# Pre Conference Workshop Program: Monday, 19<sup>th</sup> October Dockside Function Centre, Cockle Bay

8.00 am	Delegate Registration
9.00 am	Fundamentals of Erosion and Sediment Control During Construction  Andrew Macleod, SEEC and Michael Frankcombe, Seymour White
9.00 am	The Arithmetic of Erosion Control  Mike Harding, Geosyntec, USA
9.00 am	Urban Waterways – Excellence in Understanding Processes and Rehabilitation Design  Dr Dominic Blackburn and Ross Hardie, Alluvium
10.30 am	Morning Tea
11.00 am	Pre Conference Workshops Continue
12.30 pm	Lunch
1.30 pm	Pre Conference Workshops Continue
2.30 pm	Fundamentals of Erosion and Sediment Control During Construction Workshop concludes
3.00 pm	Afternoon Tea
4.30 pm	The Arithmetic of Erosion Control and Urban Waterways Workshops conclude
6.00 pm – 9.00 pm	IECA Networking Dinner and Harbour Cruise
	Departure Point: Convention Centre Wharf, Darling Harbour. Delegates to arrive at the wharf by no later than 5.45 pm to ensure an on-time departure.

# Pre Conference Workshop Program: Monday, 19<sup>th</sup> October Aerial Function Centre, University of Technology Sydney

8.00 am	Delegate Registration
9.00 am	New Edition of Australian Rainfall and Runoff Workshop
	Presenters:
	Mark Babister, WMA Water
	Associate Professor James Ball, UTS
	Dr Peter Coombes, Urban Water Cycle Solutions
	Professor Ashish Sharma, University of NSW
	Dr Brett C Phillips, Cardno (NSW/ACT)
	Rhys Thomson, Cardno (NSW/ACT)
	Janice Green, Bureau of Meteorology
10.30 am	Morning Tea
11.00 am	Pre Conference Workshop Continues
12.30 pm	Lunch
1.30 pm	Pre Conference Workshop Continues
3.00 pm	Afternoon Tea
5.00 pm	Workshop Concludes
6.00 pm – 9.00 pm	IECA Networking Dinner and Harbour Cruise
	Departure Point: Convention Centre Wharf, Darling Harbour. Delegates to arrive at the wharf by no later than 5.45 pm to ensure an on-time departure.

### Conference Program: Tuesday, 20<sup>th</sup> October

8.00 am	Delegate Registration				
8.45 am	Welcome and Housekeeping				
8.55 am	Conference Opening Richard McManus, Stormwater NSW; Ar	ndrew Macleod, IECA Australasia; Dr Marle	ne van der Steeren, Engineers Australia		
9.15 am	Diamond Conference Sponsor Welcome PGG Wrightson	e			
9.20 am	Keynote Presentation: Creating Resilie Nanco Dolman, Royal HaskoningDHV, Th	nt Airports – A Case Study of Amsterdam' ne Netherlands	s Schiphol Airport		
10.00 am	Keynote Presentation John Wright, T.R.E.E.S. Pty Ltd				
10.40 am	Morning Tea				
	Darling 1 and 2 Quay 1 and 2 Terrace Room Gold Room				
	Darling 1 and 2	Quay 1 and 2	Terrace Room	Gold Room	
Theme	Integrated Water Management into Urban and Rural Planning and Design	Quay 1 and 2  Integrated Water Cycle Management	Terrace Room  Targeting Erosion and Sediment  Control During Construction	Effective governance and regulation at all levels of government	
Theme 11.10 am	Integrated Water Management into	-	Targeting Erosion and Sediment	Effective governance and regulation at	

11.40 am	Design and Delivery of Waterway and Flood Protection Outcomes in the Growth Areas of Melbourne - Providing Multi-function Assets for Our New Communities When Paddocks Become Suburbs  Dennis Corbett Melbourne Water, Melbourne, Victoria, Australia	Integrated Water Management: Assessing the needs of the Victorian Water Industry  Katia Bratieres Clearwater, Melbourne, Australia	Using Relevant Parameters to Design  Dr Rob Loch  Landloch, Queensland, Australia	Stormwater Quality Offsets, an Alternative Pathway to H2olistic Integration?  Emma O'Neill <sup>1</sup> , Paul Dubowski <sup>2</sup> <sup>1</sup> Ipswich City Council, Ipswich, QLD, Australia, <sup>2</sup> BMT WBM Pty Ltd, Brisbane, QLD, Australia
		5 minutes to	change rooms	
12.10 pm	Assessing Riparian Vegetation and Creek Channel Condition in a Rapidly Changing Urban Space: A Case Study from Blacktown LGA  Michael Dean <sup>1</sup> , Carl Tippler <sup>2</sup> <sup>1</sup> Blacktown City Council, Blacktown, NSW, Australia, <sup>2</sup> CTEnvironmental, Sydney, NSW, Australia	Lessons Learnt from Designing and Constructing a \$4million Stormwater Harvesting Scheme  Craig Bush <sup>1</sup> , Mark Liebman <sup>1,2</sup> Blacktown City Council, NSW, Australia, Sustainability Workshop, NSW, Australia	It's More Than One  Bill Gardyne and Dennis Baker Oxbow Consulting, Brisbane, Australia, <sup>2</sup> ESSA, Brisbane, Australia	Transitioning Drainage into Urban Water Cycle Management  Dr Peter Coombes Urban Water Cycle Solutions, NSW, Australia
12.35 pm	Lunch			
	Darling 1 and 2	Quay 1 and 2	Terrace Room	Gold Room
	Integrating Water Management into Urban and Rural Planning and Design	Modelling Techniques, Advances, Challenges and Integration	Water Cycle Management and Water Quality During Construction and Onto Operation	Community Expectations and Influences
1.30 pm	LIFE ON MARS - Designing and Implementing Micro-topographic Relief Systems and Patterns of Biological Accumulation to Replace the Dendritic Drainage Patterns Associated with Conventional Land and Water Management  Peter Stevens, Tim Roberts, Steven Lucas, University of Newcastle, Newcastle, Australia	Characterisation of Stormwater Pollutant Concentrations from various catchment types in South-east Queensland <u>Dr Darren Drapper</u> <sup>1</sup> , Dr Terry Lucke <sup>2</sup> <sup>1</sup> Drapper Environmental Consultants, QLD, Australia, <sup>2</sup> University of the Sunshine Coast, QLD, Australia	Outcomes from ARR that will Benefit the Urban Water Sector  Mark Babister, James Ball, Monique Retallick, WMAwater, Sydney, Australia	Liveability and an Urban Creek: Perspectives and Dreams of Residents Who Are Not Yet  Phillip Birtles <sup>1</sup> , Alan Hoban <sup>2</sup> , Carl Tippler <sup>3</sup> , Ben Shoo <sup>4 1</sup> Sydney Water, Sydney, NSW, Australia, <sup>2</sup> Bligh Tanner, Brisbane, QLD, Australia, <sup>3</sup> CT Environmental, Sydney, NSW, Australia, <sup>4</sup> One Collective, Kyneton, Victoria, Australia

		5 minutes to	change rooms	
2.00 pm	Evolution of Raingarden Design at the City of Sydney  Paul Tatham City of Syndey, NSW, Australia	Climatic Variabilities of Potential Rainwater Savings: A Case Study for Adelaide  Monzur Imteaz, <u>Upendra Paudel</u> , Shirley Gato-Trinidad Swinburne University of Technology, Melbourne, Victoria, Australia	Holistic Water Quality Analysis - Bringing Together ESC and WSUD  Alan Hoban Bligh Tanner, Brisbane, Queensland, Australia	Water Sensitive Project: Educating a Community: The Importance of Stormwater Management and Low Impact Design  Kellie Whisker, Bronwyn Rhynd IPENZ, Auckland, New Zealand
		5 minutes to	change rooms	
2.30 pm	Getting our Ducks in a Row: Taking it from the Top of the Duck River  Rebecca Bell <sup>1</sup> , David Knights <sup>2</sup> Bankstown Council, NSW, Australia,  Alluvium, NSW, Australia	Sedimentation Pond Detailed Deposition using Delft3D  Daniel Niven Cardno, Brisbane, Australia	Concrete or Plants? Sediment and Erosion Control using WSUD Principles  Diana Kureen Central Tablelands Local Land Services, Dubbo, Australia	Community Trust in Construction – Increasing Social Capital within the Warrandyte Sewer Backlog Project  Anna Kosova Yarra Valley Water, Melbourne, Victoria, Australia
		5 minutes to	change rooms	
3.00 pm	Afternoon tea			
	Darling 1 and 2	Quay 1 and 2	Terrace Room	Gold Room
	Operation and maintenance – cost, success stories, challenges and retro-fits	Integrated water management into urban and rural planning and design	Water cycle management and water quality during construction and onto operation	Erosion and Sediment Control
3.30 pm	Investigating the Performance of WSUD Assets in Relation to Design, Construction and Maintenance Practices  Maria Victoria Matamala  RMIT University, Melbourne, Victoria, Australia	Systematic Stormwater Literature Review of the Sydney Region  Beth Sargent WaterNSW, Penrith, NSW, Australia	Field Evaluation of Hydrology and Pollution Removal Performance of Established Bioretention Cells Receiving Street Drainage  Dr Terry Lucke, Peter Nichols Stormwater Research Group, University of the Sunshine Coast, Sippy Downs, Queensland, Australia	Certified Professional in Erosion and Sediment Control (CPESC) Forum

4.00 pm	What Should It Cost To Maintain Stormwater Treatment Systems? A Case Study From ACT Alexa McAuley, David Knights Alluvium Consulting, Sydney, Australia	Exploring the Water-Energy-Food Nexus: Setting a Vision For Urban And Rural Planning In Australia  Dr Peter Breen, Celeste Morgan E2Designlab, Melbourne, VIC, Australia	Treating Greenfield Development Runoff in the Construction and Operational Phases using Floating Wetland Treatment Systems  Christopher Walker <sup>1,2</sup> , Dr Terry Lucke <sup>2</sup> , Damion MacDonald <sup>1</sup> <sup>1</sup> Covey Associates Pty Ltd, Maroochydore, Queensland, Australia, <sup>2</sup> Stormwater Research Group, University of the Sunshine Coast, Sippy Downs, Queensland, Australia	Certified Professional in Erosion and Sediment Control (CPESC) Forum (continued)	
		5 minutes to change rooms			
4.30 pm	Assessing the Performance of Stormwater Treatment Systems in the ACT	Sydney Park Stormwater Harvesting and Reuse Project - A New Benchmark for WSUD	Assessing the Potential Cost Saving Benefits of Floating Wetland Treatment Systems		
	Alexa McAuley <sup>1</sup> , David Knights <sup>1</sup> , David Barratt <sup>2</sup> , Michael Ross <sup>3</sup> <sup>1</sup> Alluvium Consulting, Sydney, Australia, <sup>2</sup> Alluvium Consulting, Canberra, Australia, <sup>3</sup> ACT Government, Canberra, Australia	David Knights <sup>1</sup> , Mike Horne <sup>2</sup> , Adam Hunter <sup>3</sup> , Mia Dalby-Ball <sup>4</sup> , Jenny Turpin <sup>5</sup> <sup>1</sup> Alluvium Consulting, Sydney, Australia, <sup>2</sup> Turf Design, Sydney, Australia, <sup>3</sup> Environmental Partnership, Sydney, Australia, <sup>4</sup> Dragonfly Environmental, Sydney, Australia, <sup>5</sup> Turpin and Crawford, Sydney, Australia	Damion MacDonald <sup>1</sup> , Christopher Walker <sup>1,2</sup> , Terry Lucke <sup>2</sup> <sup>1</sup> Covey Associates Pty Ltd, Maroochydore, Queensland, Australia, <sup>2</sup> University of the Sunshine Coast, School of Science and Engineering, Sippy Downs, Queensland, Australia		
4.55 pm	Conference Close Day 1				
5.00 pm – 7.00 pm	Conference Welcome Reception at Dockside				

#### Conference Program: Wednesday, 21<sup>st</sup> October

8.00 am	Delegate Registration	Delegate Registration			
9.00 am	Welcome and Housekeeping	Welcome and Housekeeping			
9.15 am	Welcome from Conference Gold Spons Ecosol	or			
9.20 am	Keynote Presentation  Michael Harding – Geosyntec				
10.00 am	Morning Tea				
	Darling 1 and 2	Quay 1 and 2	Terrace Room	Gold Room	
	Integrated Water Cycle Management	Stormwater Quality Improvement Devices	Operation and Maintenance – Costs, Success Stories, Challenges and Retrofits	Erosion and Sediment Control	
10.30 am	A Total Water Cycle Management Strategy for an isolated 120 Lot Subdivision  Dr Peter Bacon Woodlots and Wetlands Pty Ltd, Cherrybrook, Australia	SQID Protocol Discussion Forum	Stormwater Reuse to Mitigate Impacts from Increased Runoff Frequenct and Volume  Emma James, Dr Peter Breen, Dr Sara Lloyd, E2Designlab, Lane Cove, Australia	RMS Discussion Forum	
11.00 am	Incorporating Stormwater Improvements into the Milestone Redevelopment of Manly CBD  Garry Neville, Andrew Morris, Richard Andrew, Cardno (NSW/ACT) Pty Ltd, NSW, Australia		5 minutes to change rooms  Treating Greenfield Development Runoff in the Construction and Operational Phases using Floating Wetland Treatment Systems  Damion MacDonald <sup>1</sup> , Christopher Walker <sup>1,2</sup> , Dr Terry Lucke <sup>2</sup> <sup>1</sup> Covey Associates Pty Ltd, Maroochydore, QLD, Australia, <sup>2</sup> University of the Sunshine Coast, Sippy Downs, QLD, Australia		

	5 minutes to change rooms		5 minutes to change rooms	5 minutes to change rooms
11.30 am	Retrofitting the Suburbs - Applying Whole of Water Cycle Management (WWCM) Strategy into an Apartment Development in Inner Melbourne to Improve Climate Resilience lan Adams Organica Engineering, Victoria, Australia	SQID Protocol Discussion Forum Continued	Parsley Bay Catchment Stormwater Harvesting Projects  Rod Ward <sup>1</sup> , Jeff Hill <sup>1</sup> , Chris Munroe <sup>1</sup> , Emma Hawkins <sup>1</sup> , Hugh Williamson <sup>2</sup> , Lars Herngren <sup>2</sup> , Renni Pitkanen <sup>3</sup> , Rex Sullings <sup>4</sup> , Rohan Last <sup>5</sup> <sup>1</sup> Woollahra Municipal Council, Double Bay, NSW, Australia, <sup>2</sup> Henry & Hymas Consulting Engineers, Chatswood, NSW, Australia, <sup>3</sup> Neverstop Water Harvesting, Cromer, NSW, Australia, <sup>4</sup> Aqueduct Consulting, Toukley, NSW, Australia, <sup>5</sup> Environment & Natural Resource Solutions, Shoalhaven, NSW, Australia	Blue Book and White Book Discussion Forum
12.00 noon	5 minutes to change rooms  Stormwater Design and Management in Coastal Environments - Managing and Promoting Groundwater Dependent Ecosystems.  Mark Bayley, Damian McCann AWC, Byron Bay, Australia		5 minutes to change rooms  To be Confirmed	
12.30 pm	Lunch			

	Darling 1 and 2	Quay 1 and 2	Terrace Room	Gold Room	
	Integrating Water Management into Urban and Rural Planning and Design	Advances and Technologies for Effective Water Quality Management	Targeting Erosion and Sediment Control During Construction	Effective Governance and Regulation at all Levels of Government	
1.30 pm	The Biggest and Best Filter – Ecosystem Services from Soil  Declan McDonald  SESL Australia, Victoria, Australia	e Biggest and Best Filter – osystem Services from Soil Using Recycled Materials in Filtration Media		Enabling Waterway Health and Liveability in Sydney  Dan Cunningham, Fernando Ortega Sydney Water, Sydney, NSW, Australia	
		5 minutes to	change rooms		
2.00 pm	The Use of Vetiver Grass for Hedgerows and Erosion Control in the State of Oaxaca, México  Julie Etra  Western Botanical Services Inc, Reno, NV, USA	Development of a Rapid Biofiltration Media Using Local Materials  Michael Hannah <sup>1</sup> , Robyn Simcock <sup>2</sup> , Jing Siong Cheah <sup>1</sup> , Shanyn Curry <sup>1</sup> <sup>1</sup> Stormwater360, Auckland, New Zealand, <sup>2</sup> Landcare Research, Auckland, New Zealand	Developing and Implementing Full Support Systems for Demolition and Rebuild Sites to Effectively Manage Erosion and Sediment on Worksites to Support the Christchurch Earthquake Recovery Programme  Paul Gofton <sup>1,2</sup> , Robert Coulson <sup>1,2</sup> **IRST Environmental Solutions, Christchurch, New Zealand, 2IECA, Australasia, New Zealand	Working With Councils To Achieve Best Practice Stormwater Management  Kristy Good <sup>1</sup> , Shireen Baguley <sup>2</sup> WaterNSW, NSW, Australia, Molino Stewart, NSW, Australia	
		5 minutes to	change rooms	1	

2.30 pm	Biofiltration Soils and Landscape Function - Integrating Hydrologic Functions with Landscaping Aims Simon Leake SESL Australia, Sydney, NSW, Australia	The Effect of Vegetation Selection on Infiltration Rate in Stormwater Bioretention Systems  Tracey Pham <sup>1</sup> , Emily Pham <sup>1</sup> , Tim Fletcher <sup>2</sup> , Belinda Hatt <sup>1</sup> Monash University, Clayton, Victoria, Australia, Melbourne University, Burnley, Victoria, Australia	The Use of Large Mulch Bunds as an Erosion and Sediment Control Tool in Lake Macquarie City Area, NSW  Janine Koppel, Lake Macquarie City Council, Speers Point, NSW, Australia	Water Sensitive Urban Design On The Line  Andrew O'Neill <sup>1</sup> , Amalie Wright <sup>2</sup> , Kristy Gooding <sup>1</sup> , Alan Hoban <sup>3</sup> <sup>1</sup> Healthy Waterways, Spring Hill, Qld, Australia, <sup>2</sup> Landscapology, Spring Hill, Qld, Australia, <sup>3</sup> Bligh Tanner, Fortitude Valley, Qld, Australia			
3.00 pm	Afternoon Tea						
	Darling 1 and 2	Quay 1 and 2	Terrace Room	Gold Room			
	Integrating Water Management into Urban and Rural Planning and Design	Modelling Techniques, Advances, Challenges and Integration	Targeting Erosion and Sediment Control During Construction	Community Expectations And Influences			
3.30 pm	The Influence of Urbanisation on Invertebrate Biodiversity in Stormwater Wetlands  Teresa Jane Mackintosh <sup>1</sup> , Jenny Davis <sup>2</sup> , Ross Thompson <sup>2</sup> <sup>1</sup> Monash University, Melbourne, VIC, Australia, <sup>2</sup> University of Canberra, Canberra, ACT, Australia	Resolving Boundary Conditions in Economic Analysis of Distributed Solutions for Water and Stormwater Management  Dr Peter Coombes <sup>1</sup> , Michael Smit <sup>2</sup> , Garth McDonald <sup>3</sup> <sup>1</sup> Urban Water Cycle Solutions, NSW, Australia, <sup>2</sup> Rainwater Harvesting Association of Australia, Qld, Australia, <sup>3</sup> RH Group, Qld, Australia	The Five Fundamentals for Successful Restoration of Disturbed Lands  Marc Theisen Profile Products LLC, Signal Mountain, Tennessee, USA	Retrofitting Raingardens: Understanding Context and Satisfaction to Guide Streetscape Change  Dr Meredith Dobbie Monash University, Clayton, Victoria, Australia			
		5 minutes to	change rooms				
4.00 pm	Creating Habitat Through WSUD  David Knights, Andrew McMillan  Alluvium Consulting, Sydney,  Australia	Geocentric Decision Support Tool for Optimal Selection and Placement of WSUD Controls <u>Eland Afuang</u> Innovyze, Pty Ltd, Sydney, NSW, Australia	Combining Erosion and Sediment Controls with Rehabilitation Outcomes to Benefit the Operational Life Cycle of the Asset  Scott Black Arrow Energy, Dalby, Australia	Raingardens vs. Car Parking: Competing Interests for Public Space in Sydney's Inner West  Claire Hanley Marrickville Council, Sydney NSW, Australia			
		5 minutes to change rooms					

4.30 pm	Case study: Stormwater Management Using Natural Biofiltration Systems in Restoration of a Degraded Urban Stream: Popes Glen, Blackheath, Blue Mountains, Australia  Alan Lane <sup>2</sup> , Eric Mahony <sup>1</sup> <sup>1</sup> Blue Mountains City Council, NSW, Australia, <sup>2</sup> Popes Glen Bushcare Group, NSW, Australia	To Be Confirmed	To Be Confirmed	Investing in What Matters: Embedding Community Values into Decision Making  Natalie Quinn, Sally Armstrong, Sue Jenkins Sydney Water, Sydney, NSW, Australia
4.55 pm	Conference Close Day 2	,		,
7.00 pm	Conference Dinner incorporating the S After Dinner Speaker: Sir Murray River	Stormwater NSW Awards for Excellence s (aka Bryan Dawe)	and the IECA Awards for Excellence	

#### **Conference Program: Thursday, 22<sup>nd</sup> October**

8.00 am	Delegate Registration				
9.00 am	Welcome and Housekeeping				
9.15 am	Sponsor Welcome				
9.20 am	Keynote Presentation Stephen White, Philadelphia W	ater Department, USA			
10.00 am	Morning Tea				
	Darling 1 and 2	Quay 1	Quay 2	Terrace Room	Gold Room
10.30 am	Stormwater NSW Awards for Excellence Presentations	IECA Awards for Excellence Presentations	Operation and Maintenance: Costs, Success Stories, Challenges and Retrofits	Flood Management and Streamflow – Managing and Designing and Recovering Waterways	Advances and technologies for effective water quality management
10.30 am	Award Winner Presentation	Award Winner Presentation	Auditing Shows Up Mistakes Of The Past: Please Don't Repeat! Murray Powell, Simon Weaver Optimal Stormwater, Chatswood, NSW, Australia	Floodplain Development – Can We Get More Land for Development, Reduce Infrastructure Requirements and Help Our Creeks?  Ray Parsell Sydney Water, Sydney, NSW, Australia	The Use and Verification of Micro Bio-Retention Systems in The United States  James Lenhart <sup>1</sup> , Michael Wicks <sup>2</sup> , Mindy Hills <sup>1</sup> <sup>1</sup> Contech, Portland, Oregon, USA, <sup>2</sup> Stormwater 360, Botany, NSW, Australia
			5 minutes to change rooms		

11.00 am	Award Winner Presentation	Award Winner Presentation	Private Realm WSUD - Blacktown's Pioneering Approach to an IWCM and WSUD Auditing Program  Russell Cadman Blacktown City Council, Blacktown, NSW, Australia	How Robust are OSD and OSR Systems?  Dr Brett C Phillips, Stephen Yu Cardno (NSW/ACT) Pty Ltd, NSW, Australia	Does Pruning Improve Stormwater Biofilter Performance?  Brandon Winfrey <sup>1</sup> , Andrew Mehring <sup>2</sup> , Richard Ambrose <sup>1</sup> , Lisa Levin <sup>2</sup> , Belinda Hatt <sup>3</sup> , Perran Cook <sup>3</sup> <sup>1</sup> University of California Los Angeles, Los Angeles, CA, USA, <sup>2</sup> University of California San Diego, La Jolla, CA, USA, <sup>3</sup> Monash University, Clayton, VIC, Australia
			5 minutes to change rooms	ı	
11.30 am	Award Winner Presentation	AGM – IECA	SQID Function and Performance in SEQ - Lessons Learnt Over The Past Five Years  Mark Bayley <sup>1</sup> , Jesse Munro <sup>1</sup> , Mitchell Cambridge <sup>2</sup> , Damian McCann <sup>1</sup> <sup>1</sup> AWC, Byron Bay, Australia, <sup>2</sup> City of Gold Coast, Nerang, Australia	Future Water Management Targets: Reducing the Quantity of Flow to Waterways  Dr Peter Breen, Celeste Morgan E2Designlab, Melbourne, VIC, Australia	Passive Watering of Landscapes for Stormwater Treatment: Design and Modelling Guidelines  Dr Courtney Henderson, Justine Kinch, Ben Newell AECOM, Fortitude Valley, Australia
	5 minutes to change rooms				

12.00 pm	Award Winner Presentation	AGM – IECA (continued)	Physical Model Testing of Low Flow Bypass Pits for Water Sensitive Urban Roads Christopher Drummond <sup>1</sup> , Brett Miller <sup>1</sup> , Raymond Parsell <sup>2</sup> <sup>1</sup> Water Research Laboratory, UNSW Australia, Sydney, NSW, Australia, <sup>2</sup> Sydney Water Corporation, Sydney, NSW, Australia	Mission to Mars - The Transformation of Mars Creek Rod Wiese Storm Consulting Pty Ltd, NSW, Australia	Advanced Permanent Erosion Control with Pyramid Structured Turf Reinforcement Mats with X3 Technology  Amir Shahkolahi <sup>1</sup> , Jason Crase <sup>2</sup> , Raymond Chow <sup>3</sup> <sup>1</sup> GlobalSynthetics, Brisbane, QLD, Australia, <sup>2</sup> GlobalSynthetics, Brisbane, QLD, Australia, <sup>3</sup> GlobalSynthetics, Sydney, NSW, Australia
12.30 pm	Lunch Darling 1 and 2	Quay 1	Quay 2	Terrace Room	Gold Room
	Integrated Water Cycle Management	Effective governance and regulation at all levels of government	Operation and Maintenance – costs, success stories, challenges and retrofits	Advances and technologies for effective water quality management	Flood management & streamflow – managing and designing and recovering waterways
1.30 pm	Regionalised Design Curves for Rainwater Harvesting: A Case Study for New South Wales, Australia  Dr Ataur Rahman, Cameron Snook, Md Mahmudul Haque University of Western Sydney, Sydney, NSW, Australia	A Comparative Assessment of International WSUD Policy and Implementation Strategies in the Context of Different National Drivers  Katrie Lowe, Dr Courtney Henderson, Alex Yat Fei Wu AECOM, Fortitude Valley, Australia	Sediment Sensitive Cities: An Investigation of Opportunities to Better Manage Sediment in Urban Waterways and Stormwater Control Measures  Dr Geoff Vietz, Glaister Bonnie The University of Melbourne, Victoria, Australia	Is the Concept of WSUD Implementation Really Worth It? - Using Ecosystem Service Values to Determine the Cost Benefit of Improved Stormwater Management.  Tony Weber <sup>1</sup> , Jocelyn Dela- Cruz <sup>2</sup> , Brad Dalrymple <sup>1</sup> , Adrian Volders <sup>3</sup> IBMT WBM Pty Ltd, Brisbane, Qld, Australia, NSW Office of Environment and Heritage, Sydney, NSW, Australia, A R Volders Consulting, Brisbane, Qld, Australia	Stormwater Retention 'At Source' Development Controls – A Key to Successful Urban Creek Rehabilitation Ray Parsell Sydney Water, Sydney, NSW, Australia

			5 minutes to change rooms					
2.00 pm	The Business of Stormwater Harvesting at Blacktown International Sports Park  Mark Liebman <sup>1,2</sup> , Craig Bush <sup>1</sup> Blacktown City Council, NSW, Australia, Sustainability Workshop, NSw, Australia	NSW State Government Interagency Collaboration Reid Butler, Fernando Ortega Sydney Water, Sydney, Australia	Heavy Metals in Stormwater Biofilteration Media: Will They Become a Management Issue?  Mohammed Al-Ameri <sup>1</sup> , Dr Ana Deletic <sup>1</sup> , Belinda Hatt <sup>1</sup> , Professor Tim Fletcher <sup>2</sup> , Sebastien Le Coustumer <sup>3</sup> <sup>1</sup> Department of Civil Engineering, Monash Water for Liveability, Monash University, Melbourne, VIC, Australia, Department of Resource Management and Geography, Melbourne School of Land and Environment, The University of Melbourne, Melbourne, VIC, Australia, Fairfield City Council, Sydney, NSW, Australia	Bribie Lakes: A Case Study in using Floating Wetland Treatment Systems to Treat Urban Runoff  Michael Nielsen <sup>1</sup> , Christopher Walker <sup>2,1</sup> , Darren Drapper <sup>3</sup> , Terry Lucke <sup>1</sup> <sup>1</sup> University of the Sunshine Coast, School of Science and Engineering, Sippy Downs, Queensland, Australia, <sup>2</sup> Covey Associates Pty Ltd, Maroochydore, Queensland, Australia, <sup>3</sup> SPEL Environmental, Carole Park, Queensland, Australia	Restoration of Glenbrook Lagoon from Aquatic Weeds to Rain-gardens in the Blue Mountains, Australia Geoffrey Smith, Christina Day, Eric Mahony Blue Mountains City Council, NSW, Australia			
		5 minutes to change rooms						
2.30 pm	Centralised Potable Water Harvesting in the Suburbs of Melbourne  Karina Mills <sup>1</sup> , David Hamlyn- Harris <sup>1</sup> , Francis Pamminger <sup>2</sup> <sup>1</sup> Bligh Tanner, Fortitude Valley, QLD, Australia, <sup>2</sup> Yarra Valley Water, Melbourne, VIC, Australia	A Systems Framework of Big Data for Analysis of Policy and Strategy  Dr Peter Coombes <sup>1</sup> , Michael Barry <sup>2</sup> <sup>1</sup> Urban Water Cycle Solutions, NSW, Australia, <sup>2</sup> BMT WBM, Qld, Australia	Seven Steps to Integrated Sustainable Weed Management  Jeremy Winer Weedtechnics, Frenchs Forest NSW, Australia		Approaches for Assessing the Flood Impacts of Development during the Strategic Planning Phase  Dr Brett C Phillips, Sabina Lohani Cardno (NSW/ACT) Pty Ltd, NSW, Australia			

3.00 pm	Afternoon Tea	
3.30 pm	Conference Thanks and Prize Draw	
3.40 pm	Conference Close	

### Technical Tour Program: Friday, 23<sup>rd</sup> October

8.00 am	Technical Tour Delegate Registration	
8.30 am	<ul> <li>Technical Tour Departs by Coach. Sites to be visited include:</li> <li>Sydney Park featuring examples of stormwater diversion, harvesting and reuse, wetlands, swales bioretention systems</li> <li>Victoria Park showcasing bioretention systems after 15 years of operation, plans for new stormwater treatment systems</li> <li>Central Park Sydney highlighting the residential development with 10 storey green walls, wastewater treatment and reuse system, stormwater treatment systems.</li> </ul>	
10.15 am	Morning Tea	
10.30 am	Technical Tour Continues	
12.00 pm	Lunch	
1.00 pm	Technical Tour Continues	
3.30 pm	Coaches Return to Departure Location	
4.30 pm	Technical Tour Concludes	