [Termination, Suspension and Reduction].

7.4 Calculation of Shortfall

When calculating the total amount of a Shortfall under clause 7 the value of any staff In-Kind Contributions which were not provided by an Essential Participant or Other Participant and which therefore contributed to the Shortfall will be the value which is specified in Schedule 4 for the relevant category of staff In-Kind Contribution.

7.5 Other government funding

- (a) The Recipient must give the Commonwealth full details of any financial assistance, for or in connection with the Activities, which the Recipient receives from another Commonwealth, State or Territory government source or agency after the Commencement Date of this Agreement, including the amount and source of the funding and the name of the program under which it was provided, within 30 days of the Recipient receiving notice that the financial assistance has been approved.
- (b) The Commonwealth may reduce its payments as set out in Schedule 3 in the event the Recipient receives financial assistance described in 7.5(a), but only to the extent that this financial assistance duplicates Commonwealth Funding of the same Activities.

8. Commonwealth Funding

8.1 Payment

The Commonwealth will pay instalments of Commonwealth Funding to the Recipient as set out in Schedule 3, within 30 days subject to:

- (a) the Recipient providing a correct Invoice to the Commonwealth;
- (b) sufficient funding being available for the CRC Program; and
- (c) the Recipient complying with this Agreement.

The first instalment of Commonwealth Funding is payable within 30 days of receipt by the Commonwealth of:

- (d) a copy of the completed and executed Participants Agreement; and
- (e) a correctly rendered Invoice from the Recipient, which the Recipient may issue to the Commonwealth on or after the Commencement Date.

The Commonwealth may in its sole discretion exercise its rights to reduce, suspend or terminate Commonwealth Funding, under clause 27 [Termination, Suspension and Reduction] where the Participants Agreement is not complete or a completed and executed copy is not provided to the Commonwealth, within 90 days of the Commencement Date.

8.2 Advance Payment

An Advance Payment of Commonwealth Funding, if any is agreed and on such terms as the Commonwealth stipulates, may be payable to the Recipient upon execution of this Agreement and as specified in Schedule 3, prior to completion of the Participants Agreement. This payment will be made within 30 days of receipt by the Commonwealth of a correct Invoice from the Recipient, which the Recipient may issue to the Commonwealth on or after the Commencement Date. If an Advance Payment is made and the completion of the Participants Agreement does not occur within the period specified or as the Commonwealth in its sole discretion approves, the Commonwealth may by notice and in its sole discretion exercise its rights to reduce, suspend or terminate Commonwealth Funding, under clause 27 [Termination, Suspension and Reduction].

8.3 Overpayment

Any overpayment of Commonwealth Funding is a debt due to the Commonwealth and is recoverable from the Recipient on demand.

9. GST and Taxes

9.1 Taxes

Subject to clause 9.2, the Recipient must pay all taxes, duties and government charges imposed or levied in Australia or overseas in connection with the performance of this Agreement and the Activities.

9.2 GST

- (a) Any consideration payable or to be provided for a supply made under this contract does not include any amount on account of GST unless expressly indicated otherwise. If GST is payable on any supply made under or in connection with this contract, the recipient of the supply must pay to the supplier an additional amount equal to the GST payable on the supply provided that the supplier first issues a tax invoice to the recipient for that supply.
- (b) If a payment to a party under this contract is a reimbursement or indemnification, calculated by reference to a loss, cost or expense incurred by that party, then the payment will be reduced by the amount of any input tax credit to which that party is entitled on the acquisition of the supply to which that loss, cost or expense relates.

10. Use of Commonwealth Funding

10.1 What Commonwealth Funding can be used for

- (a) The Recipient must spend the Commonwealth Funding and the Contributions only for the purposes of undertaking the Activities.
- (b) The Recipient must spend the Commonwealth Funding and the Contributions only in accordance with the Budget.
- (c) Subject to clause 10.1(d), the Recipient may vary the Budget by re-allocating expenditure to items specified in the Budget.
- (d) Any variation under clause 10.1(c) which increases the amount allocated to an item of expenditure by more than 10% cannot be made without the Commonwealth's prior written approval.

10.2 What Commonwealth Funding cannot be used for

The Recipient must not spend the Commonwealth Funding:

- (a) for capital works or for the purchase, construction, renovation or extension of buildings and facilities;

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- (b) for any Activities for which the CRC has previously been funded, or is currently being funded by the Australian Government or a State or Territory government either directly or indirectly through any other funding scheme;
- (c) to reimburse Essential Participants or Other Participants for In-Kind Contributions;
- (d) to pay an Essential Participant or Other Participant for the indirect costs of research in relation to CRC Program funded staff located in their organisation; or
- (e) for the indirect costs of research conducted overseas.

10.3 When Commonwealth Funding cannot be used

- (a) Without limiting any other right or remedy of the Commonwealth, the Commonwealth may by Notice direct the Recipient to ensure that the Commonwealth Funding is not spent if:
 - (i) the Recipient has not completed a Report that was due before the date of notification;
 - (ii) the Recipient has not achieved a Milestone that was due to be achieved before the date of notification; or
 - (iii) the Recipient is otherwise in breach of this Agreement.
- (b) The Recipient must not spend any Commonwealth Funding after it receives Notice under this clause not to spend Commonwealth Funding unless and until the Commonwealth notifies the Recipient otherwise.

10.4 Improperly Expended Commonwealth Funding

If, at any time, the Commonwealth is of the view that the Recipient has expended an amount of Commonwealth Funding other than in accordance with clauses 10.1, 10.2 and 10.3 of this Agreement (the "Improperly Expended Amount"), the Commonwealth may by Notice to the Recipient, at its sole and unfettered discretion:

- (a) immediately reduce, suspend or terminate Commonwealth Funding under clause 27 [Termination, Suspension and Reduction]; or
- (b) require repayment by the Recipient of the Improperly Expended Amount within the period specified in a Notice under clause 11; or
- (c) exercise any other right it may have under this Agreement.

10.5 Bank account

The Recipient must ensure that:

- (a) proper accounting standards and controls are exercised in respect of the Commonwealth Funding and the Contributions;
- (b) income and expenditure for the Activities are recorded separately from other transactions of the Recipient;
- (c) funds are held in one or more accounts (the Account) with an authorised deposit-taking institution authorised under the Banking Act 1959 (Cth) to carry on banking business in Australia;
- (d) the Account is held in the name of the CRC solely for the purpose of funding the Activities and solely controlled by the Recipient;
- (e) the Account is treated as a single account for reporting and auditing purposes under this Agreement;

- (f) the Account bears a rate of interest reasonably required by the Commonwealth and that any interest on the balance is credited to the Account;
- (g) any money forming part of the Commonwealth Funding or Contributions is deposited in the Account; and
- (h) ensure if the Account changes, that it complies with 10.5 (c) above and notify the Commonwealth within 7 days of any changes to the Account, providing details.

10.6 No additional Commonwealth Funding

The Commonwealth is not responsible for the provision of additional funds to meet any expenditure in excess of the Commonwealth Funding.

10.7 Entitlement to Commonwealth Funding

- (a) Notwithstanding the Commonwealth's payment of (or agreement to pay) an amount of Commonwealth Funding to the Recipient, the Recipient is not entitled to retain such an amount until it has applied the amount in accordance with this clause 10.7.
- (b) Without limiting clause 10.7 (a), where at the end of the Agreement Period, the Recipient has not applied an amount of Commonwealth Funding, that amount must be repaid to the Commonwealth or otherwise dealt with in accordance with clause 11.2 of this Agreement.
- (c) For the purposes of this clause 10.7 and clause 11.2, the Recipient will have applied such an amount of Commonwealth Funding where it has expended such an amount for the conduct of the Activities, or entered into a legal commitment to expend such an amount for the conduct of the Activities, with such expenditure or commitment meeting all relevant requirements of this Agreement.

11. Repayment

11.1 During the Agreement Period

The Commonwealth is entitled to recover from the Recipient, any amount of money which, at any time, in the Commonwealth's opinion, has been spent or applied other than in accordance with this Agreement.

11.2 At the end of the Agreement Period

After the End Date (or termination of this Agreement) the Commonwealth is entitled to recover from the Recipient:

- (a) any Commonwealth Funding which has not been expended, or legally committed for expenditure by the Recipient in accordance with this Agreement and payable by the Recipient as a current liability (written evidence of which will be required from the Recipient); and
- (b) the amount of any Commonwealth Funding which, in the Commonwealth's opinion, has been spent other than in accordance with this Agreement.

11.3 Repayment Notice

- (a) The Commonwealth may give the Recipient Notice requiring the Recipient to repay (or deal with as specified by the Commonwealth) any amount which the Commonwealth is entitled to recover under clause 11.1 or 11.2.
- (b) If the Commonwealth issues a Notice under clause 11 the Recipient must repay the amount specified in the notice in full (or deal with it as specified by the Commonwealth).
- (c) A Notice under clause 11 must allow a minimum of 10 Business days from the date of the Notice for repayment by the Recipient.

12. Monitoring Progress and Reporting

12.1 Progress meetings

The parties will meet at the times and in the manner reasonably required by the Commonwealth to discuss any issues in relation to this Agreement or the Activities. The Recipient must ensure that the Recipient Representative, and the Commonwealth must ensure the Commonwealth Representative, are reasonably available to attend such meetings and answer any queries relating to the Activities raised by either party.

12.2 Reporting

The Recipient must provide the Commonwealth with reports in accordance with this clause 12. The Recipient must comply with any direction issued by the Commonwealth under clause 12 or which the Commonwealth is taken to have issued under clause 12.3.

12.3 Contents of Reports

The Commonwealth may issue a direction in writing to the Recipient in respect of a Report the Recipient is required to provide under clause 12 or clause 13 specifying:

- (a) a format for the report (or for part of the report); and
- (b) information the Recipient is to include in the report (or part of the report); and
- (c) the person or persons who is to certify that information contained in a report (or part of a report) is accurate.

For the purposes of clause 12 the Commonwealth will be taken to have issued a direction in writing concerning a matter referred to in clause 12.3 if it includes that information in Guidelines or any similar document and that document is available to the Recipient. The Commonwealth will provide a minimum period of 20 Business Days for the provision of any report.

12.4 Provision of Reports and Plans

If any of the reports or plans provided to the Commonwealth under clause 12 [Monitoring Progress and Reporting] or clause 13 [Performance Reviews] are not provided within the time required by or under those clauses or do not meet the satisfaction of the Commonwealth, in the Commonwealths' sole discretion, the Commonwealth may, without limiting any of its other rights under this Agreement or at law, reduce, suspend or terminate Commonwealth Funding under clause 27 [Termination, Suspension and Reduction].

12.5 Quarterly Report

During the Funding Period, the Recipient must provide to the Commonwealth a Quarterly Report pertaining to the Account within 30 days of the end of each Quarter incorporating:

- (a) a cash (not accrual) report in respect of that Quarter indicating all the sources of all Cash Contributions from Essential Participants and the total Cash Contributions from Other Participants and any Other Firm Cash funding to the CRC for the Activities;
- (b) cash (not accrual) report in respect of that Quarter on the expenditure of cash for the Activities against each Head of Expenditure; and
- (c) a declaration by the Chief Executive Officer certifying the accuracy of the particulars provided under paragraph (a) and (b) including a statement that the Commonwealth Funding has been expended only for the Activities and otherwise in accordance with this Agreement.

12.6 Annual Report and Management Data Questionnaire

The Recipient must prepare and provide to the Commonwealth comprehensive and detailed Annual Reports including a response to the Management Data Questionnaire in accordance with clause 12, within 4 months of:

- (a) the end of each Financial Year for the duration of the Agreement; and
- (b) if the Commonwealth terminates the Agreement, the date of termination.

12.7 Contents of the Annual Report and Management Data Questionnaire

In addition to meeting any requirements specified in the Guidelines and by the Commonwealth from time to time, the Annual Reports required under clause 12.6 must report on and contain the following:

- (a) Report on the Activities:
 - (i) identify progress in the Activities including how the CRC has met, or progressed towards meeting, the Milestones specified in Schedule 2;
 - (ii) include information about the Utilisation of any Agreement Material (including any prospective use); and
 - (iii) include a list of all Participants during the Financial Year.
- (b) Financial Report on the Account:
 - (i) include an accrual accounting report on revenues, expenses, assets, liabilities and cash flows of the Account.
- (c) Report on Contributions:
 - (i) include a report that identifies Contributions for the Financial Year, including Cash Contributions, non-staff In-Kind Contributions and the level and quality of staff In-Kind Contributions (and notice of any Shortfall in accordance with clause 7);
 - (ii) reporting each Essential Participant's Contribution individually; and Other Participants Contributions generally (as aggregated amounts) of the total Contributions for the Financial Year.
- (d) Financial report on the CRC:
 - (i) include an audited statement of the financial position of the CRC.
- (e) Audit
 - (i) include a statement by a Qualified Accountant, that the reports specified under this clause 12.7(b) and 12.7(c) present fairly that the Commonwealth Funding and the Contributions have been expended solely for the Activities, or a purpose agreed by the Commonwealth, and in accordance with Schedule 4 of this Agreement and Australian accounting concepts and applicable Australian Standards; and that all CRC transactions have been conducted through the Account.
- (f) Response to the Management Data Questionnaire
 - (i) include a completed response to the Management Data Questionnaire; and
 - (ii) a declaration by the Chief Executive Officer to certify the information provided in response to the Management Data Questionnaire is accurate.

12.8 Transition Plan

The Recipient must prepare and provide, to the satisfaction of the Commonwealth, a comprehensive and detailed Transition Plan which sets out the strategy for any post-CRC program activity by 30 June 2014 in accordance with any relevant Guidelines.

The Transition Plan is to be updated and provided to the Department by 30 June each subsequent year until the End Date of the Agreement.

12.9 Wind Up Plan

The Recipient must prepare and provide, to the satisfaction of the Commonwealth, a comprehensive and detailed Wind Up Plan for the orderly exit from the CRC Program in accordance with any relevant Guidelines.

12.10 Exit Report

The Recipient must prepare and provide, to the satisfaction of the Commonwealth, a comprehensive and detailed Exit Report in accordance with any relevant Guidelines, for the approval of the Commonwealth, in its sole discretion:

- (a) 4 months prior to the End Date of the Agreement; or
- (b) If the Commonwealth terminates the Agreement, within 4 months of the date of termination.

13. Performance Reviews

13.1 Reviews of the CRC

- (a) The Recipient must undergo:
 - (i) a review (Performance Review) commissioned by the Commonwealth after the first full year of this Agreement by members of the CRC Committee and the Department; and
 - (ii) an independent review (Performance Review) commissioned by the Commonwealth in year 3 (during the period 1 March – 30 June 2015) by an expert review panel selected by the Commonwealth, in its sole discretion.
 - (iii) an independent review (Performance Review) commissioned by the Commonwealth in year 6 (during the period 1 March – 30 June 2018) by an expert review panel selected by the Commonwealth, in its sole discretion.
- (b) In addition to 13.1(a), ad hoc reviews may be undertaken or required by the Commonwealth from time to time, including but not limited to cases where substantial changes to the Activities are proposed, or Milestones are not being met.
- (c) The Commonwealth will bear the cost of any review, audit or evaluation under clause 13, subject to the Recipient meeting their own costs in accordance with the relevant Guidelines, to be issued by the Commonwealth from time to time, in relation to participation in any review, audit or evaluation.
- (d) The Commonwealth may, by Notice, require the Recipient to take actions in relation to the outcomes or recommendations of any review under clause 13.1, or recommendations of the CRC Committee within a reasonable timeframe or within the timeframe (if any) specified in the Notice.
- (e) Where the Recipient receives a report of a review (or extract of its recommendations) from the Commonwealth, the Recipient must:

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- (i) within 30 days, provide a Notice to the Commonwealth in detail of the actions it intends to undertake to address the recommendations of the report;
- (ii) within 90 days, provide the Commonwealth with a written report detailing progress and substantiating the actions it has taken in implementing the recommendations of the report; and
- (iii) in each Annual Report include a written report detailing progress and substantiating the actions it has taken in implementing the recommendations of the report until all the recommendations, that the Recipient has agreed to implement under 13.1(e)(i) or the Commonwealth has directed the Recipient to implement under 13.1(d), are implemented to the satisfaction of the Commonwealth, in its sole discretion.

13.2 Audit or evaluation

Without limiting any of its obligations under this Agreement the Recipient must assist the Commonwealth with and participate in, within the timeframe and in the manner required by the Commonwealth in any Guideline or Notice issued by the Commonwealth from time to time, any:

- (a) audit or evaluation of the:
 - (i) performance of the CRC;
 - (ii) conduct of the Activities;
 - (iii) Recipient's compliance with this Agreement;
- (b) surveys, questionnaires and other evaluation procedures related to the performance of the Recipient, CRC or the CRC Program; and
- (c) preparation of reports reasonably required under this clause 13.2.

13.3 Cooperation

In relation to any review, audit or evaluation under clause 13, the Recipient must:

- (a) provide all reasonable assistance to;
 - (b) respond to all reasonable requests of; and
 - (c) provide any information reasonably required by;
- the Commonwealth or its authorised representative.

13.4 Commonwealth Rights

If the Recipient does not:

- (a) meet any of the obligations under clause 13;
- (b) comply with a Notice given under clause 13.1(d) or 13.2 within the specified timeframe; or
- (c) comply with any relevant Guidelines issued by the Commonwealth in relation to a review, audit or evaluation under clause 13;

to the satisfaction of the Commonwealth, the Commonwealth may at its sole discretion, without limiting any of its other rights under this Agreement or at law, exercise any of the following rights:

- (d) review the Commonwealth Funding;
- (e) impose conditions on continued Commonwealth Funding; and
- (f) reduce, suspend or terminate Commonwealth Funding, under clause 27 [Termination, Suspension and Reduction].

Part 2 – General requirements

14. Subcontractors and Personnel

14.1 Subcontracting

(a) The Recipient must:

- (i) not subcontract the performance of any of its obligations under this Agreement other than to those entities set out in item 11 of Schedule 1 without the prior written approval of the Commonwealth, which will not be unreasonably withheld;
- (ii) not, in any event, enter into a subcontract under this Agreement with a subcontractor named by the Director of Equal Opportunity for Women in the Workplace in a report to the responsible Minister as an employer currently not complying with the reporting requirements of the Equal Opportunity for Women in the Workplace Act 1999 (Cth); and
- (iii) ensure that any subcontractor approved under this Agreement complies with:
 - (A) Clause 19 (Insurance);
 - (B) Clause 21 (Confidentiality and privacy);
 - (C) Clause 22 (Protection of personal information);
 - (D) Clause 23 (Conflict of interest); and
 - (E) Clause 25 (Audit and access).

(b) The Recipient is fully responsible for undertaking the Activities even if the Recipient subcontracts any aspect of the Activities and for the performance of all of the Recipient's obligations under this Agreement.

14.2 Use of Specified Personnel

The Recipient must ensure that the Specified Personnel as nominated in Schedule 1, or any persons who are appointed to replace them in accordance with clause 14.4 below, perform their functions in respect of the Activities as described in Schedule 2.

14.3 If the Specified Personnel are not available

The Recipient must notify the Commonwealth in writing of any change to the Specified Personnel within 10 working days of the relevant change taking effect, however approval of the Commonwealth is not required.

14.4 Replacement of Specified Personnel, subcontractors or Personnel

When replacing Specified Personnel, or subcontractors the Recipient must ensure that any such replacement personnel have the time commitment, qualifications and competency to undertake the Activities to the standard required by the Agreement and have similar expertise and ability to those of the Specified Personnel or subcontractors they are replacing.

15. Assets

15.1 Ownership

Subject to the terms of any lease or other arrangement, the Recipient owns any Asset.

15.2 Use and dealings

- (a) During the Agreement Period, the Recipient must use any Asset only for purposes related to the Activities, unless otherwise approved by the Commonwealth.
- (b) During the Agreement Period, the Recipient must:
 - (i) not encumber, dispose or deal with any Asset valued at \$50,000 (excluding GST) or above other than in accordance with this clause 15, without the Commonwealth's prior approval;
 - (ii) hold all Assets securely and adequately insure them against theft, loss, damage, or unauthorised use;
 - (iii) maintain all Assets in good working order; and
 - (iv) be fully responsible for, and bear all risks relating to, the use or disposal of all Assets.

16. Commonwealth Material

The Commonwealth may provide to the Recipient the Commonwealth Material and the Recipient must ensure that the Commonwealth Material is used strictly in accordance with clause 17, any conditions or restrictions specified in item 13 of Schedule 1 and any direction by the Commonwealth.

17. Intellectual Property

17.1 Intellectual Property in Agreement Material

- (a) The Intellectual Property in the Agreement Material does not vest in the Commonwealth.
- (b) The Recipient grants to the Commonwealth a permanent, irrevocable, royalty-free, non-exclusive licence:
 - (i) to use and reproduce any reports provided by the Recipient to the Commonwealth under this Agreement, including but not limited to, the reports provided under clause 12 and clause 13; and
 - (ii) to otherwise exercise its rights to Agreement Material under this Agreement, including without limitation such rights under clause 25.
- (c) The Recipient shall, at all times during the Funding Period, have in place and adhere to documented procedures to ensure that, before any Agreement Material is published or disclosed to any person other than the Commonwealth, an Essential Participant, an Other Participant or the Recipient, consideration is given to the potential prejudice to the subsistence or Utilisation of the Agreement Material, including the possibility that publication or disclosure might preclude the grant of a patent or cause the loss of Intellectual Property.
- (d) The Recipient must use its best endeavours to ensure Utilisation of any Agreement Material (but not including reports or other such Material to be provided to the Commonwealth for the Commonwealth's benefit) by End-users.
- (e) The Recipient must ensure that any Utilisation of the Intellectual Property in Agreement Material:
 - (i) maximises the national benefits accruing to Australia;
 - (ii) is consistent with the objective of the CRC Program; and

- (iii) is consistent with this Agreement.
- (f) The Recipient must ensure that any Utilisation of Intellectual Property in Agreement Material, including by any third party, is consistent with the nature of the Activities and the purpose of the Commonwealth Funding and undertaken in accordance with the Utilisation milestones described in Schedule 2.
- (g) If at any time, the Commonwealth is of the reasonable view that the Utilisation of the Agreement Material by the Recipient, including any third party, is not consistent with clause 17.1(e), the Commonwealth may, by notice at its sole and unfettered discretion:
 - (i) require the Recipient to repay some or all of the Commonwealth Funding spent Utilising the Agreement Material;
 - (ii) reduce, suspend or terminate Commonwealth Funding under clause 27 [Termination, Suspension and Reduction]; or
 - (iii) exercise any other right it may have under this Agreement.

18. Indemnity

- (a) The Recipient will at all times indemnify and defend the Commonwealth, its officers and employees, including members of the CRC Committee and any independent experts used by the Committee (referred to in this clause 18 as "those indemnified") from and against any loss or liability, including:
 - (i) loss of, or damage to, property of the Commonwealth;
 - (ii) claims by any person in respect of personal injury or death;
 - (iii) claims by any person in respect of loss of, or damage to, any property; and
 - (iv) costs and expenses including the costs of defending or settling any claim referred to in clause 18(a)(ii) or clause 18(a)(iii),
 arising out of or as a consequence of:
 - (v) use or disposal of Assets;
 - (vi) the use by the Commonwealth of Agreement Material, for which it has a licence (including any claims by third parties about the ownership or right to use Intellectual Property, including Moral Rights in that Agreement Material); or
 - (vii) any actual, likely or threatened breach of the Recipient's, its Personnel's or subcontractor's obligations relating to Confidential Information or personal information; or
 - (viii) without limiting the preceding paragraphs, any breach of this Agreement by the Recipient, or negligence on the part of the Recipient, its Personnel or subcontractors or wrongful or unlawful act or omission on the part of the Recipient, its Personnel or subcontractors.
- (b) The Recipient's liability to indemnify those indemnified under clause 18(a) will be reduced proportionally to the extent that any negligent act, unlawful act or omission of those indemnified contributed to the loss.

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19. Insurance

19.1 Obligation to maintain insurance

The Recipient must, for as long as any obligations remain in connection with this Agreement, maintain adequate insurance that a prudent person engaged in the Activities would maintain, with an insurance company authorised by the Australian Prudential Regulation Authority (APRA), or otherwise approved by the Commonwealth, to cover loss or damage the Recipient may suffer or any liability the Recipient may incur.

19.2 Certificates of currency

The Recipient must within 10 days, on request by the Commonwealth, provide current relevant confirmation of insurance documentation from its insurers or insurance brokers certifying that it has insurance as required by clause 19.

20. Use of CRC Indicia, publicity and support

- (a) The Commonwealth reserves the right to publicise and report on the awarding of the Commonwealth Funding, and may do this by, amongst other means, including the Recipient's name, the amount of the Commonwealth Funding and the title and a brief description of the Activities in media releases, general announcements about the Program and annual reports.
- (b) The Recipient must arrange a launch for a new CRC, within six months of the commencement of the Funding Period.
- (c) The Recipient must invite the Minister to any launch of a CRC, after having consulted with the Department in the first instance. Such invitation should be made in writing to the Minister's Parliament House office at least 30 days prior to the launch.
- (d) The Recipient must, in all publications (including reprints, and despite whether published by the Recipient or other persons), promotional and advertising materials, public announcements, events and activities in relation to the Activities, or any products, processes or inventions developed as a result, acknowledge the financial and other support received from the Commonwealth:
 - (i) through reference to this support and the CRC Program;
 - (ii) through prominent display of the CRC Indicia and the 'an Australian Government Initiative' (AGI) logo – which together comprise the CRC program branding; and
 - (iii) by reference to any acknowledgement specified in item 10 of Schedule 1 or as otherwise approved by the Commonwealth prior to its use.
- (e) The Commonwealth grants the Recipient a non-exclusive licence to use the CRC Indicia and the AGI logo (including a right of sublicense to the Essential Participants and Other Participants) until the End Date, subject to any conditions under item 5 of Schedule 1 or otherwise notified to the Recipient from time to time.
- (f) The Recipient must ensure that any sub-licence it grants under this clause:
 - (i) acknowledges the Commonwealth owns all rights in the CRC Indicia;
 - (ii) does not extend beyond the End Date;
 - (iii) is subject to the same conditions imposed on the Recipient by the Commonwealth;
 - (iv) does not include a right of sub-licence;

- (v) is automatically revoked upon termination or expiration of this Agreement.
- (g) The Recipient must cease using the CRC Indicia and the AGI logo by the End Date unless otherwise agreed in writing with the Commonwealth.

21. Confidentiality and privacy

21.1 Prohibition on disclosure

- (a) Subject to clause 21.4, the Recipient must not, without the prior written consent of the Commonwealth, disclose any Commonwealth Confidential Information to a third party.
- (b) Subject to clause 21.4, the Commonwealth must not, without the prior written consent of the Recipient, disclose any Recipient Confidential Information to a third party.

21.2 Conditions of approval

In giving written consent to use or disclose Commonwealth Confidential Information, the Commonwealth may impose such conditions as it thinks fit. The Recipient must comply with any term or condition imposed by the Commonwealth under this clause 21.2.

21.3 Advisers and third parties

The Commonwealth may at any time require the Recipient to arrange for:

- (a) its Advisers;
- (b) its Personnel and other employees and subcontractors or the Participants involved in the Activities; or
- (c) any other third party, to whom Commonwealth Confidential Information may be disclosed pursuant to clause 21.4(a) or clause 21.4(b),

to give a written undertaking relating to the use and non-disclosure of the Commonwealth's Confidential Information in the form approved by the Commonwealth.

21.4 Exceptions to obligations

The obligations on each party under clause 21.1 or 21.10 will not be taken to have been breached to the extent that Confidential Information of the other party:

- (a) is disclosed by a party to its Advisers or employees solely in order to comply with obligations, or to exercise rights, under this Agreement;
- (b) is disclosed to a party's internal management personnel, solely to enable effective management or auditing of activities related to this Agreement;
- (c) is disclosed by a Commonwealth Government Entity to the responsible Minister;
- (d) is disclosed by a Commonwealth Government Entity, in response to a request by a House or a Committee of the Parliament of the Commonwealth of Australia;
- (e) is shared by the Commonwealth within the Department, or with another Commonwealth agency, where this serves the Commonwealth's legitimate interests;
- (f) is disclosed by a Commonwealth Government Entity to the Auditor-General, Ombudsman or Privacy Commissioner;
- (g) is required by Law to be disclosed; or
- (h) is in the public domain otherwise than due to a breach of this Agreement.

21.5 Obligation on disclosure

Where a party discloses Confidential Information of the other party to another person:

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- (a) pursuant to clauses 21.4(a), (b) or (e), the disclosing party must:
 - (i) notify the receiving person that the information is Confidential Information; and
 - (ii) not provide the information unless the receiving person agrees to keep the information confidential, including in the case of Commonwealth Confidential Information, the receiving person giving the Commonwealth a legally binding undertaking to that effect in the form approved by the Commonwealth; or
- (b) pursuant to clauses 21.4(c) and (d), the disclosing party must notify the receiving party that the information is Confidential Information of the other party.

21.6 Additional confidential information

- (a) The parties may agree in writing after the date of this Agreement that certain additional information is to constitute Confidential Information for the purposes of this Agreement.
- (b) Where the parties agree in writing after the date of this Agreement that certain additional information is to constitute Confidential Information for the purposes of this Agreement, this documentation is incorporated into, and becomes part of this Agreement, on the date by which both parties have signed this documentation.

21.7 Period of confidentiality

The obligations under this clause 21 continue, notwithstanding the expiry or termination of this Agreement:

- (a) in relation to an item of information described in item 14 of Schedule I, for the period set out in that Schedule in respect of that item; and
- (b) in relation to any information which the parties agree in writing after the date of this Agreement is to constitute Confidential Information for the purposes of this Agreement, for the period agreed by the parties in writing in respect of that information.

21.8 No reduction in privacy obligations

Nothing in this Agreement derogates from any obligation which either party may have under the *Privacy Act 1988* (Cth) as amended from time to time, in relation to the protection of personal information as defined in that Act or information that is protected by the *Census and Statistics Act 1905* (Cth), or any other Act, regulation or other legislative instrument requiring secrecy or confidentiality in dealing with information.

21.9 Return of information

At the Commonwealth's request or on the expiry or termination this Agreement, the Recipient must promptly return all of the Commonwealth's physical and written records containing Commonwealth Confidential Information, and all documentation relating to that Commonwealth Confidential Information (including copies), to the Commonwealth in a form reasonably requested by the Commonwealth. Alternatively, if requested by the Commonwealth, the Recipient must destroy such items in the manner specified by the Commonwealth and promptly certify to the Commonwealth in writing that it has done so.

21.10 Confidential Agreement Provisions

Notwithstanding any other provision of this Agreement, the Commonwealth may disclose the provisions of this Agreement except the Confidential Agreement Provisions.

22. Protection of personal information

22.1 Application of this clause

This clause 22 applies only where the Recipient deals with personal information when, and for the purpose of, undertaking the Activities under this Agreement.

22.2 Obligations

The Recipient agrees to be treated as a 'contracted service provider' within the meaning of section 6 of the *Privacy Act 1988* (Cth) (**the Privacy Act**), and agrees, in undertaking the Activities under this Agreement:

- (a) to use or disclose personal information obtained during the course of undertaking the Activities under this Agreement, only for the purposes of this Agreement;
- (b) not to do any act or engage in any practice that would breach an IPP contained in section 14 of the Privacy Act, which if done or engaged in by an agency, would be a breach of that IPP;
- (c) to carry out and discharge the obligations contained in the IPPs as if it were an agency under the Privacy Act;
- (d) to notify individuals whose personal information the Recipient holds, that complaints about acts or practices of the Recipient may be investigated by the Privacy Commissioner who has power to award compensation against the Recipient in appropriate circumstances;
- (e) not to use or disclose personal information or engage in an act or practice that would breach section 16F of the Privacy Act (direct marketing), an NPP (particularly NPPs 7 to 10) or an APC, where that section, NPP or APC is applicable to the Recipient, unless:
 - (i) in the case of section 16F – the use or disclosure is necessary, directly or indirectly, to discharge an obligation of this Agreement; or
 - (ii) in the case of an NPP or an APC – where the activity or practice is engaged in for the purpose of discharging, directly or indirectly, an obligation under this Agreement, and the activity or practice which is authorised by this Agreement is inconsistent with the NPP or APC;
- (f) to disclose in writing to any person who asks, the content of the provisions of this Agreement (if any) that are inconsistent with an NPP or an APC binding a party to this Agreement;
- (g) to immediately notify the Commonwealth if the Recipient becomes aware of a breach or possible breach of any of the obligations contained in, or referred to in, this clause 22, whether by the Recipient or any subcontractor;
- (h) to comply with any directions, guidelines, determinations or recommendations of the Privacy Commissioner, to the extent that they are not inconsistent with the requirements of this clause 22; and
- (i) to ensure that any employee of the Recipient who is required to deal with personal information for the purposes of this Agreement is made aware of the obligations of the Recipient set out in this clause 22.

22.3 Subcontracts

The Recipient must ensure that any subcontract entered into for the purpose of fulfilling its obligations under this Agreement contains provisions to ensure that the subcontractor has the same awareness and obligations as the Recipient has under this clause 22, including the requirement in relation to subcontracts.

22.4 Indemnity

The Recipient agrees to indemnify the Commonwealth in respect of any loss or liability suffered or incurred by the Commonwealth which arises directly or indirectly from a breach of any of the obligations of the Recipient under this clause 22, or a subcontractor under the subcontract provisions referred to in clause 22.3.

22.5 Definitions

In this clause 22, the terms 'agency', 'approved privacy code' (APC), 'Information Privacy Principles' (IPPs), and 'National Privacy Principles' (NPPs) have the same meaning as they have in section 6 of the Privacy Act, and 'personal information', which also has the meaning it has in section 6 of the Privacy Act, means:

'information or an opinion (including information or an opinion forming part of a database), whether true or not and whether recorded in a material form or not, about an individual whose identity is apparent, or can reasonably be ascertained, from the information or opinion'.

23. Conflict of interest

23.1 Warranty

The Recipient warrants that, to the best of its knowledge after making diligent inquiry, at the date of signing this Agreement, no Conflict exists or is likely to arise in the performance of its obligations under this Agreement or the Participants Agreement.

23.2 Essential Participants and Other Participants

The Recipient must obtain, in any agreement with an Essential Participant or Other Participant regarding the Activities, a warranty that is equivalent to that given by the Recipient under clause 23.1.

23.3 Notification of a conflict of interest

If, prior to the End Date a Conflict arises, or appears likely to arise, the Recipient must:

- (a) notify the Commonwealth immediately in writing, including steps the Recipient proposes to take to resolve or otherwise deal with the Conflict;
- (b) make full disclosure of all relevant information relating to the Conflict; and
- (c) take such steps as the Commonwealth requires to resolve or otherwise deal with the Conflict.

If the Recipient fails to notify the Commonwealth under this clause 23.3, or the Recipient is unable or unwilling to resolve or deal with the Conflict as required, the Commonwealth may, without limiting any of its other rights under this Agreement or at law, exercise its rights to reduce, suspend or terminate Commonwealth Funding, under clause 27 [Termination, Suspension and Reduction].

24. Books and records

24.1 Recipient to keep books and records

The Recipient must:

- (a) keep and require its subcontractors to keep adequate books and records, in accordance with Accounting Standards, in sufficient detail to enable:
 - (i) all receipts and payments related to the Activities to be identified and reported in accordance with this Agreement; and

- (ii) the amounts payable by the Commonwealth under this Agreement to be determined; and
- (b) retain and require its subcontractors to retain for a period of seven years after the expiry or termination of this Agreement, all books and records relating to the Activities.

24.2 Costs

The Recipient must bear its own costs of complying with this clause 24.

24.3 Survival

This clause 24 applies for the Agreement Period and for a period of seven years from the expiry or termination of this Agreement.

25. Audit and access

25.1 Right to conduct audits

The Commonwealth or a representative may conduct audits relevant to the performance of the Recipient's obligations under this Agreement. Audits may be conducted of:

- (a) the Assets;
- (b) the Recipient's operational practices and procedures as they relate to this Agreement;
- (c) the accuracy of the Recipient's invoices and Reports;
- (d) the Recipient's compliance with its confidentiality and privacy obligations under this Agreement;
- (e) Material (including books and records) in the possession of the Recipient relevant to the Activities or this Agreement; and
- (f) any other matters determined by the Commonwealth to be relevant to the Activities or this Agreement.

25.2 Access by the Commonwealth

- (a) The Commonwealth may, at reasonable times and on giving reasonable Notice to the Recipient:
 - (i) access the premises of the Recipient to the extent relevant to the performance of this Agreement;
 - (ii) require the provision by the Recipient, its employees, agents or subcontractors of records and information in a data format and storage medium accessible by the Commonwealth by use of the Commonwealth's existing computer hardware and software;
 - (iii) inspect and copy documentation, books and records, however stored, in the custody or under the control of the Recipient, its employees, agents or subcontractors; and
 - (iv) require assistance in respect of any inquiry into or concerning the Activities or this Agreement. For these purposes an inquiry includes any administrative or statutory review, audit or inquiry (whether within or external to the Department), any request for information directed to the Commonwealth, and any inquiry conducted by Parliament or any Parliamentary committee.
- (b) The Recipient must provide access to its computer hardware and software to the extent necessary for the Commonwealth to exercise its rights under this clause 25, and provide

the Commonwealth with any reasonable assistance requested by the Commonwealth to use that hardware and software.

25.3 Conduct of audit and access

The Commonwealth must use reasonable endeavours to ensure that:

- (a) audits performed pursuant to clause 25.1; and
 - (b) the exercise of the general rights granted by clause 25.2 by the Commonwealth,
- do not unreasonably delay or disrupt in any material respect the Recipient's performance of its obligations under this Agreement or its business.

25.4 Costs

Unless otherwise agreed in writing, each party must bear its own costs of any reviews and/or audits.

25.5 Auditor-General and Privacy Commissioner

The rights of the Commonwealth under clause 25.2(a)(i) to 25.2(a)(iii) apply equally to the Auditor-General or a delegate of the Auditor-General, or the Privacy Commissioner or a delegate of the Privacy Commissioner, for the purpose of performing the Auditor-General's or Privacy Commissioner's statutory functions or powers.

25.6 Recipient to comply with Auditor-General's requirements

The Recipient must do all things necessary to comply with the Auditor-General's or his or her delegate's or the Privacy Commissioner's or his or her delegate's requirements, notified under clause 25.2, provided such requirements are legally enforceable and within the power of the Auditor-General, the Privacy Commissioner, or his or her respective delegate.

25.7 No reduction in responsibility

The requirement for, and participation in, audits does not in any way reduce the Recipient's responsibility to perform its obligations in accordance with this Agreement.

25.8 Subcontractor requirements

The Recipient must ensure that any subcontract entered into for the purpose of this Agreement contains an equivalent clause granting the rights specified in this clause 25.

25.9 No restriction

Nothing in this Agreement reduces, limits or restricts in any way any function, power, right or entitlement of the Auditor-General or a delegate of the Auditor-General or the Privacy Commissioner or a delegate of the Privacy Commissioner. The rights of the Commonwealth under this Agreement are in addition to any other power, right or entitlement of the Auditor-General or a delegate of the Auditor-General or the Privacy Commissioner or a delegate of the Privacy Commissioner.

25.10 Survival

This clause 25 applies for the Agreement Period and for a period of seven years from the expiry or termination of this Agreement.

26. Dispute resolution

26.1 No arbitration or court proceedings

If a dispute arises in relation to the conduct of this Agreement (**Dispute**), a party must comply with this clause 26 before starting arbitration or court proceedings except proceedings for urgent

interlocutory relief. After a party has sought or obtained any urgent interlocutory relief, that party must follow this clause 26.

26.2 Notification

A party claiming a Dispute has arisen must give the other parties to the Dispute Notice setting out details of the Dispute.

26.3 Parties to resolve Dispute

During the 14 days after a Notice is given under clause 26.2 (or longer period if the parties to the Dispute agree in writing), each party to the Dispute must use its reasonable efforts through a meeting of CEOs (or their nominees) to resolve the Dispute. If the parties cannot resolve the Dispute within that period, they must refer the Dispute to a mediator if one of them requests.

26.4 Appointment of mediator

If the parties to the Dispute cannot agree on a mediator within seven days after a request under clause 26.3, the chairperson of LEADR or the chairperson's nominee will appoint a mediator.

26.5 Role of mediator and obligations of parties

The role of a mediator is to assist in negotiating a resolution of the Dispute. A mediator may not make a binding decision on a party to the Dispute except if the party agrees in writing. Unless agreed by the mediator and parties, the mediation must be held within 21 days of the request for mediation in clause 26.3. The parties must attend the mediation and act in good faith to genuinely attempt to resolve the Dispute.

26.6 Confidentiality

Any information or documents disclosed by a party under this clause 26:

- (a) must be kept confidential; and
- (b) may only be used to attempt to resolve the Dispute.

26.7 Costs

Each party to a Dispute must pay its own costs of complying with this clause 26. The parties to the Dispute must equally pay the costs of any mediator.

26.8 Termination of process

A party to a Dispute may terminate the dispute resolution process by giving notice to each other party after it has complied with clauses 26.1 to 26.5. Clauses 26.6 and 26.7 survive termination of the dispute resolution process.

26.9 Breach of this clause

If a party to a Dispute breaches clauses 26.1 to 26.8, the other party does not have to comply with those clauses in relation to the Dispute.

27. Termination, Suspension and Reduction

27.1 Reduction

Without limiting any other right or remedy of the Commonwealth, the Commonwealth may reduce the amount of any instalment of the Commonwealth Funding:

- (a) if, in the Commonwealth's opinion, Commonwealth Funding has been spent other than in accordance with this Agreement, by the amount that, in the Commonwealth's opinion, was spent other than in accordance with this Agreement;
- (b) if any Essential Participant Contributions or Other Participant Contributions due to be provided before the date for payment of the instalment have not been provided, by an

amount that represents the same proportion of the total Commonwealth Funding as those Contributions bear to the total Contributions; or

- (c) as otherwise provided in this Agreement until such time as any failure to perform that gave rise to the exercise of the Commonwealth's rights under this clause is remedied.

27.2 Suspension

- (a) Without limiting any other right or remedy of the Commonwealth, the Commonwealth may suspend payment of the Commonwealth Funding (or any part of the Commonwealth Funding) if:
 - (i) any Essential Participant Contributions or Other Participant Contributions due to be provided before the date for payment have not been provided, until those Contributions have been provided;
 - (ii) the Recipient has not provided a Report or Plan due to be provided before the date for payment, until the Report or Plan is provided;
 - (iii) a Report or Plan provided by the Recipient is not accurate or complete, until an accurate and complete replacement Report or Plan is provided;
 - (iv) the Recipient has not achieved a Milestone that was due to be achieved before the date for payment, until the Milestone is achieved;
 - (v) the Recipient has not otherwise undertaken the Activities to the satisfaction of the Commonwealth, until the Recipient remedies its performance;
 - (vi) a certified copy of the Participants Agreement is not provided to the Commonwealth, within 90 days of the Commencement Date; or
 - (vii) as otherwise provided in this Agreement.
- (b) Despite any suspension, the Recipient must continue to perform its obligations under this Agreement.

27.3 Termination and reduction for convenience

- (a) The Commonwealth may, at any time, by notice, terminate this Agreement or reduce the scope of the Activities.
- (b) On receipt of a notice of termination or reduction the Recipient must:
 - (i) take all available steps to minimise loss resulting from that termination or reduction and to protect Commonwealth Material; and
 - (ii) continue to undertake any part of the Activities not affected by the notice.
- (c) If this Agreement is terminated under this clause 27.3 the Commonwealth is liable only for:
 - (i) subject to clause 27.6(a)(i), payments under clause 8 in accordance with this Agreement before the effective date of termination; and
 - (ii) subject to clause 27.3(e), reasonable costs actually incurred by the Recipient and directly attributable to the termination.
- (d) If the scope of the Activities is reduced, the Commonwealth's liability to pay the Commonwealth Funding or to provide Commonwealth Material abates in accordance with the reduction in the Activities.

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- (e) The Commonwealth is not liable to pay costs under clause 27.3(c)(ii) for an amount which would, in addition to any amounts paid or due, or becoming due, to the Recipient under this Agreement, exceed the total Commonwealth Funding payable under this Agreement.
- (f) The Recipient is not entitled to compensation for loss of prospective profits.

27.4 Termination for default

- (a) Without limiting any other rights or remedies the Commonwealth may have against the Recipient arising out of or in connection with this Agreement, the Commonwealth may terminate this Agreement effective immediately by giving notice to the Recipient if:
 - (i) the Recipient breaches a material provision of this Agreement where that breach is not capable of remedy;
 - (ii) the Recipient breaches any provision of this Agreement and fails to remedy the breach within 14 days after receiving notice requiring it to do so;
 - (iii) the Recipient fails to notify the Commonwealth of a Conflict, or in the opinion of the Commonwealth, a Conflict exists which would prevent the Recipient from performing its obligations under this Agreement;
 - (iv) the Recipient is unable to obtain Essential Participant and/or Other Participant Contributions, or obtain them in time to enable completion of the Activities by the End Date;
 - (v) the Commonwealth is satisfied that any statement made in the Recipient's application for funding (if any) is incorrect, incomplete, false or misleading in a way which would have affected the original decision to approve the provision of the Commonwealth Funding; or
 - (vi) an event specified in clause 27.4(c) happens.
- (b) Without limitation, for the purposes of clause 27.4(a)(i), each of the following constitutes a breach of a material provision:
 - (i) breach of warranty under clause 4.2 (Warranties);
 - (ii) breach of clause 10.1, 10.2 or 10.3 (Commonwealth Funding);
 - (iii) breach of or failure to comply with clauses 12 (Monitoring progress and Reporting) and 13 (Performance Reviews);
 - (iv) a failure to comply with clause 14 (Subcontractors and Personnel);
 - (v) a failure to comply with clause 17 (Intellectual Property);
 - (vi) a failure to comply with clause 19 (Insurance);
 - (vii) a failure to comply with clause 21 (Confidentiality and privacy);
 - (viii) a failure to comply with clause 22 (Protection of personal information); and
 - (ix) a failure to notify the Commonwealth of a Conflict under clause 23 (Conflict of interest).
- (c) The Recipient must notify the Commonwealth immediately if:
 - (i) there is any change in the direct or indirect beneficial ownership or control of the Recipient;
 - (ii) the Recipient disposes of the whole or any part of its assets, operations or business other than in the ordinary course of business;

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- (iii) the Recipient ceases to carry on business;
- (iv) the Recipient ceases to be able to pay its debts as they become due;
- (v) proceedings are initiated with a view to obtaining an order for the winding up of the Recipient, or any person convenes a meeting for the purpose of considering or passing any resolution for the winding up of the Recipient;
- (vi) the Recipient applies to come under, the Recipient receives a notice requiring it to show cause why it should not come under, an order has been made for the purpose of placing the Recipient under, or the Recipient otherwise comes under one of the forms of external administration referred to in Chapter 5 of the Corporations Act or Chapter 11 of the Corporations (Aboriginal and Torres Strait Islander) Act 2006 (Cth) or equivalent provisions in State or Territory legislation in relation to incorporated associations;
- (vii) the Recipient being a natural person is declared bankrupt or assigns his or her estate for the benefit of creditors;
- (viii) where the Recipient is a partnership, any step is taken to dissolve that partnership; or
- (ix) anything analogous to an event referred to in clause 27.4(c), (v), (vi), (vii) or (viii) occurs in relation to the Recipient.

27.5 After termination

On termination of this Agreement the Recipient must deal with Commonwealth Material and the Commonwealth's Confidential Information in accordance with this Agreement and otherwise as reasonably directed by the Commonwealth.

27.6 Commonwealth rights

- (a) Without limiting any of the Commonwealth's other rights or remedies, on termination of this Agreement, the Commonwealth:
 - (i) is not obliged to pay to the Recipient any outstanding amount of the Commonwealth Funding, except to the extent that those monies have been legally committed for expenditure by the Recipient in accordance with this Agreement and payable by the Recipient as a current liability (written evidence of which will be required) by the date the Recipient receives the Notice of termination; and
 - (ii) is entitled to recover from the Recipient:
 - (A) any Commonwealth Funding which has not been spent, or legally committed for expenditure by the Recipient in accordance with this Agreement and payable by the Recipient as a current liability (written evidence of which will be required), by the date the Recipient receives the notice of termination; and
 - (B) the amount of any Commonwealth Funding which, in the Commonwealth's opinion, has been spent other than in accordance with this Agreement
- (b) The Commonwealth may give the Recipient a Notice requiring the Recipient to repay to the Commonwealth (or deal with as specified by the Commonwealth) an amount which the Commonwealth is entitled to recover under clause 27.6(a)(ii).
- (c) If the Commonwealth gives a Notice under clause 27.6(b), the Recipient must repay the amount specified in the notice in full (or deal with it as specified by the Commonwealth) within 30 days of the date of the notice.

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27.7 Termination does not affect accrued rights

Termination of this Agreement does not affect any accrued rights or remedies of a party.

28. Survival

The following clauses survive the expiry or termination of this Agreement:

- (a) Clause 9 (GST and Taxes);
- (b) Clause 11 (Repayment);
- (c) Clause 12.2 (Reporting);
- (d) Clause 13.2 (Audit or Evaluation);
- (e) Clause 17 (Intellectual Property);
- (f) Clause 18 (Indemnity);
- (g) Clause 19 (Insurance);
- (h) Clause 20 (Use of CRC Indicia, publicity and support);
- (i) Clause 21 (Confidentiality and privacy);
- (j) Clause 22 (Protection of personal information);
- (k) Clause 24 (Books and records);
- (l) Clause 25 (Audit and access);
- (m) Clause 27.6 (Commonwealth rights); and
- (n) Clause 30.2 (Amounts due to Commonwealth),

together with any provision of this Agreement which expressly or by implication from its nature is intended to survive the expiry or termination of this Agreement.

29. Notices and other communications

29.1 Service of Notices

A Notice must be:

- (a) in writing, in English and signed by a person duly authorised by the sender; and
- (b) hand delivered or sent by prepaid post or facsimile to the recipient's address for Notices specified in item 15 of Schedule 1, as varied by any Notice given by the recipient to the sender.

29.2 Effective on receipt

A Notice given in accordance with clause 29.1 takes effect when it is taken to be received (or at a later time specified in it), and is taken to be received:

- (a) if hand delivered, on delivery;
- (b) if sent by prepaid post, on the second Business Day after the date of posting (or on the seventh Business Day after the date of posting if posted to or from a place outside Australia); or
- (c) if sent by facsimile, when the sender's facsimile system generates a message confirming successful transmission of the entire Notice unless, within eight Business Hours after the transmission, the recipient informs the sender that it has not received the entire Notice,

but if the delivery, receipt or transmission is not on a Business Day or is after 5.00pm on a Business Day, the Notice is taken to be received at 9.00am on the next Business Day.

30. Miscellaneous

30.1 No security

The Recipient must not use any of the following as any form of security for the purpose of obtaining or complying with any form of loan, credit, payment or other interest, or for the preparation of, or in the course of any litigation:

- (a) the Commonwealth Funding;
- (b) this Agreement or any of the Commonwealth's obligations under this Agreement; or
- (c) any Assets or Agreement Material.

30.2 Amounts due to Commonwealth

- (a) Without limiting any other of the Commonwealth's rights or remedies, any amount owned or payable to the Commonwealth (including by way of refund), or which the Commonwealth is entitled to recover from the Recipient, under this Agreement will be recoverable by the Commonwealth as a debt due and payable to the Commonwealth by the Recipient.
- (b) The Commonwealth may set-off any money due for payment by the Commonwealth to the Recipient under this Agreement against any money due for payment by the Recipient to the Commonwealth under this Agreement.

30.3 Ownership of Agreement

All copyright and other Intellectual Property contained in this Agreement remain the property of the Commonwealth.

30.4 Variation

No agreement or understanding varying or extending this Agreement is legally binding upon either party unless the agreement or understanding is in writing and signed by both parties.

30.5 Approvals and consents

Except where this Agreement expressly states otherwise, a party may, in its discretion, give conditionally or unconditionally or withhold any approval or consent under this Agreement.

30.6 Assignment and novation

A party may only assign its rights or novate its rights and obligations under this Agreement with the prior written consent of the other party.

30.7 Costs

Each party must pay its own costs of negotiating, preparing and executing this Agreement.

30.8 Counterparts

This Agreement may be executed in counterparts. All executed counterparts constitute one document.

30.9 No merger

The rights and obligations of the parties under this Agreement do not merge on completion of any transaction contemplated by this Agreement.

30.10 Entire agreement

This Agreement constitutes the entire agreement between the parties in connection with its subject matter and supersedes all previous agreements or understandings between the parties in connection with its subject matter.

30.11 Further action

Each party must do, at its own expense, everything reasonably necessary (including executing documents) to give full effect to this Agreement and any transaction contemplated by it.

30.12 Severability

A term or part of a term of this Agreement that is illegal or unenforceable may be severed from this Agreement and the remaining terms or parts of the terms of this Agreement continue in force.

30.13 Waiver

Waiver of any provision of or right under this Agreement:

- (a) must be in writing signed by the party entitled to the benefit of that provision or right; and
- (b) is effective only to the extent set out in any written waiver.

30.14 Relationship

- (a) The parties must not represent themselves, and must ensure that their officers, employees, agents and subcontractors do not represent themselves, as being an officer, employee, partner or agent of the other party, or as otherwise able to bind or represent the other party.
- (b) This Agreement does not create a relationship of employment, agency or partnership between the parties.

30.15 Governing law and jurisdiction

This Agreement is governed by the law of the Australian Capital Territory and each party irrevocably and unconditionally submits to the non exclusive jurisdiction of the courts of the Australian Capital Territory.

30.16 False or misleading information

Giving false or misleading information is a serious offence. [Note: Under section 137 of the Criminal Code giving false or misleading information to a Commonwealth entity is an offence, but only if the Commonwealth entity took reasonable steps to inform the person of the offence.]

30.17 Compliance with Law and Policy

The Recipient shall in carrying out this Agreement comply with the provisions of any relevant statutes, regulations, by-laws, and requirements of any Commonwealth, State, Territory or local authority. The Recipient specifically acknowledges that:

- (a) Chapter 7 of the Criminal Code provides for offences which attract substantial penalties, including theft of Commonwealth property and other property offences, obtaining property or financial advantage by deception, offences involving fraudulent conduct, bribery, forgery and falsification of documents;
- (b) it is aware that giving false or misleading information is a serious offence under the Criminal Code;
- (c) the publication or communication of any fact or document by a person which has come to their knowledge or into their possession or custody by virtue of the performance of this Agreement (other than a person to whom the Recipient or any Essential Participant is authorised to publish or disclose that fact or document) may be an offence under

section 70 of the Crimes Act 1914, punishment for which may be a maximum of two years imprisonment;

- (d) in respect of data, including personal information, held in connection with this Agreement, any unauthorised and intentional access, destruction, alteration, addition or impediment to access or usefulness of the data stored in any computer in the course of performing this Agreement is an offence under Part 10.7 of the Criminal Code which may attract a substantial penalty, including imprisonment;
- (e) it is aware of the provisions of section 79 of the Crimes Act 1914 relating to official secrets; and
- (f) it is aware of its obligations under the Charter of The United Nations Act 1945 (Cth) and the Charter of United Nations (Anti-Terrorism Measures) Regulations 2002.

Note: More information about the Charter of the United Nations Act 1945 (Cth) and the Charter of United Nations (Anti-Terrorism Measures) Regulations 2002 is available at www.dfat.gov.au.

- (g) The Recipient undertakes with respect to any officer, employee, agent or subcontractor who will have access to documents, materials or information within the meaning of section 79 of the Crimes Act 1914 that prior to having access the officer, employee, agent and subcontractor will first be required by the Recipient to provide the Recipient with an acknowledgment that the officer, employee, agent or subcontractor is aware of the provisions of the section.
- (h) The Recipient must comply with its obligations, if any, under the Equal Opportunity for Women in the Workplace Act 1999.

Note: Information about the Act can be obtained from the Equal Opportunity for Women in the Workplace Agency.

- (i) The Recipient shall, in its dealings with its employees, have due regard to Commonwealth policies on employment, and obligations under relevant occupational health and safety laws.

30.18 Safe and Ethical Research

When research in Australia is conducted on or involving humans or animals, the Recipient, in relation to any such research conducted by it or any of the Participants, must

- (a) ensure that the research complies with, and that it observes, all relevant ethics codes and guidelines adopted by the National Health and Medical Research Council, the Office of the Gene Technology Regulator and all other relevant regulatory agencies operating in Australia and any place in which the research is being conducted being codes and guidelines in force from time to time during the Agreement Period, including requirements to obtain prior approval in writing (including from any relevant ethics committee) that the research to be undertaken is so compliant.
- (b) nominate to the Commonwealth one or several higher education institution(s) or Commonwealth or State research organisation(s) with a relevant ethics committee constituted in accordance with the codes and guidelines referred to in clause 30.18 (a) to oversee all ethical clearances which may be required under those codes and guidelines. The Recipient must notify the Commonwealth of the nomination(s) within 20 Working Days of the Commencement Date and must notify the Commonwealth of changes to the nomination(s) within 20 Working Days of such changes occurring.
- (c) When conducting research in Australia which involves the use of ionising radiation, the Recipient must ensure that persons performing procedures involving ionising radiation are

appropriately trained and hold a relevant current licence from the appropriate State authority.

- (d) Whenever reasonably required by the Commonwealth, the Recipient must promptly furnish to the Commonwealth written evidence of compliance with the requirements of this clause.

30.19 Responsible conduct of research

- (a) The Recipient must ensure that research conducted by it and each Participant conforms to the principles outlined in the following and their successor documents:
 - (i) the NHMRC/ARC/UA Australian Code for the Responsible Conduct of Research (2007); and
 - (ii) if applicable, the NHMRC/ARC/AVCC National Statement on Ethical Conduct in Human Research (2007).
- (b) The Recipient must ensure that it and each Participant:
 - (i) promotes the responsible conduct of research;
 - (ii) maintains high standards of responsible research;
 - (iii) reports research responsibly;
 - (iv) respects all research participants;
 - (v) respects animals used in research;
 - (vi) respects the environment; and
 - (vii) reports research misconduct.
- (c) The Recipient must have, and must ensure that each Participant has, procedures in place for dealing with instances of suspected or alleged research misconduct which are consistent with the documents at clause 30.19(a).



Schedule 1 – Agreement Details

Item number	Description	Reference	Details
1.	Commonwealth	1.1	Commonwealth of Australia as represented by the Department of Industry, Innovation, Science, Research and Tertiary Education Industry House 10 Binara Street Canberra City ACT 2601 ABN 51 835 430 479
2.	Recipient	1.1	CRC for Water Sensitive Cities Ltd Building 74, Clayton Campus Monash University Victoria 3800 ABN: 19 158 409 137
3.	Commonwealth Representative	1.1 and 12.1	General Manager CRC Branch
4.	Recipient Representative	1.1 and 12.1	Professor Tony Wong Chief Executive Officer CRC for Water Sensitive Cities
5.	CRC Indicia	1.1 and 20	The Commonwealth's licence to the Recipient is subject to the conditions set out in any relevant Guidelines issued by the Commonwealth from time to time, and as amended from time to time.
6.	Commencement Date	1.1 and 3	01/07/2012
7.	End Date	1.1 and 3	30/06/2021
8.	Guidelines	1.1 and 4.1	The Cooperative Research Centres Program Guidelines issued by the Commonwealth and as amended from time to time.
9.	Policy and requirements – in addition to clause 30.17, 30.18 and 30.19	4.1	No specific policies
10.	Acknowledgment of support	20	Acknowledgement of support must be made in accordance with any relevant Guidelines issued by the Commonwealth from time to time, and as amended from time to time.
11.	Subcontractors	14.1	Not applicable
12.	Specified Personnel	1.1 and 14	Cheryl Batagol Chair Time commitment 7%

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Item number	Description	Reference	Details
			<p>Shaun Cox (MW) (non-research essential participants nominee) Board member Time commitment 10%</p> <p>Greg David (DW) (non-research essential participants nominee) Board member Time commitment 10%</p> <p>Rob Skinner (Monash) (research essential participants nominee) Board member Time commitment 10%</p> <p>Barry Ball (UQ) (research essential participants nominee) Board member Time commitment 10%</p> <p>Tbc (independent, essential nominee) Board member Time commitment 10%</p> <p>Tbc (local government, other participants nominee) Board member Time commitment 10%</p> <p>Tbc (other participants nominee) Board member Time commitment 10%</p> <p>Tbc (other participants nominee) Board member Time commitment 10%</p> <p>Tony Wong Proposed CEO Time commitment 100%</p> <p>Rebekah Brown Program Leader of RP1 Time commitment 51%</p> <p>Richard Weller Program Leader of RP2 Time commitment 60%</p> <p>Zhiguo Yuan Program Leader of RP3 Time commitment 51%</p> <p>Tbc Program Leader of RP4</p>

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Item number	Description	Reference	Details
			<p>Time commitment 60%</p> <p>Ana Deletic Research hub leader: Melbourne Hub Time commitment 51%</p> <p>Anas Ghadouani Research hub leader: Perth Hub Time commitment 55%</p> <p>Jurg Keller Research hub leader: Brisbane Hub Time commitment 51%</p> <p>Tbc Research hub leader: Singapore Time commitment tbc</p> <p>Brian Head Key Researcher Time commitment 45%</p> <p>David Pannell Key Researcher Time commitment 21%</p> <p>John Thwaites Key Researcher Time commitment 21%</p>
13.	Commonwealth Material	1.1 and 16	Not applicable
14.	Confidential Information	1.1 and 21	<p>Commonwealth Confidential Information:</p> <p>Commonwealth Material. Period of confidentiality: perpetual</p> <p>Recipient Confidential Information</p> <p>Nil</p>

Item number	Description	Reference	Details
15.	Address for Notices	29	<p>Commonwealth: General Manager CRC Branch GPO Box 9839 Canberra ACT 2601 Industry House 10 Binara Street Canberra City ACT 2601 crc.program@innovation.gov.au</p> <p>Recipient: Chief Executive Officer CRC for Water Sensitive Cities PO Box 8000 Monash University LPO Wellington Road Clayton, Victoria 3800 Building 74, Clayton Campus Monash University Victoria 3800 tony.wong@monash.edu</p>

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Schedule 2– Activities

1. Overview (clause 1.1)

The Australian government has made the creation of liveable, sustainable and productive cities a national priority and identified reform of urban water systems as a key goal.

The economic health of our cities and towns are in many ways, either directly or indirectly, influenced by the strategies we adopt in the provision of urban water services. By urban water services, we mean all facets of services including those services beyond the traditional association with water supply, sewerage and drainage (stormwater and groundwater) infrastructure. Specifically, our definition of urban water services includes ecosystem services to the built and natural environment.

The benefits of Water-Sensitive approaches to urban water management are well known but the practical tools required for implementation on a large scale are not currently available. The challenge is that there is no one clearly definable problem and hence no one big solution - there are many small mutually dependent problems involving multiple sectors and disciplines that must be tackled as systems, or as systems within systems. Collaborative efforts across multiple industry and community sectors and across social and biophysical research disciplines are essential to address this very complex and multi-disciplinary problem.

The CRC for Water Sensitive Cities will address the key challenge of ensuring the water services and planning processes in Australian cities and towns can meet the challenges of population growth, and economic and climatic uncertainty. Our end-users, including various departments at all levels of governments, the water sector and the land development sector, recognise that our research will guide capital investments of more than \$100 billion by the Australian water sector and more than \$550 billion of private sector investment in urban development over the next 15 years. It will facilitate orderly and sustainable growth of cities.

The CRC will deliver the planning, technology and decision support tools required to improve the efficiency and effectiveness of urban water systems. To achieve this, the CRC has four complementary research programs, comprising 19 high priority projects. These programs are: (1) Society; (2) Water sensitive urbanism; (3) Future technologies; and (4) Adoption pathways

The CRC will produce a blueprint or “how to” guide to the management of urban water resources for practitioners and developers to apply water sensitive design principles to the planning of urban developments and re-developments; toolkits including novel technology software packages and frameworks that will be instrumental in supporting the delivery of the blueprint; and capacity building and demonstration sites that provide opportunities for urban communities and for the public and private sectors to participate in the development of social and institutional capital associated with the establishment of water sensitive cities.

These outputs will provide support legislative and regulatory reform, investment prioritisation, the design and construction of water sensitive cities, and the education and training of a skilled workforce needed to secure safe, reliable and resilient water supplies for Australia’s towns and cities.

The total expected risk adjusted benefit associated with all CRC for Water Sensitive Cities research programs is \$165,432,960; the expected cost is \$98,522,304; resulting in an expected cost to benefit ratio for the CRC of 1.68.

2. National Research Priorities (clause 1.1)

	NRP Theme	Associated NRP priority goal(s)
Research Program 1 Society	An Environmentally Sustainable Australia	Water - a critical resource
Research Program 2 Water Sensitive Urbanism	An Environmentally Sustainable Australia	Responding to climate change and variability
Research Program 3 Future Technologies	An Environmentally Sustainable Australia	Water - a critical resource
Research Program 4 Adoptive Pathways	An Environmentally Sustainable Australia	Transforming existing industries

3. Milestones (clauses 1.1 and 4.1(d))

3.1 Research Program No. 1 – Society will focus on understanding the social, attitudinal, behavioural, economic and political drivers that will help or hinder the transformations needed to support water sensitive cities. It will deliver governance models, policy tools and practical guidance that will facilitate social, institutional, regulatory and economic reforms that are mutually reinforcing, flexible and easily adapted to different social scales and contexts.

The key activities to be undertaken in Program 1 are:

- establishment and operation of end user stakeholder advisory group to oversee program research activities
- development of new economic analysis tools and methodologies (supported by training manuals) for the valuation of the economic, social and ecological costs/benefits of water sensitive technologies and systems
- conduct of cost/benefit assessments of the new water sensitive technologies developed in Program 3 and cost/benefit assessments of regulatory frameworks developed in Program 1
- conduct of economic modelling of extreme weather events to inform planning for such events by state department, water utilities and local government
- preparation of information sheets targeting a broad 'lay' audience
- conduct of focus groups and large scale surveys to increase understanding of community attitudes and behavioural drivers
- development of a typology of water use contexts and attitudes
- development of a behaviour assessment database where behaviour are assessed for greatest impact on water sensitivity and greater ease of influence
- development of a process for participatory scenario building and piloting of approach in three Australian cities to assist the development of scenarios for water sensitive cities
- development of roadmap for water sensitive transition that focuses on priority behaviours for changing, campaigning/influencing actions and monitoring of progress

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- conduct of multiple stakeholder forums/workshops to gain input into projects and communicate project findings
- literature review of advances in deliberative governance in urban planning, environment and water management
- pilot study of model for deliberative governance/decision making with one or more CRC partner agencies
- development of community water literacy and terminology database
- development of a modelling tool that simulates interactions between social acceptance, urban form, economics and technical feasibility

Output No.	Description	
1.1	Develop guidelines and accompanying tools for the economic assessment of water-sensitive technologies and systems.	
Output Milestones		Due date
1.1.1	A project level stakeholder advisory group, including end users is established	30 June 2013
1.1.2	Establishment of framework and approaches for valuing intangibles from water-supply portfolios and decentralised systems has commenced	30 June 2013
1.1.3	Initial overarching integrated economic assessment framework and associated guidance material released to end users	30 June 2014
1.1.4	Development of integrated economic assessment tools for water-sensitive infrastructure has commenced	30 June 2014
1.1.5	1 st version of integrated economic assessment tools for water-sensitive infrastructure released to CRC participants	30 June 2015
1.1.6	Application of assessment tool on at least two end-user projects has commenced	30 June 2015
1.1.7	Integrated economic assessment results for at least two end-users' water-supply portfolios and decentralised systems are collated and provided to CRC participants	30 June 2016
1.1.8	Refinement of integrated economics of assessment tool for valuation of water-supply portfolios and associated infrastructure following feedback from early adopters training has commenced	30 June 2016
1.1.9	Final guidelines for valuing intangibles from water-supply portfolios and decentralised systems and associated training materials provided to end users	30 June 2016
1.1.10	Development of integrated economics of assessment tool for valuation of water-supply portfolios and associated infrastructure is completed	30 June 2017
1.1.11	Final guidelines for the economic assessment of water-sensitive technologies and systems and associated training materials provided to end users	30 June 2017
1.1.12	A report, endorsed by CRC Essential Participants, outlining recommendations for adoption of the economic assessment of water-	30 June 2017

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	sensitive technologies and systems is provided to planning and water authorities	
1.1.13	Refinement of the economic analysis tool and guidelines in consultation with end users	30 June 2018
1.1.14	Refinement of the economic analysis tool and guidelines in consultation with end users	30 June 2019
1.1.15	Final revised guidelines for economic analysis of water sensitive technologies and systems made available to end users	30 June 2020

Output No.	Description	
1.2	A behaviour assessment database and behavioural roadmap/guidelines/ policy recommendations to support effective behaviour-change strategies.	
Output Milestones		Due date
1.2.1	Consultations with stakeholders, including End users, to identify ideal/new behaviours for reducing individual and collective water footprints have been conducted	30 June 2013
1.2.2	Ideal/new behaviours list for inclusion in behavioural database is completed and endorsed by end users	30 June 2014
1.2.3	Key target audiences for future behaviour change interventions have been identified and are endorsed by end users	30 June 2014
1.2.4	Ideal/new behaviours have been assessed for impact and ease of influence	30 June 2015
1.2.5	A prioritised roadmap of behaviours for change has been developed in consultation with end users	30 June 2016
1.2.6	Development of change strategy guidelines and policy recommendations has commenced, including trialling of key change strategies in pilot	30 June 2016
1.2.7	Behavioural change guidelines and policy recommendations are completed and endorsed by end users	30 June 2017

Output No.	Description	
1.3	Review and assessment reports relating to current regulatory frameworks for Water Sensitive Cities and recommendations for their improvement	
Output Milestones		Due date
1.3.1	A project level stakeholder advisory group, including end users, has been established	31 Dec 2012
1.3.2	A comprehensive literature review focused on establishment of best practice regulatory frameworks has commenced	30 June 2013
1.3.3	Assessment of international governance models for addressing regulatory transition challenges is completed	30 June 2014

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1.3.4	Knowledge requirements for complex strategy development are identified	30 June 2014
1.3.5	Initial stakeholder forums/workshops have been conducted	30 June 2014
1.3.6	Innovation models appropriate for systems at state, regional and local levels are assessed	30 June 2015
1.3.7	First suite of review and assessment reports looking at key issues with existing frameworks and canvassing change options is released to CRC participants for feedback	30 June 2015
1.3.8	Initial recommendations for best-practice governance models for state, regional and local scales are released to end users for feedback	30 June 2016
1.3.9	Stakeholder governance workshops to test evolving frameworks are held	30 June 2016
1.3.10	Recommendations for best-practice governance models for state, regional and local scales are finalised in consultation with stakeholders and accepted by stakeholders	30 June 2017
1.3.11	A cost-benefit analysis of recommended regulatory frameworks has commenced	30 June 2017
1.3.12	Simple and targeted communication outputs to support recommendation adoption are developed in consultation with end users	30 June 2017
1.3.13	A cost-benefit analysis of recommended regulatory frameworks is completed and distributed to end users	30 June 2018

Output No.	Description	
1.4	A new model for risk assessment and risk diversification for the water sector.	
Output Milestones		Due date
1.4.1	A project level stakeholder advisory group is established	30 June 2013
1.4.2	A comprehensive review of current approaches to risk taking and risk management has commenced	30 June 2013
1.4.3	Initial stakeholder forums/workshops are conducted	30 June 2014
1.4.4	Preliminary new models for risk assessment and diversification are developed, in consultation with end users	30 June 2015
1.4.5	Risk assessment and diversification models are tested across state and local levels	30 June 2016
1.4.6	Refined risk assessment and risk diversification models released to end users for feedback	30 June 2017
1.4.7	Revised risk assessment and risk diversification models accepted by end users	30 June 2018
1.4.8	Application of risk assessment and risk diversification models expanded to two additional cities	30 June 2018
1.4.9	Training modules and other communications material to support effective adoption and application of new risk models have been developed in	30 June 2018

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consultation with end users	
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Output No.	Description	
1.5	Socio-technical modelling software package to examine urban water management scenarios. This software tool will enable users to simulate of the interactions between social acceptance, urban form, economics and technical feasibility to examine possible urban water management scenarios.	
Output Milestones		Due date
1.5.1	A framework of the software tool has been designed, in consultation with end users	30 June 2013
1.5.2	Development of economics, biophysical and societal transition modules has commenced	30 June 2014
1.5.3	Development of the initial software package and guidance material has commenced	31 Dec 2014
1.5.4	Initial versions of the economics, biophysical and societal transition modules are finalised	30 June 2015
1.5.5	Software user guide and training material to support beta version published	31 Dec 2015
1.5.6	Beta software package released for testing by end users	31 Dec 2015
1.5.7	Beta testing of software completed and refinement of initial software package in response to feedback from beta testing has commenced	30 June 2017
1.5.8	Incorporation of additional features into software package resulting from Program 1, 2 and 3 outcomes	30 June 2017
1.5.9	Ongoing incorporation of additional features into software package resulting from Program 1, 2 and 3 outcomes	31 Dec 2017
1.5.10	Updated software user guide and training material to support enhanced version additional features into software package resulting from Program 1, 2 and 3 published	30 June 2018
1.5.11	Ongoing incorporation of additional features into software package resulting from Program 1, 2 and 3 outcomes	30 June 2019
1.5.12	Beta testing of enhanced software completed and finalisation of software has commenced	30 June 2019
1.5.13	Beta testing completed and release of comprehensively updated software package and updated training materials to industry for use	30 June 2020

Output No.	Description	
1.6	Database of community water literacy and community-friendly water terminology and recommendations for effective community engagement strategies.	
Output Milestones		Due date
1.6.1	Database framework established in consultation with end users	30 June 2014
1.6.2	Focus groups and expert interviews to establish baseline of community understanding of water terminology and population of database have commenced	30 June 2015
1.6.3	Development of recommendations for effective community engagement has commenced	30 June 2015
1.6.4	Population of database is completed	30 June 2016
1.6.5	Development of effective community engagement framing and message delivery mode completed and experimental testing has commenced	30 June 2016
1.6.6	Testing of effective community engagement framing and message delivery mode completed and recommendations for community engagement strategies/modes is prepared and distributed to CRC Participants for feedback	30 June 2017
1.6.7	Report outlining detailed recommendations for community engagement strategies/modes, endorsed by end users, is completed and distributed to CRC Participants	30 June 2018

Utilisation No.	Description	
U1.1	Early adopters are identified and trained in the usage of new cost/benefit guidelines/tools, and this experience is utilised to ensure tools are adopted more broadly (output 1.1)	
Utilisation Milestones		Due date
U1.1.1	Initial 'early adopter' jurisdiction water and planning departments and water utilities (WA most likely to be early adopter) are identified	30 June 2015
U1.1.2	Training for early adopter staff in use of the guidelines/tools being developed has been delivered	31 Dec 2015
U1.1.3	'beta' guidelines have been trialled in 'early adopter' jurisdiction(s)	30 June 2016
U1.1.4	Final guidelines are used on a sub-set of investment decisions in the early adopter jurisdiction	30 June 2017
U1.1.5	The 'early adopter' jurisdiction has worked in partnership with the CRC to further refine guidelines and associated communications material to facilitate adoption by other jurisdictions	30 June 2017
U1.1.6	A 'fast follower' jurisdiction is identified	30 June 2018

U1.1.7	The 'early adopter' jurisdiction has worked in partnership with the CRC to facilitate adoption by other jurisdictions	30 June 2018
U1.1.8	Training for 'fast-follower1' staff in use of the guidelines/tools has commenced	Dec 2018
U1.1.9	Guidelines in 'early adopter' jurisdiction have expanded so that use is 'standard practice' across investment decision making	30 June 2019
U1.1.10	Final guidelines in 'fast-follower1' jurisdiction are used on a sub-set of investment decisions	30 June 2019
U1.1.11	Final guidelines in 'fast-follower1' jurisdiction are used on a sub-set of investment decisions	30 June 2020
U1.1.12	A further 2 'fast-follower' jurisdictions are identified	30 June 2020
U1.1.13	Training for 'fast-followers 2&3' staff in use of the guidelines/tools has been delivered	Dec 2020
U1.1.14	Final guidelines are used by 'fast-followers 2&3' jurisdictions on a sub-set of investment decisions	30 June 2021
U1.1.15	Guidelines in 'fast follower1' jurisdiction have expanded so that use is 'standard practice' across investment decision making	30 June 2021

Utilisation No.	Description	
U1.2	Outputs 1.2 (behavioural assessment database and behaviour change strategy) is utilised by key end users.	
Utilisation Milestones		Due date
U1.2.1	Workshops with stakeholders, including end users, to identify ideal/new behaviours for reducing individual and collective water footprints in pilot cities are completed	30 June 2013
U1.2.2	Workshop with end users to review and finalise ideal/new behaviours list and key target audiences for future behaviour change interventions in pilot cities is completed	30 June 2014
U1.2.3	Workshop with end users to review and discuss impact and ease of influence of behaviours list is completed	30 June 2015
U1.2.4	Workshops with stakeholders, including end users, to finalise behaviour change roadmap in pilot cities are completed	30 June 2016
U1.2.5	A range of end users communication and engagement activities, including forums and workshops, have been delivered to promote guidelines and recommendations for fostering behaviour for reducing individual and collective water footprints.	30 June 2017
U1.2.6	Targeted communications and training activities are delivered to potential behaviour influencers and initial behaviour change initiatives in pilot cities have commenced	30 June 2017
U1.2.7	Initial pilot behaviour change initiatives in pilot cities have been	30 June 2018

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implemented	
U1.2.8 A range of forums and workshops have been held with end users to promote guidelines and recommendations for fostering behaviour for reducing individual and collective water footprints and lessons learned from implementation of initial pilot initiatives	30 June 2018
U1.2.9 Ongoing communications and training activities are delivered to potential behaviour influencers	30 June 2018
U1.2.10A range of forums and workshops have been held with end users to promote guidelines and recommendations for fostering behaviour for reducing individual and collective water footprints and lessons learned from implementation of initial pilot initiatives	30 June 2019
U1.2.11 Ongoing communications and training activities are delivered to additional potential behaviour influencers	30 June 2019
U1.2.12 Behaviour change initiatives in pilot cities is expanded to new cities	30 June 2019
U1.2.13A range of forums and workshops have been held with end users to promote guidelines and recommendations for fostering behaviour for reducing individual and collective water footprints and lessons learned from implementation in pilot and new cities	30 June 2020
U1.2.14A range of forums and workshops have been held with end users to promote guidelines and recommendations for fostering behaviour for reducing individual and collective water footprints and lessons learned from implementation in pilot and new cities	30 June 2021

Utilisation No.	Description
U1.3	Outputs 1.3 (improved regulatory frameworks) is utilised by key end users.
Utilisation Milestones	Due date
U1.3.1 New regulatory /governance model has been implemented in pilot cities	30 June 2017
U1.3.2 Ongoing implementation support training for governance stakeholders to assist adoption of recommendations is provided	30 June 2018
U1.3.3 At least one additional city is engaged in planning for adoption of regulatory/ governance changes	30 June 2018
U1.3.4 New regulatory practices are becoming embedded as standard practice in pilot cities	30 June 2019
U1.3.5 Ongoing implementation support training for governance stakeholders to assist adoption of recommendations is provided	30 June 2019
U1.3.6 At least one additional city is engaged in planning for adoption of regulatory/ governance changes	30 June 2019
U1.3.7 At least two additional cities have commenced adoption of new regulatory/ governance framework	30 June 2020

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Utilisation No.	Description	
U1.4	Outputs 1.4 (risk assessment and diversification models) is utilised by key end users.	
Utilisation Milestones		Due date
U1.4.1	Pilot of 'beta' risk assessment and diversification models in pilot cities (likely Brisbane, Melb, Perth) has commenced	30 June 2016
U1.4.2	CRC has engaged with stakeholders to build risk management capabilities and encourage broader adoption of risk models	30 June 2017
U1.4.3	Broader changes to risk assessment/ management procedure in pilot cities are implemented	30 June 2018
U1.4.4	Ongoing implementation support training to build stakeholder risk management capability and adopt risk models is provided	30 June 2019
U1.4.5	At least two additional new cities/states are engaged in planning for adoption of risk assessment changes	30 June 2019
U1.4.6	At least two additional new cities/states are implementing recommended risk assessment and diversification model	30 June 2020

Utilisation No.	Description	
U1.5	Outputs 1.5 (socio-technical modelling software) is utilised by key end users.	
Utilisation Milestones		Due date
U1.5.1	Development of software utilisation and adoption plan has commenced	30 June 2015
U1.5.2	Participant workshop(s) on application of beta version of socio-technical model for FY15/16 delivered	30 June 2016
U1.5.3	Participant workshop(s) on application of revised beta version of socio-technical model for FY16/17 delivered	30 June 2017
U1.5.4	At least one end-user has commenced planning for the application of the software in one of its catchments/jurisdiction or precincts	30 June 2017
U1.5.5	Participant workshop(s) on application of enhanced version with additional features into software package resulting from Program 1, 2 and 3 for FY17/18 delivered	30 June 2018
U1.5.6	Development of software utilisation and adoption plan is completed and endorsed by end users	30 June 2018
U1.5.7	At least one end-user has commenced applying the software in their planning function of one of its catchments/jurisdiction or precincts	30 June 2018
U1.5.8	At least one additional end-user has commenced planning for the application of the software in one of its catchments/jurisdiction or precincts	31 Dec 2018
U1.5.9	Participant workshop(s) on application of enhanced version with additional features into software package resulting from Program 1, 2 and 3 for FY18/19 delivered	30 June 2019

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U1.5.10	At least one additional end-user has commenced applying the software in their planning function of one of its catchments/jurisdiction or precincts	30 June 2020
U1.5.11	Participant workshop(s) on application of enhanced version with additional features into software package resulting from Program 1, 2 and 3 for FY19/20 delivered	30 June 2020
U1.5.12	Participant workshop(s) on application of comprehensively updated version of socio-technical model completed	30 June 2021

Utilisation No.	Description	
U1.6	Outputs 1.6 (database of water literacy) is utilised by key end users.	
Utilisation Milestones		Due date
U1.6.1	Participant workshop(s) on development of recommendations for effective community engagement completed	30 June 2016
U1.6.2	At least one CRC Participant has commenced trialling recommended community engagement method and framing and message delivery mode	30 June 2017
U1.6.3	A range of forums and workshops have been held with CRC Participants to promote effective community engagement framing and message delivery mode for promoting water sensitive cities practices for FY16/17	30 June 2017
U1.6.4	A range of forums and workshops have been held with CRC Participants to promote effective community engagement framing and message delivery mode for promoting water sensitive cities practices for FY17/18	30 June 2018
U1.6.5	At two CRC Participants have adopted and applied the recommended community engagement method and framing and message delivery mode	30 June 2019
U1.6.6	A range of forums and workshops have been held with CRC Participants to promote effective community engagement framing and message delivery mode for promoting water sensitive cities practices for FY18/19	30 June 2019
U1.6.7	A range of forums and workshops have been held with CRC Participants to promote effective community engagement framing and message delivery mode for promoting water sensitive cities practices for FY19/20	30 June 2020
U1.6.8	A range of forums and workshops have been held with CRC Participants to promote effective community engagement framing and message delivery mode for promoting water sensitive cities practices for FY20/21	30 June 2021

3.2 Research Program No. 2 - Water Sensitive Urbanism will focus on the influence of urban configurations on resource flows across a range of scales. It will apply green infrastructure and climate responsive design principles to water security, flood protection and the ecological health of terrestrial and aquatic landscapes from whole-of-catchment to street level. It will establish the integrative socio-technical urban planning and design processes that will deliver the practical tools required to improve resilience of Australian urban environments.

The key activities to be undertaken in Program 2 are:

- centred on South East Queensland, Greater Perth, Greater Melbourne and selected regional centres, determination of the water budgets across multiple landscape types that will ensure water security for developing regions
- development of a method for calculating and representing the ecological water footprint of cities
- determination of essential components of an integrated greenspace framework that incorporates natural ecosystems and green infrastructure and links cities to their regional catchments respecting their critical surface and subsurface hydrological conditions
- conduct alternative growth scenarios with regard to climate change and urban growth and assess the pros/cons of each in terms of water security and triple bottom line evaluation
- determine the important ecosystem and hydrological processes supporting urban wetscapes and test methods to reduce negative impacts including nuisance insects and algal blooms
- determine the attributes of vegetative buffer zones and riparian strips needed to support connectivity, provide thermal buffering to aquatic systems and improve water quality
- develop scenarios for the trajectory of urban riparian and buffer zones under climate change and urban growth and evaluate consequences in a risk framework
- determine community and industry attitudes to existing green infrastructure in urban environments and the role for public realm landscapes and develop indicators to measure success of interventions to increase water resilience and ecosystem services
- quantify the potential role of public realm landscape in biodiversity, water management, heat island mitigation, food supply under a range of climate and urban growth scenarios
- benchmarking of current planning, development and public realm practice, in particular regarding infill development, against international best practice
- preparation of a range of planning and development guidelines and change implementation supports based on water sensitive urban design (WSUD) and planning principles

Output No.	Description	
2.1	Scenarios of plausible futures for rapidly growing metropolitan regions that adopt a whole of landscape regional scale outlook that links cities ecologically and hydrologically to their regions	
Output Milestones		Due date
2.1.1	Essential components of an integrated greenspace framework have been determined, in consultation with end users from cities and regional settings	30 June 2014
2.1.2	A methodology for calculation of the ecological water footprints for cities and major regional centres is developed in consultation with end users.	30 June 2015
2.1.3	Development of planning frameworks and guidelines for the long term growth of cities has commenced, in consultation with end users from cities and regional settings	30 June 2015
2.1.4	The methodology for the calculation of ecological water footprints has been applied to real world scenarios in South East Queensland (SEQ), Greater Brisbane, Greater Melbourne and at least two regional centres	30 June 2016
2.1.5	A range of alternative urban growth scenarios for three major cities and regional centres that incorporate future climatic conditions have been	30 June 2016

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	developed, in consultation with end users from cities and regional settings	
2.1.6	Reports on the application of ecological water footprints methodology for cities and major regional centres are provided to end users	31 Dec 2016
2.1.7	A report about growth scenarios and methods for incorporating ecological and water science into statutory planning approaches within each scenario is provided to end users from cities and regional settings	31 Dec 2016
2.1.8	An initial policy 'testbed' model which allows planners/policy makers to test policy impacts under multiple plausible growth scenarios (and associated guidance material) has been provided to end users from cities and regional settings	30 June 2017
2.1.9	Initial support materials for users of the test-bed have been developed	30 June 2017
2.1.10	A report outlining more detailed policy recommendations and planning support materials for long term growth scenarios, endorsed by end users, is released for public information	30 June 2018
2.1.11	The policy 'testbed' model has continued to be refined in consultation with end users	30 June 2019

Output No.	Description	
2.2	Waterway and wetlands health planning and monitoring/management toolkit which provides the ecological and hydrological basis for design and management guidelines for urban waterbodies that fulfil recreational and aesthetic expectations, optimise biodiversity values, meet wastewater disposal/recycling functions and minimise undesired impacts.	
Output Milestones		Due date
2.2.1	Important ecosystem and hydrological processes supporting urban waterscapes at scales ranging from habitats to catchments are determined through conceptual models in consultation with end users (linked to Output Milestone 2.3.1)	30 June 2013
2.2.2	Surveys of community and industry opinion and perception of existing green infrastructure are conducted (linked to Output Milestone 2.3.2)	30 June 2014
2.2.3	Assessment of desirable attributes of possible intervention measures for protection of important ecosystem and hydrological processes in an urban development setting in consultation with end users is completed	30 June 2015
2.2.4	A suite of indicators for the assessment of key interventions for protection of important ecosystem and hydrological processes in an urban development setting have been established (in conjunction with stakeholders and validated in subsequent demonstration sites) (Linke to Output Milestone 2.3.5)	30 June 2016
2.2.5	At least two projects for demonstration of key intervention measures for protection of important ecosystem and hydrological processes identified in consultation with end users (linked to Output Milestone 2.3.4)	30 June 2016
2.2.6	A web portal for information dissemination about protection of important	30 June 2016

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	ecosystem and hydrological processes in an urban development setting has been established	
2.2.7	Reports assessing effectiveness of initial approaches for protection of important ecosystem and hydrological processes in an urban development setting tested are released to end users	30 June 2017
2.2.8	Policy and action guidelines for protection of important ecosystem and hydrological processes in an urban development setting are released to end users for feedback	30 June 2017
2.2.9	Policy and action guidelines for protection of important ecosystem and hydrological processes in an urban development setting finalised and endorsed by end users	30 June 2018
2.2.10	Industry communication materials to support the adoption of policy and action guidelines for protection of important ecosystem and hydrological processes in an urban development setting have been produced in consultation and distributed to end users	30 June 2018
2.2.11	Updated policy and action guidelines for protection of important ecosystem and hydrological processes in an urban development setting following completion of trials in pilot cities released to end users	30 June 2021
2.2.12	Updated industry communication materials to support the adoption of new approaches to protection of important ecosystem and hydrological processes in an urban development setting are developed in consultation with end users	30 June 2021

Output No.	Description	
2.3	Public realm landscape design and management toolkit that provides planning and management guidelines to improve the level of ecosystem services provided by public realm landscapes.	
Output Milestones		Due date
2.3.1	A draft conceptual model of the role of public realm landscape in the water sensitive city is released to end users for feedback (linked to Output Milestone 2.2.1)	30 June 2013
2.3.2	A survey of public and industry opinions of the value and function of public realm landscapes is conducted (linked to Output Milestone 2.2.2)	30 June 2014
2.3.3	A benchmarking report, of current standards and limitations of the role of public realm landscapes in the provision of ecosystem services is delivered and is endorsed by end users	30 June 2015
2.3.4	At least two demonstration projects into improved public realm landscapes have been identified (linked to Output Milestone 2.2.5)	30 June 2016
2.3.5	An evaluation framework for public realm landscapes demonstration projects is agreed by end users (linked to Output Milestone 2.2.4)	30 June 2016
2.3.6	Communication materials to support the adoption of new public realm landscapes approaches are produced in consultation with end users	30 June 2016

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2.3.7	PRL demonstration projects have been evaluated in accordance with end user agreed framework	30 June 2019
2.3.8	A report on the public realm landscapes demonstration projects is released publically	30 June 2020
2.3.9	Revised communication materials to support the adoption of new public realm landscapes approaches are produced following evaluation of demonstration projects and in consultation with end users is completed and distributed to end users	30 June 2020

Output No.	Description	
2.4	An urban infill development design, planning and implementation toolkit to mitigate the negative water run-off loss and urban heat island consequences associated with current infill development practices and thereby reduce barriers to infill development through increasing community acceptance of such development which will in turn reduce planning delays (thereby reducing costs for infill development).	
Output Milestones		Due date
2.4.1	A study on national and international benchmarking of best practice infill development against water sensitive development objectives is delivered to the satisfaction of end users	30 June 2015
2.4.2	A set of goals for and measures of water sensitive infill development are established with stakeholders, including end users	30 June 2015
2.4.3	The development of staged infill development scenarios has commenced in consultation with end users	30 June 2015
2.4.4	An initial infill development toolkit and communication materials to build support for water sensitive infill development are produced and disseminated to end users	30 June 2016
2.4.5	An evaluation framework for infill demonstration projects is developed and issued to end users for feedback	30 June 2016
2.4.6	Demonstration project sites for the application of some identified best infill development practices are confirmed	30 June 2016
2.4.7	Demonstration projects involving water sensitive infill development have commenced	30 June 2017
2.4.8	Communication materials and infill development toolkit are produced in consultation with end users	30 June 2017
2.4.9	An evaluation framework for infill demonstration projects is agreed by end users	30 June 2017
2.4.10	Evaluation of infill demonstration projects in accordance with end user agreed framework have commenced	30 June 2018
2.4.11	Evaluation of infill demonstration projects in accordance with end user agreed framework is completed	30 June 2020

2.4.12	A report on infill demonstration projects is released publically	30 June 2020
2.4.13	Release of revised infill development toolkit incorporating lessons learnt from demonstration projects	30 June 2021

Utilisation No.	Description	
U2.1	Outputs 2.1, 2.2 and 2.3 are utilised by local and state government planning and water authorities.	
Utilisation Milestones		Due date
U2.1.1	Development of project outputs utilisation and adoption plan has commenced	30 June 2015
U2.1.2	At least 2 demonstration projects into key interventions for protection of important ecosystem and hydrological processes and improved public realm landscapes are agreed by end users and have commenced	30 June 2016
U2.1.3	A utilisation and adoption plan for the policy 'test-bed', new approaches to protection of important ecosystem and hydrological processes, and public realm landscapes approaches, has been developed and agreed by stakeholders	30 June 2017
U2.1.4	Policy 'testbed' is being utilised by at least 2 planning authorities and water authorities	30 June 2018
U2.1.5	New approaches for protection of important ecosystem and hydrological processes and improved public realm landscapes have been promoted to a broad range of end users via workshops, forums and other activities (includes sharing of lessons learned from demonstration projects)	30 June 2018
U2.1.6	New approaches for protection of important ecosystem and hydrological processes and improved public realm landscapes have been promoted to a broad range of end users via workshops, forums and other activities (includes sharing of lessons learned from demonstration projects)	30 June 2019
U2.1.7	The policy 'testbed' is becoming standard practice in at least 2 state and local planning and water authorities	30 June 2020
U2.1.8	At least 5 jurisdictions (not involved in demonstrations) are adopting new approaches for protection of important ecosystem and hydrological processes and improved public realm landscapes	30 June 2021

Utilisation No.	Description	
U2.2	Output 2.4 is utilised by consultants, infill developers and local and state government planning authorities.	
Utilisation Milestones		Due date
U2.2.1	Development of a utilisation and adoption plan for new water sensitive	30 June 2015

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	infill approaches has commenced	
U2.2.2	At least 2 demonstration projects involving water sensitive infill development are agreed by end users and have commenced	30 June 2017
U2.2.3	A utilisation and adoption plan for new water sensitive infill approaches is developed and agreed by stakeholders	30 June 2017
U2.2.4	Infill policy is being utilised by at least 2 planning authorities	30 June 2018
U2.2.5	The new infill approaches have been promoted to a broad range of end users via workshops, forums and other strategies (includes dissemination of lessons from demonstration projects)	30 June 2018
U2.2.6	Infill policy is being utilised by at least 2 additional planning authorities	30 June 2019
U2.2.7	The new infill approaches have been promoted to a broad range of end users via workshops, forums and other strategies (includes dissemination of lessons from demonstration projects)	30 June 2019
U2.2.8	The new infill approaches have been promoted to a broad range of end users via workshops, forums and other strategies (includes dissemination of lessons from demonstration projects)	30 June 2020
U2.2.9	At least a further 2 additional jurisdictions (city and regional settings) government has adopted changed infill planning guidelines/practices	30 June 2021

3.3 Research Program No. 3 - Future Technologies will focus on the development and management of highly integrated and multi-functional urban water systems that manage and/or use multiple water sources at a range of scales. It will deliver innovative technologies for: integrative management of the urban water systems; fit-for-purpose production of water; the recovery of energy, nutrients and other valuable materials embedded in urban water; minimising the carbon footprint and ecological impacts of water systems; and maximising the potential multiple beneficial values of urban water services.

The key activities to be undertaken in Program 3 are:

- collect and analyse existing data from systems (graywater, blackwater, groundwater, stormwater, etc) already installed and implemented around Australia to gain learning experience of existing suboptimal systems
- characterise, chemically and biologically, urban stormwater pollution
- build conceptual model for influence of catchment characteristics on stormwater quality and develop monitoring methods and recommendations
- development, demonstration, evaluation and refinement of novel urban water treatment technologies for different sources, scales and development types
- development, demonstration, evaluation and refinement of biological / physical processes to concentrate nutrients and energy from dilute wastewater streams
- development, demonstration, evaluation and refinement of biological/ chemical/physical processes to release and recover nutrients/energy from concentrated wastewater
- develop, calibrate, validate and field test a sedimentation and erosion model for sewer system
- undertake laboratory studies of the corrosion, odour and greenhouse emission impact of decentralised systems on sewers and develop mitigation strategies

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- mathematical modelling of the corrosion, odour and greenhouse emission impact of decentralised systems on sewers and test mitigation strategies
- assess the interactions between decentralised and centralised water infrastructure and develop a modelling and optimisation framework and a range of system optimisation /decision support tools
- develop and optimise biofilter technologies for: the treatment of wastewater and polluted groundwater and enhancement of microclimate and waterway protection; and optimization of managed aquifer recharge for multiple water sources
- develop operational and maintenance regimes for biofilters and prepare adoption guidelines for biofilter technologies that include design and maintenance specifications

Output No.	Description	
3.1	Novel energy-efficient, low-maintenance and cost effective technologies for distributed water production, and associated implementation training and support materials, are developed in consultation with end users.	
Output Milestones		Due date
3.1.1	Characterisation of urban stormwater pollution has commenced	31 Dec 2012
3.1.2	Assessment of data from systems/technologies already in operation (such as grey water, blackwater, groundwater, stormwater, etc) has commenced	31 Dec 2012
3.1.3	Development of validation and monitoring methodologies for technologies for distributed water production has commenced	30 June 2013
3.1.4	Characterisation of urban stormwater pollution is completed to the satisfaction of end users	30 June 2014
3.1.5	Assessment of existing systems/technologies already in operation is completed to the satisfaction of end users	30 June 2014
3.1.6	Development of first batch of novel technologies for distributed water production has commenced	30 June 2014
3.1.7	Validation and monitoring methodologies for first batch of novel technologies for distributed water production are completed and are endorsed by end users	31 Dec 2014
3.1.8	Preliminary cost/benefit analysis of first batch technologies is completed	31 Dec 2014
3.1.9	First 'stage gate' review of technologies to prioritise project resources to highest potential technologies is completed	31 Dec 2014
3.1.10	Development of first batch of novel technologies for distributed water production is completed	30 June 2015
3.1.11	Testing, validation of refinement of first batch of technology prototypes is completed	30 June 2016
3.1.12	Cost/benefit assessment of first batch technologies is completed	30 June 2016
3.1.13	Training, implementation and operation support materials for first batch of technologies ready for implementation is complete	30 June 2016

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3.1.14	Development of second batch of novel technologies for distributed water production has commenced	30 June 2016
3.1.15	Validation and monitoring methodologies for second batch of novel technologies for distributed water production are completed and are endorsed by end users	31 Dec 2016
3.1.16	Preliminary cost/benefit analysis of second batch technologies is completed	31 Dec 2016
3.1.17	Further testing, validation of refinement of first batch of technology prototypes in preparation for field application is completed	30 June 2017
3.1.18	Second batch of novel technologies for distributed water production is developed	30 June 2017
3.1.19	Testing, validation of refinement of second batch of technology prototypes in preparation for field application is completed	30 June 2018
3.1.20	Cost/benefit assessment of second batch technologies is completed	30 June 2018
3.1.21	Training, implementation and operation support materials for second batch of technologies ready for implementation is complete	30 June 2018
3.1.22	Documentation of further testing, validation and refinement of first batch technologies for demonstration projects completed and issued to CRC Participants	31 Dec 2018
3.1.23	Demonstration projects to showcase and evaluate performance of first batch technologies are completed and documented	30 June 2019
3.1.24	Further testing, validation of refinement of second batch of technology prototypes in preparation for field application completed	30 June 2019
3.1.25	Demonstration projects to showcase and evaluate performance of second batch technologies is completed and documented	30 June 2020
3.1.26	Documentation of performance of novel technologies in demonstration projects, associated project learnings and refinement of design guidelines for these technologies completed and distributed to CRC participants.	30 June 2021

Output No.	Description	
3.2	Cost-effective technology for the recovery of resources (e.g. energy and phosphorous) from waste-water. These technologies will include: biological and physical processes (e.g. Algae, Microbial accumulation, Physical separation) to concentrate nutrients and energy for dilute wastewater streams; biological and physical processes (e.g. anaerobic digestion) to release and recover nutrients and energy from concentrated wastewater streams; chemical and physical processes to recover nutrient streams as high-value substitutes to existing commercial nutrient products.	
Output Milestones		Due date
3.2.1	Project planning and establishment of technology assessment stage gate review system, agreed by CRC participants and end users, is complete	30 June 2014
3.2.2	Concurrent research projects into concentration, release and recovery of	30 June 2015

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	nutrients and energy from wastewater streams have commenced	
3.2.3	Preliminary cost/benefit analysis of first batch technologies is completed	31 Dec 2015
3.2.4	A first 'stage gate' technology review to reprioritise project resources to highest potential technologies has been conducted	31 Dec 2015
3.2.5	First batch of technology prototypes for concentration, release and recovery are developed	30 June 2017
3.2.6	Cost/benefit assessment of first batch technologies is completed	30 June 2017
3.2.7	Pilot-scale projects for first batch of technologies for concentration, release and recovery are complete	30 June 2018
3.2.8	Work on the second batch of technology development projects has commenced	30 June 2018
3.2.9	Preliminary cost/benefit analysis of second batch technologies is completed	31 Dec 2018
3.2.10	A second 'stage gate' technology review to reprioritise project resources to highest potential technologies has been conducted	31 Dec 2018
3.2.11	First batch of technologies (and implementation support materials) have been transferred to end users for application and further development	31 Dec 2018
3.2.12	Second batch technology prototypes for concentration, release and recovery are developed	30 June 2020
3.2.13	Cost/benefit assessment of second batch technologies is completed	30 June 2020
3.2.14	Pilot-scale projects for second batch of technologies for concentration, release and recovery are complete	30 June 2021
3.2.15	Second batch of technologies (and implementation support materials) have been transferred to end users for application and further development	30 June 2021
3.2.16	Evaluations of effectiveness of implemented technologies are complete	30 June 2021

Output No.	Description
3.3	Knowledge and models for decision support for the protection of centralised wastewater collection/treatment systems.
Output Milestones	Due date
3.3.1	A project plan for the development of strategies for protection of centralised wastewater collection and treatment systems is completed and is endorsed by end users
3.3.2	Conceptual model of sedimentation and erosion in sewers is developed
3.3.3	Laboratory studies of corrosion, odour and greenhouse emission impacts of decentralised systems have commenced
3.3.4	Laboratory studies of sedimentation and corrosion, odour and greenhouse emission impacts of decentralised systems are completed

3.3.5	Preliminary cost/benefit analysis of in-sewer sediment reduction technology is completed	30 June 2016
3.3.6	Field testing of in-sewer sediment reduction technology has commenced	30 June 2016
3.3.7	Mathematical modelling of corrosion, odour and greenhouse gas impacts is completed	31 Dec 2016
3.3.8	Development of an optimisation framework for systems integration is completed	31 Dec 2016
3.3.9	Development of decision support tool for protection of the central wastewater collection/treatment systems has commenced	30 June 2017
3.3.10	Write up of case studies of sedimentation and erosion in sewer model applications is completed	30 June 2017
3.3.11	Phase 2 of project, developing technology that makes active use of storm water to reduce in-sewer sediments, has commenced	30 June 2017
3.3.12	A report outlining recommendations to improve interaction of central and decentralise water systems, endorsed by end users, has been released	30 June 2018
3.3.13	An initial decision support tool for the protection of the central wastewater collection/treatment systems has been released to end users?	30 June 2018
3.3.14	Implementation support materials for the decision support tool have been developed in consultation with end users	30 June 2018
3.3.15	A prototype of technology for in-sewer sediment reduction has been developed	30 June 2018
3.3.16	A cost/benefit analysis of the technology for in-sewer sediment reduction is completed	31 Dec 2018
3.3.17	The decision support tools refined and expanded to incorporate other methods to improve interaction of central and decentralise water systems have been completed and provided to end users for feedback	30 June 2019
3.3.18	Field testing/validation of in-sewer sediment reduction technology is complete	30 June 2019
3.3.19	Further refinement of decision support tools to improve interaction of central and decentralise water systems has been undertaken and final decision support tool provided to end users	30 June 2020

Output No.	Description	
3.4	Technologies for treatment and reuse of multiple water sources within urban landscapes supported by suite of training, design, implementation and operation support materials.	
Output Milestones		Due date
3.4.1	A project plan for development of technologies for treatment and reuse of multiple water sources within urban landscapes is formulated and endorsed by end users	31 Dec 2013

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3.4.2	Research into biofilter optimisation of submerged zone (SZ) for effective nitrogen and phosphorus removal from wastewater and groundwater has commenced	30 June 2014
3.4.3	Research and development of biofilter optimisation for effective nitrogen removal is completed	30 June 2015
3.4.4	Phase one hybrid biofilters development has commenced	30 June 2015
3.4.5	Preliminary cost/benefit analysis of hybrid biofilters technologies is completed	31 Dec 2015
3.4.6	Phase one hybrid biofilter technology 'stage gate' review has been conducted	31 Dec 2015
3.4.7	Field testing/ demonstration of phase one hybrid biofilters is completed	30 June 2017
3.4.8	Cost/benefit analysis of phase one hybrid biofilters is completed	30 June 2017
3.4.9	Phase two hybrid biofilter development projects have commenced	30 June 2017
3.4.10	Design guidelines and specifications of operational and maintenance regimes for phase one hybrid biofilters has been developed	31 Dec 2017
3.4.11	Modelling algorithms for assessing phase one hybrid biofilter system performance have been developed	31 Dec 2017
3.4.12	Preliminary cost/benefit analysis of phase two hybrid biofilter is completed	31 Dec 2017
3.4.13	Phase two hybrid biofilter technology 'stage gate' review has been conducted	31 Dec 2017
3.4.14	Phase one hybrid biofilters (and associated guidance material) have been transferred to end users for application and further refinement	30 June 2018
3.4.15	Field testing /demonstration of phase two hybrid biofilters is completed	30 June 2019
3.4.16	Cost/benefit analysis of phase two hybrid biofilters is completed	30 June 2019
3.4.17	Design guidelines and specifications of operational and maintenance regimes for phase two hybrid biofilters has been developed	31 Dec 2019
3.4.18	Modelling algorithms for assessing phase two hybrid biofilter system performance have been developed	31 Dec 2019
3.4.19	Phase two hybrid biofilters (and associated guidance material) have been transferred to end users for application and further refinement	30 June 2020

Output No.	Description	
3.5	Data analysis tools and information presentation systems to better support urban water system optimisation and achievement of "smart urban water systems".	
Output Milestones		Due date
3.5.1	A project plan for data analysis tools and information presentation systems to better support urban water system optimisation is developed and endorsed by end users	30 June 2013

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3.5.2	Development of sensing protocols and context-aware data stream mining has commenced	31 Dec 2013
3.5.3	Development of multi-objective genetic algorithms for pumping system optimisation has commenced	31 Dec 2014
3.5.4	Assessment of approaches for data analysis tools and information presentation systems to ensure that they balance requirement for high quality information with reasonable deployment and maintenance costs has commenced	30 June 2015
3.5.5	Trialling of initial methods and software for sensing protocols and data mining is complete	31 Dec 2015
3.5.6	Trialling of initial multi-objective genetic algorithms for pumping system optimisation is complete	30 June 2016
3.5.7	Case study reports on effectiveness of approaches data analysis tools and information presentation systems for are published and distributed to CRC Participants	30 June 2016
3.5.8	Initial software and algorithms for pumping system optimisation are provided to end users for application and further refinement	30 June 2017
3.5.9	Guidelines for sensor placement and operational protocols are released to end users for application and further refinement	30 June 2017
3.5.10	Ongoing refinement, testing and demonstration of software and algorithms for pumping system optimisation, in collaboration with end users, has been undertaken	30 June 2018
3.5.11	Ongoing refinement, testing and demonstration of software and algorithms for pumping system optimisation, in collaboration with end users, has been undertaken	30 June 2019
3.5.12	Case study reports on effectiveness of revised software and algorithms for pumping system optimised are released for broader end user comment and endorsement	30 June 2019
3.5.13	Guidelines for sensor placement and operational protocols are finalised and endorsed by end users	30 June 2020

Utilisation No.	Description	
U3.1	Output 3.1 is utilised initially in demonstration projects, then in the broader applications of the urban water management strategy and technologies by CRC industry technology partners (including Australian SMEs), and finally in the installation of new decentralised water production systems within new greenfields urban developments	
Utilisation Milestones		Due date
U3.1.1	A utilisation and adoption plan for output 3.1 is developed in consultation with end users	30 June 2016
U3.1.2	A range of forums and workshops have been held with end users to promote technologies and disseminate results of cost/benefit analysis	30 June 2016

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	undertaken and lessons learned for distributed water production	
U3.1.3	First batch of technologies for distributed water production have been applied to two larger scale demonstration projects involving a total of 2000 dwellings (1000 dwellings is the average development project scale)	30 June 2017
U3.1.4	A range of forums and workshops have been held with end users to promote technologies and disseminate results of updated cost/benefit analysis undertaken and lessons learned for distributed water production	30 June 2017
U3.1.5	Agreements with end users are in place that ensure prototype technologies will be transferred to the end user organisations for further development and demonstration	30 June 2017
U3.1.6	A range of forums and workshops have been held with end users to promote technologies and disseminate results of updated cost/benefit analysis undertaken and lessons learned for distributed water production	30 June 2018
U3.1.7	Additional agreements with end users are in place to secure subsequent batches of prototypes can be transferred and further developed by end users	30 June 2018
U3.1.8	A range of forums and workshops have been held with end users to promote technologies and disseminate results of updated cost/benefit analysis undertaken and lessons learned for distributed water production	30 June 2019
U3.1.9	There is evidence that at least 2 jurisdictions, that were not involved in demonstration projects will adopt the novel approaches to distributed water production developed in output 3.1	30 June 2019
U3.1.10	Continue roll-out of technologies at implementation project(s) of at least a total of 2000 dwellings involving reduction in the demand for conventional potable water supply augmentation by 190ML per annum (95ML per 1000 dwellings)	30 June 2019
U3.1.11	Continued roll out of technologies at implementation project(s) for decentralised fit-for-purpose water production directed at savings of 190ML of conventional potable mains water per annum	30 June 2020
U3.1.12	Continued roll out of technologies at implementation projects for decentralised fit-for-purpose water production directed at savings of 190ML of conventional potable mains water per annum	30 June 2021

Utilisation No.	Description	
U3.2	Output 3.2 is initially applied to smaller demonstration wastewater treatments plants, and then is more broadly adopted by various jurisdictions across Australia	
Utilisation Milestones		Due date
U3.2.1	A utilisation and adoption plan for output 3.2 is developed in consultation with end users	30 June 2016
U3.2.2	Agreements with end users are in place that ensure prototype technologies will be transferred to the end user organisations for further development and demonstration	30 June 2016

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U3.2.3	A range of forums and workshops have been held with end users to promote and disseminate the lessons learned for concentration, release and recovery technologies	30 June 2017
U3.2.4	A range of forums and workshops have been held with end users to promote and disseminate the lessons learned for concentration, release and recovery technologies	30 June 2018
U3.2.5	Demonstration plant 1 (up to 25,000 person capacity) fitted with technology	30 June 2018
U3.2.6	Agreements with different end users are in place that ensure prototype technologies will be transferred to end user organisations for further development and demonstration	30 June 2018
U3.2.7	Demonstration plant 2 (up to 25,000 person capacity) fitted with technology	30 June 2019
U3.2.8	A range of forums and workshops have been held with end users to promote and disseminate the lessons learned for concentration, release and recovery technologies	30 June 2019
U3.2.9	A range of forums and workshops have been held with end users to promote and disseminate the lessons learned for concentration, release and recovery technologies	30 June 2020
U3.2.10	There is evidence that new technologies for the concentration, release and recovery of energy and nutrients from waste water will be adopted by at least 2 jurisdictions that were not involved in the demonstration projects	30 June 2021

Utilisation No.	Description	
U3.3	Output 3.3 is utilised by various state water utilities.	
Utilisation Milestones		Due date
U3.3.1	A utilisation and adoption plan for output 3.3 is developed in consultation with end users	30 June 2016
U3.3.2	At least two CRC participant water utilities have allowed field testing of sedimentation and corrosion models	30 June 2016
U3.3.3	A range of forums and workshops have been held with end users to promote and disseminate lessons learned about in-sewer sediment reduction technologies and the decision tool..	30 June 2017
U3.3.4	At least one CRC participant water utility has commenced trial of the beta decision support tool across 5% of its network	30 June 2018
U3.3.5	A range of forums and workshops have been held with end users to promote and disseminate lessons learned about in-sewer sediment reduction technologies and the decision tool.	30 June 2018
U3.3.6	At least one CRC participant water utility has allowed field testing and validation of prototype sewer sediment reduction technologies	30 June 2019

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U3.3.7	There is evidence that at least 2 end users, which were not involved in trials, will adopt in-sewer sediment reduction guidelines and the decision support tool	30 June 2019
U3.3.8	At least one CRC participant water utility has adopted updated decision support tools	30 June 2020
U3.3.9	One CRC participant water utility has commenced adoption of in-sewer sediment reduction guidelines across 5% of its network	30 June 2021

Utilisation No.	Description	
U3.4	Output 3.4 is utilised by consultants (engineering and design), decentralised water system technology manufacturers and service providers, urban land developers, building contractors, local and state planning authorities and water utilities.	
Utilisation Milestones		Due date
U3.4.1	An implementation and utilisation plan for output 3.4 is developed in consultation with end users	31 Dec 2015
U3.4.2	A range of forums and workshops have been held with end users to promote and disseminate lessons learned about hybrid biofilter technology	30 June 2016
U3.4.3	There is an agreement with at least 2 end users for the field testing of prototype 'phase one' hybrid biofilters	30 June 2016
U3.4.4	A range of forums and workshops have been held with end users to promote and disseminate lessons learned about hybrid biofilter technology	30 June 2017
U3.4.5	There is an agreement with at least 2 end users not involved in field tests for the implementation of 'phase one' hybrid biofilters	30 June 2017
U3.4.6	A range of forums and workshops have been held with end users to promote and disseminate lessons learned about hybrid biofilter technology	30 June 2018
U3.4.7	There is an agreement with at least 2 end users for the field testing of prototype 'phase two' hybrid biofilters	30 June 2018
U3.4.8	There is an agreement with at least 2 end users not involved in field test for the implementation of 'phase two' hybrid biofilters	30 June 2019
U3.4.9	At least two additional end users have adopted the validated hybrid biofilter technologies .	30 June 2020

Utilisation No.	Description	
U3.5	Output 3.5, sensor placement and operational protocols and software and algorithms for pumping station optimisation, is utilised by various state water utilities	
Utilisation Milestones		Due date
U3.5.1	Development of a utilisation and adoption plan for output 3.5 has commenced	31 Dec 2014

U3.5.2	Two urban water utilities have agreed to trial initial methods and software	30 June 2015
U3.5.3	A utilisation and adoption plan for output 3.5 is developed in consultation with end users	31 Dec 2015
U3.5.4	At least two urban water utilities have commenced trials of initial methods and software	30 June 2016
U3.5.5	Training of staff within two early adopter urban water utilities is completed	30 June 2017
U3.5.6	At least two urban water utilities have completed their trials and have expanded larger scale testing and demonstration of refined methods and software	30 June 2018
U3.5.7	Training of staff within two additional urban water utilities has commenced	30 June 2018
U3.5.8	Training of staff within two additional urban water utilities is completed	30 June 2019
U3.5.9	At least two urban water utilities (with combined annual water supply of 375GL/annum) move to full scale adoption of the methods and software	30 June 2019
U3.5.10	Ongoing training of staff within adopter urban water utilities for FY19/20 completed	30 June 2020
U3.5.11	Sensor placement and operational protocols and software and algorithms for pumping station optimisation fully operational for at least two urban water utilities are fully operational	30 June 2021
U3.5.12	Ongoing training of staff within adopter urban water utilities for FY20/21 completed	30 June 2021

3.4 Research Program No. 4 - Adoption Pathways will integrate the outputs of all the CRCWSC research programs and make them accessible to and usable by the organisations and individuals responsible for on-the-ground implementation and operation of (water sensitive) urban water systems.

The key activities to be undertaken in Program 4 are:

- establishment of national learning community alliance and web portal. This activity is presently being developed by the International Water Centre and the CRC will contribute to the activities of the community of practice
- key industry participants will cash and in-kind support to accelerate the incubation of the national alliance
- development of educative case studies and demonstration projects at the lot, street, precinct and city scales to build networks between organisations and practitioner skills
- regular information dissemination and discussion forums and workshops including regular speakers forum across Australia to share research insights and outcomes, share industry experiences and learn from international practices
- preparation and distribution of a regular E-newsletter
- preparation and dissemination of a range of fact sheets targeting the spectrum of water stakeholders

- development and delivery (often on site) of tailored practitioner training materials and training workshops to provide learning opportunities for industry partners and other water industry professionals
- analyse Science Policy partnership arrangements (including in Victoria and Queensland) to develop models for building new partnership arrangements
- develop new science Policy partnership arrangements in industry partner jurisdictions (e.g. Western Australia) explore the potential for Science Policy relationships to be established at local government and national government scales ; test and refine partnership model at all three levels of government
- delivery of a suite of PhD, Masters and Graduate Certificate programs for WSC practitioners

Output No.	Description	
4.1	Establishment and operation of national learning community alliance and portal. The Alliance will provide a variety of virtual and face-to-face forums where stakeholders can interact, experiment, exchange information and learn together at a national and local level. The objective of the alliance is to ensure all CRC outputs are utilised by state and local govt agencies; water utilities; technology developers; land developers; consultants; and, the community sector.	
Output Milestones		Due date
4.1.1	A web portal for the Alliance has been established	30 June 2013
4.1.2	An draft communication and engagement program for all CRC Participants has been established and distributed to CRC participants for feedback	30 June 2013
4.1.3	Two workshops where research outputs are disseminated to all CRC Participants for FY12/13 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations.	30 June 2013
4.1.4	A CRC communication and engagement program is finalised and agreed by CRC Participants	31 Dec 2013
4.1.5	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress.	31 Dec 2013
4.1.6	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY13/14 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations.	30 June 2014
4.1.7	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress.	31 Dec 2014
4.1.8	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY14/15 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2015

4.1.9	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress.	31 Dec 2015
4.1.10	A research design workshop to develop the second round of projects to commence in FY16/17 has been successfully convened	30 June 2016
4.1.11	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY15/16 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2016
4.1.12	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress	31 Dec 2016
4.1.13	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY16/17 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2017
4.1.14	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress	31 Dec 2017
4.1.15	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY17/18 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2018
4.1.16	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress	31 Dec 2018
4.1.17	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY18/19 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2019
4.1.18	Two research workshops have been successfully convened together with Stakeholder Advisory sub-committees of each Program to review research progress	31 Dec 2019
4.1.19	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY19/20 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2020
4.1.20	Two workshops where research progress and outputs are disseminated to all CRC Participants for FY20/21 have been convened and CRC Participants successfully engaged in keeping end users abreast with research activities, insights and recommendations	30 June 2021

Output No.	Description	
4.2	Tutorials and industry short-course materials are developed in consultation with end users for practitioner training/upskilling.	
Output Milestones		Due date
4.2.1	A strategy for industry short courses and national/international seminar and conference series is developed in consultation with end users	30 June 2014
4.2.2	Industry short-courses, seminar and conferences have been successfully delivered	30 June 2015
4.2.3	Ongoing refinement and industry short-course, seminar and conferences have been successfully delivered	30 June 2015
4.2.4	Ongoing refinement and industry short-course, seminar and conferences have been successfully delivered	30 June 2016
4.2.5	Ongoing refinement and industry short-course, seminar and conferences have been successfully delivered	30 June 2017
4.2.6	Ongoing refinement and industry short-course, seminar and conferences have been successfully delivered	30 June 2018
4.2.7	Ongoing refinement and industry short-course, seminar and conferences have been successfully delivered	30 June 2019
4.2.8	Ongoing refinement and industry short-course, seminar and conferences have been successfully delivered	30 June 2020

Output No.	Description	
4.3	Establishment of the Water Sensitive Cities Design Institute as a means of engaging with SME, fostering implementation of current best practice and supporting CRC Participants in their current projects.	
Output Milestones		Due date
4.3.1	The business plan for the Water Sensitive Cities Design Institute and the constitution of the Institute in consultation with end users have been finalised	30 June 2013
4.3.2	WSC Design Institute has convened at least one design workshop for a CRC Participant in FY13/14	30 June 2014
4.3.3	At least 10 SME have joined the WSC Design Institute	30 June 2014
4.3.4	WSC Design Institute has convened at least one design workshop for a CRC Participant in FY14/15	30 June 2015
4.3.5	SME membership of the WSC Design Institute has grown by at least 50% in FY14/15	30 June 2015
4.3.6	WSC Design Institute has convened at least one design workshop for a CRC Participant in FY15/16	30 June 2016

4.3.7	SME membership of the WSC Design Institute has grown by at least 25% in FY15/16	30 June 2016
4.3.8	WSC Design Institute has convened at least one design workshop for a CRC Participant in FY16/17	30 June 2017
4.3.9	SME membership of the WSC Design Institute has grown by at least 15% in FY16/17	30 June 2017
4.3.10	WSC Design Institute has convened at least one design workshop for a CRC Participant in FY17/18	30 June 2018
4.3.11	SME membership of the WSC Design Institute has grown by at least 15% in FY17/18	30 June 2018
4.3.12	WSC Design Institute has convened at least one design workshop for a CRC Participant in FY18/19	30 June 2019
4.3.13	SME membership of the WSC Design Institute has grown by at least 15% in FY18/19	30 June 2019
4.3.14	WSC Design Institute has convened at least one design workshop for a CRC Participant in FY19/20	30 June 2020

Output No.	Description	
4.4	PhD, Masters and Graduate Diploma completions (from across whole of CRC activities).	
Output Milestones		Due date
4.4.1	Formulation of cooperation and governance structure for higher degree Water Sensitive Cities courses has commenced	30 June 2013
4.4.2	Enrolment of PhD candidates in relevant universities has commenced	30 June 2013
4.4.3	Market research for new courses demand at Masters and Graduate Diploma levels is completed	31 Dec 2013
4.4.4	First cohort of at least 28 PhD candidates have enrolled in participating universities	30 June 2014
4.4.5	Proposals for new Master and Graduate Diploma modules are completed, agreed by tertiary education institution and arrangements are in place such that students can commence programs from 1 January 2015	31 Dec 2014
4.4.6	First cohort of at least 15 students have commenced new Master or Graduate Diploma modules	30 June 2015
4.4.7	At least 80% of first cohort of Master or Graduate Diploma students have successfully complete their modules	30 June 2016
4.4.8	Second cohort of at least 25 students have commenced new Master or Graduate Diploma modules	30 June 2017
4.4.9	Second cohort of at least 20 PhD candidates have enrolled in participating universities	30 June 2017

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4.4.10	At least 80% of second cohort of Master or Graduate Diploma students have successfully complete their modules	30 June 2018
4.4.11	At least 80% of first cohort of PhD candidates successfully completed	31 Dec 2018
4.4.12	Third cohort of at least 30 students have commenced new Master or Graduate Diploma modules	30 June 2019
4.4.13	At least 80% of Third cohort of Master or Graduate Diploma students have successfully complete their modules	30 June 2020
4.4.14	Fourth cohort of at least 30 students have commenced new Master or Graduate Diploma modules	30 June 2021

Utilisation No.	Description	
U4.1	Output 4.1, 4.2 and 4.3 are utilised by state and local govt agencies; water utilities; technology developers; land developers; consultants; and, the community sector.	
Utilisation Milestones		Due date
U4.1.1	An average attendance of greater than 50 end users in the two CRC Workshops convened in FY12/13	30 June 2013
U4.1.2	An average attendance of greater than 50 end users in the two CRC Workshops convened in FY13/14	30 June 2014
U4.1.3	A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 14/15	30 June 2015
U4.1.4	An average attendance of greater than 50 end users in the two CRC Workshops convened in FY14/15	30 June 2015
U4.1.5	A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 15/16	30 June 2016
U4.1.6	A research design workshop to develop the second round of projects to commence in FY16/17 attended by at least 50% of CRC Participants	30 June 2016
U4.1.7	An average attendance of greater than 50 end users in the two CRC Workshops convened in FY15/16	30 June 2016
U4.1.8	A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 16/17	30 June 2017
U4.1.9	An average attendance of greater than 50 end users in the two CRC Workshops convened in FY16/17	30 June 2017
U4.1.10	A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 17/18	30 June 2018
U4.1.11	An average attendance of greater than 50 end users in the two CRC Workshops convened in FY17/18	30 June 2018
U4.1.12	A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 18/19	30 June 2019
U4.1.13	An average attendance of greater than 50 end users in the two CRC	30 June 2019

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Workshops convened in FY18/19	
U4.1.14 A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 19/20	30 June 2020
U4.1.15 An average attendance of greater than 50 end users in the two CRC Workshops convened in FY19/20	30 June 2020
U4.1.16 A total of at least 200 stakeholders have attended industry short-courses, seminar and conferences in FY 20/21	30 June 2021
U4.1.17 An average attendance of greater than 50 end users in the two CRC Workshops convened in FY20/21	30 June 2021

3.5 Transition Plan

Transition Milestones	Due date
T1.1.1 Provide, to the satisfaction of the Commonwealth, a Preliminary Transition Plan	30 June 2014
T1.1.2 Provide, to the satisfaction of the Commonwealth, a comprehensive and detailed revised Transition Plan	30 June 2015
T1.1.3 Provide, to the satisfaction of the Commonwealth, a revised Transition Plan	30 June 2016
T1.1.4 Provide, to the satisfaction of the Commonwealth, a revised Transition Plan	30 June 2017
T1.1.5 Provide, to the satisfaction of the Commonwealth, a revised Transition Plan	30 June 2018
T1.1.6 Provide, to the satisfaction of the Commonwealth, a revised Transition Plan	30 June 2019
T1.1.7 Provide, to the satisfaction of the Commonwealth, a final Transition Plan	30 June 2020

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Schedule 3 - Commonwealth Funding

1. Funding Period (clauses 1.1 and 8)

The Funding Period, during which the Activities of the Recipient will be supported by the Commonwealth under the CRC Program, is a period of 9 years, commencing on 01/07/2012.

Payment of the Funding will be by quarterly instalments with the first quarter commencing on 01/07/2012 according to the following schedule:

Financial Year	Funding Amount	GST	Total (GST inclusive)	Amount of each Quarterly Instalment (GST inclusive)
2012-13	\$2,398,000	\$239,80	\$2,637,800	\$659,450
2013-14	\$3,715,000	\$371,500	\$4,086,500	\$1,021,625
2014-15	\$6,851,000	\$685,100	\$7,536,100	\$1,884,025
2015-16	\$5,906,000	\$590,600	\$6,496,600	\$1,624,150
2016-17	\$3,815,000	\$381,500	\$4,196,500	\$1,049,125
2017-18	\$3,815,000	\$381,500	\$4,196,500	\$1,049,125
2018-19	\$3,500,000	\$350,000	\$3,850,000	\$962,500
2019-20	\$0	\$0	\$0	\$0
2020-21	\$0	\$0	\$0	\$0
TOTAL	\$30,000,000	\$3,000,000	\$33,000,000	

2. Advance Payment (clauses 1.1 and 8.2)

An advance payment will be payable, according to the following table, on execution of this agreement and on evidence, satisfactory to the Commonwealth, of significant progress having been made in finalising an Essential and Other Participants Agreements and evidence of matching contributions from a Participant.

Financial Year	Funding Amount	GST	Total (GST inclusive)	Amount of each Quarterly Instalment (GST inclusive)
2012-13	\$100,000	\$10,000	\$110,000	Lump sum payment

Schedule 4 - Budget: CRC for Water Sensitive Cities

TABLE 1: IN-KIND CONTRIBUTIONS

TABLE 1a: STAFF

NOTE: When valuing any Shortfall under clause 7, the following full-time equivalent (FTE) dollar amounts will apply to each of the categories of Staff In-Kind Contributions

\$400,000 for Program Leader/ Senior Manager
 \$270,000 for Project/ Theme Leader/ Key Researcher/ Manager
 \$210,000 for Researcher/ Professional
 \$170,000 for Other (support staff - technical, administrative etc.)

NOTE: FTE FIGURES MUST BE ENTERED TO 1 DECIMAL PLACE ONLY

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	GRAND TOTAL
	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE
ESSENTIAL PARTICIPANTS											
Department of Housing WA											
Program Leader/Senior Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Key Researcher/Manager/Project/Theme Leader	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Researcher/Professional	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.9
Other Support Staff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.9
Department of Sustainability and Environment Vic											
Program Leader/Senior Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Key Researcher/Manager/Project/Theme Leader	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Researcher/Professional	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0	6.3
Other Support Staff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0	6.3
Department of Water WA											
Program Leader/Senior Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Key Researcher/Manager/Project/Theme Leader	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Researcher/Professional	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	1.8
Other Support Staff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	1.8
Melbourne Water Corporation											
Program Leader/Senior Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Key Researcher/Manager/Project/Theme Leader	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Researcher/Professional	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	4.5
Other Support Staff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	4.5
Monash University											
Program Leader/Senior Manager	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9.0
Key Researcher/Manager/Project/Theme Leader	2.5	2.5	2.2	1.8	1.2	1.1	1.0	0.7	0.7	0.0	13.7
Researcher/Professional	5.5	5.3	4.7	4.4	2.9	2.5	2.5	0.7	0.7	0.0	29.2
Other Support Staff	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
TOTAL	9.5	9.3	8.4	7.2	5.1	4.6	4.5	2.4	2.4	0.0	53.4
South East Water Limited											
Program Leader/Senior Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Key Researcher/Manager/Project/Theme Leader	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Researcher/Professional	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.9
Other Support Staff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.9
Queensland Urban Utilities											
Program Leader/Senior Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Key Researcher/Manager/Project/Theme Leader	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Researcher/Professional	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.9
Other Support Staff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.9

Schedule 4 - Budget: CRC for Water Sensitive Cities

TABLE 2: PARTICIPANTS' CASH CONTRIBUTIONS, OTHER FIRM CASH AND CRC PROGRAM FUNDING

NOTE: FIGURES MUST BE GST EXCLUSIVE AND ENTERED IN \$'000. FIGURES MUST BE IN WHOLE DOLLARS WITH NO HIC

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	GRAND TOTAL
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
ESSENTIAL PARTICIPANTS' CASH CONTRIBUTIONS											
Department of Housing	150	150	150	150	150	150	150	150	150	0	1,350
Department of Sustainability and Environment	150	350	350	350	350	350	350	350	350	0	2,950
Department of Water	150	150	150	150	150	150	150	150	150	0	1,350
Melbourne Water Corporation	300	300	300	300	300	300	300	300	300	0	2,700
Monash University	650	650	250	250	200	200	200	200	200	0	2,800
Queensland Urban Utilities	120	120	120	120	120	120	120	120	120	0	1,080
South East Water Limited	100	100	100	100	100	100	100	100	100	0	900
University of Queensland	200	200	200	200	200	200	200	200	200	0	1,800
University of Western Australia	200	200	200	200	200	200	200	200	200	0	1,800
TOTAL ESSENTIAL PARTICIPANTS' CASH CONTRIBUTIONS	2,020	2,220	1,820	1,820	1,770	1,770	1,770	1,770	1,770	0	16,730
TOTAL OTHER PARTICIPANTS' CASH CONTRIBUTIONS	1,842	1,142	1,142	1,142	1,142	1,142	1,142	1,112	1,112	0	10,918
OTHER FIRM CASH	0	0	0	0	0	0	0	0	0	0	0
CRC PROGRAM FUNDING	2,398	3,715	6,851	5,906	3,815	3,815	3,500	0	0	0	30,000
TOTAL CASH	6,260	7,077	9,813	8,868	6,727	6,727	6,412	2,882	2,882	0	57,648

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Schedule 4 - Budget: CRC for Water Sensitive Cities

TABLE 3: EXPENSES

NOTE: Expenses are accrual expenses

Employee Expenses include salaries, direct salary on-costs, fellowships and student stipends
 Supplier Expenses include direct and indirect costs of research, such as consumables, conference attendance, training, travel, etc.
 Capital Expenses are assets of a durable nature, the value of which exceeds \$20,000
 Other Expenses include provision for net GST, taxation liabilities, depreciation/amortisation of assets

NOTE: FIGURES MUST BE GST EXCLUSIVE AND ENTERED IN \$'000. FIGURES MUST BE IN WHOLE DOLLARS V

	2012-13 \$'000	2013-14 \$'000	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000	2019-20 \$'000	2020-21 \$'000	2021-22 \$'000	GRAND TOTAL \$'000
Employee Expenses	3,784	5,169	7,138	6,421	5,118	4,434	4,405	1,615	1,643	0	39,727
Supplier Expenses	2,114	2,212	2,524	2,422	1,908	1,856	1,774	1,550	1,561	0	17,921
Capital Expenses	0	0	0	0	0	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0	0	0	0	0	0
TOTAL EXPENSES	5,898	7,381	9,662	8,843	7,026	6,290	6,179	3,165	3,204	0	57,648

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Schedule 4 - Budget: CRC for Water Sensitive Cities

TABLE 4: ALLOCATION OF RESOURCES ACROSS ALL RESEARCH PROGRAMS

NOTE: Grand totals must balance with Tables 1a, 1b and 2

NOTE: Resources for each Research Program must include the full costs of that Research Program, i.e. research, utilisation and administration costs

NOTE: The Annual Report Guidelines will require CRCs to report on the breakdown of expenditure into research, utilisation and administration costs overall

NOTE: \$ FIGURES MUST BE GST EXCLUSIVE AND ENTERED IN \$'000 WITH NO HIDDEN DECIMALS.

NOTE: FTE FIGURES MUST BE ENTERED TO 1 DECIMAL PLACE ONLY

	2012-13			2013-14			2014-15			2015-16			2016-17		
	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)
RP1: Society	1,548	320	7.4	2,075	910	7.3	2,575	1,064	6.4	2,084	681	6.6	1,560	377	5.7
RP2: Water Sensitive Urbanisation	1,567	101	8.9	2,020	101	8.9	2,838	20	8.6	2,614	20	7.5	1,955	12	5.7
RP3: Future Technologies	1,467	0	4.4	1,535	0	4.0	2,228	0	4.2	2,020	0	3.7	1,856	0	3.1
RP4: Adoption Pathways	1,317	99	16.0	1,750	140	9.2	2,021	96	9.3	2,125	96	8.9	1,655	95	7.7
TOTAL	5,899	520	36.7	7,380	1,151	29.4	9,662	1,180	28.5	8,843	797	26.7	7,026	484	22.2

	2017-18			2018-19			2019-20			2020-21			2021-22		
	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)	Cash (\$'000)	Non staff In-kind (\$'000)	In-kind Staff (FTE)
RP1: Society	1,532	478	4.8	1,413	395	4.7	710	81	3.0	724	81	3.0	0	0	0.0
RP2: Water Sensitive Urbanisation	1,726	12	5.7	1,757	12	5.7	710	0	3.0	706	0	3.0	0	0	0.0
RP3: Future Technologies	1,560	0	3.1	1,508	0	3.1	602	0	2.4	616	0	2.4	0	0	0.0
RP4: Adoption Pathways	1,472	96	7.5	1,501	96	7.7	1,144	96	7.6	1,157	96	7.8	0	0	0.0
TOTAL	6,290	586	21.1	6,179	503	21.2	3,166	177	16.0	3,203	177	16.2	0	0	0.0

GRAND TOTALS

Cash (\$'000)	57,648
Non staff In-kind (\$'000)	5,575
In-kind staff (FTE)	218.0

Schedule 5 – Participants List

1. Essential Participants (clause 1.1 and 6)

Name	Organisation Type	ABN	Role
Department of Sustainability and Environment (Vic)	State government	90 719 052 204	End-User
Department of Water (WA)	State government	28 420 443 065	End-User
Melbourne Water Corporation	State government	81 945 386 953	End-User
Monash University	University	12 377 614 012	Research Provider
South East Water Limited (Vic)	Industry / Private Sector	89 066 902 547	End-User
The University of Queensland	University	63 942 912 684	Research Provider
University of Western Australia	University	37 882 817 280	Research Provider
Central SEQ Distributor – Retail Authority trading as Queensland Urban Utilities	Industry / Private Sector	86 673 835 011	End-User

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of

Schedule 6 – Participants Agreement Terms and Conditions

1. Participants Agreement (clause 1.1, 4, 5, 6, 8, 23.1 and 27.2)

The Recipient must ensure that the obligations and liabilities imposed on the Recipient, under this Agreement, that are listed in the first column of the following table are also imposed on the Essential Participants and Other Participants, subject to any exception listed in the third column.


Clause	Description	Exceptions
5.1	Management and Governance of the CRC	A Participant is not required to meet the Recipient's obligations under this clause (unless required under another clause).
5.3, 5.4 & 5.6	Management and Governance of the CRC	
5.5	Management and Governance of the CRC	A Participant is not required to meet the Recipient's obligations under this clause (unless required under another clause) however any obligations in this clause in relation to the CRC are to be included in the Participants Agreement.
6	Essential Participant and Other Participant Requirements	
7	Contributions	
12	Monitoring Progress and Reporting	A Participant is not required to meet the Recipient's obligations to provide any report to the Commonwealth under this clause, but must cooperate with the Recipient and provide information necessary for the making of relevant reports required from the Recipient.
13	Performance Reviews	A Participant is not required to meet the Recipient's obligations regarding reviews, audits or evaluations under this clause, but must cooperate with the Recipient in participating in relevant actions, complying with Notices and providing information.
17	Intellectual Property	The Recipient may allow a Participant to publish Agreement Material if it has a statutory obligation to do so. A Participant is not required to meet the Recipient's obligations under clause 17.1(d).

Clause	Description	Exceptions
19	Insurance	<p>The Recipient may agree that a Participant may self-insure, or be insured with an insurer other than those specified in clause 19.</p> <p>The Recipient may agree to limit a Participant's requirement to insure following expiration of the Funding Period or termination of the CRC.</p>
21	Confidential Information and Privacy	
23	Conflict of Interest	<p>Each Participant is only required to meet the obligations of the Recipient under clause 23.1. Any Conflict declared by a Participant is not considered material where researchers in the Participant organisation conduct research in competition with the CRC if:</p> <p>a) those researchers are not part of the CRC; and</p> <p>b) the researchers have not received confidential information related to the CRC.</p>
25	Audit and Access to Premises and Records	
30.14	Relationship with Commonwealth	
30.17	Compliance with Law and Policy	
30.18	Safe and Ethical Research	
30.19	Responsible Conduct of Research	

Signing page

EXECUTED as an agreement.

Signed for and on behalf of the
**Commonwealth of Australia as
represented by the Department of
Industry, Innovation, Science, Research
and Tertiary Education** by its duly
authorised delegate in the presence of



Signature of witness

Trinity King

Name of witness (print)

←  ←

Signature of delegate

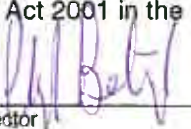
Anthony Munro

Name of delegate (print)

General Manager, CRC Process

Position of delegate (print)

Executed by Water Sensitive Cities Ltd in
accordance with Section 127 of the
Corporations Act 2001 in the presence of



Signature of director

CHERYL BATAOOL

Name of director (print)

←  ←

Signature of director/company secretary/sole director
and sole company secretary
(Please delete as applicable)

GREG DAVIS

Name of director/company secretary/sole director and
sole company secretary (print)

