



## Bill Johnson

B.Sc (hons): Civil  
Masters: Civil-Environment

Senior Civil Engineer



Bill is a civil engineer with experience in the water engineering and infrastructure fields. He has skills in water management, drainage, water resources, water quality and flood modelling. He has designed stormwater systems including traditional and Water Sensitive Urban Design elements, pipeline and pumping stations, sedimentation dams, and completed a number of water balance models to determine water yields and supply reliabilities. Bill has developed and reviewed both one and two dimensional flood models using HEC-RAS, XP-SWMM, DRAINS, and TUFLOW software. He has undertaken the hydraulic review of numerous Erosion and Sediment Control Plans and undertaken independent assessments of erosion and sediment control works and advised mitigation measures for poorly functioning erosion and sediment control measures, creek bank erosion and gully erosion.

Bill has developed management skills through the leadership of design teams for various major infrastructure projects. The water professionals achieved multiple project objectives through collaboration and liaison with client representatives and other project specialists. Bill provided guidance, technical direction, coaching and was directly involved preparing proposals, project management and technical supervision.

Bill is SEEC's Senior Civil Engineer and one of our Principal Experts in Surface Water Management, Flood Assessment & Management, Reticulated Water and Sewage and Erosion and Sediment Control.

### Qualifications

- Master of Engineering Science (Civil Engineering — Environment), Queensland University of Technology
- Bachelor of Engineering (Honours) (Civil), Queensland University of Technology
- Certified Professional in Erosion and Sediment Control (CPESC #7508)
- Member of the International Erosion Control Association (IECA)
- Chartered Professional Engineer; National Professional Engineers Register; Registered Professional Engineer of Queensland (RPEQ No. 6728)

### Professional Affiliations

- Engineers Australia: Member;
- Australian Water Association: Member;
- Stormwater Queensland: Committee Member
- International Erosion Control Association: Member

### Areas of Expertise

- Preparation of environmental studies, including Water Cycle Management Plans
- Preparation of Soil and Water Management Plans and Erosion and Sediment Control Plans
- Sewerage Design
- Reticulated Water Design
- MUSIC modelling
- Erosion mitigation and rehabilitation
- Sediment and pollutant control
- Preparation of Surface Water Assessments including surface water harvesting.
- Stormwater management

## 10-Year Career Highlights

### Project Management

- **Toowoomba Second Range Crossing (2017)**, Toowoomba, Qld, Australia, Nexus. Discipline leader — drainage team.
- **Southern Corridor Interchange (2015)**, Auckland, New Zealand, Fulton Hogan. Led drainage team during the tender design.
- **DTMR Metro Drainage Investigation (2013)**, Brisbane, Qld, Australia, Department of Transport and Main Roads. Project Manager and Technical lead.
- **Ipswich Motorway Upgrade (2010)**, Ipswich, Qld, Australia, Department of Main Roads. Discipline leader — drainage team.
- **Airport Link (2007), Brisbane, Qld**, Australia, Thiess – John Holland Joint Venture. Drainage and flooding coordinator.

### Water, surface water and hydraulics

- **Moreton Bay Regional Council PSP Integrated Design Stormwater Management (2014)** Moreton Bay Regional Council. The project included the review and refinement of a DRAFT strategy prepared by Council staff.
- **Toowoomba Regional Council Stormwater Management Strategy (2014)** Toowoomba Regional Council. The project included the development of a strategy to address current legislative requirements and guide the planning and integrated design of stormwater systems within the Toowoomba Regional Council to achieve desired sustainable outcomes that minimise the impact of urban stormwater.
- **Leppington Total Water Cycle Management plan – (commenced August 2012)**, NSW Department of Planning and Infrastructure. Recently commissioned to develop a water cycle management strategy based on Water Sensitive Urban design principles for the Leppington precinct of the South West Growth Centre.
- **Yarrabilba Total Water Cycle Management Strategy Review (2012)**, Urban Land Development Authority (ULDA). Commissioned to review the Yarrabilba Total Water Cycle Management (TWCM) Strategy on behalf of the ULDA.
- **Smiths Street drainage design (2014)** Gold Coast, Qld, Australia, Department of Transport and Main Roads. Drainage Technical lead.
- **Roads and Drainage Standards Review (2012)** Toowoomba Regional Council. The project reviewed Councils current engineering and drainage design standards and benchmarked them against other South East Queensland councils.
- **Blacktown International Sportspark – Stormwater harvesting (2012)**, Blacktown City Council. Option assessment. Provided high level option identification and analysis of various stormwater harvesting options for the Blacktown International Sportspark.

### Water, surface water and hydraulics (cont.)

- **Bunbury Port Access Road – Owners Engineer Independent Review, (2012)**, Main Roads, Western Australia. Undertook a review of the detailed design of the Bunbury Port Access Road drainage system and waterway structures on behalf of Main Roads.
- **City West Water - City of Maribyrnong Stormwater Harvesting Project, (2012)**, Provided high level advice, detailed design and review of four stormwater harvesting projects for City West Water and Maribyrnong City Council.
- **Open channel report for Snowdrop Avenue (2011)**, Aroona, Qld, Australia, Sunshine Coast Regional Council. Project manager. Managed and reviewed the analysis of an existing open channel.
- **Waterproofing the South Stage 2 – Stormwater Harvesting (2011)**, City of Onkaparinga. Project Review. Provided high level advice and detailed design review of stormwater harvesting wetland designs.
- **Brisbane City Council Total Water Cycle Management – Independent certifier (2012)**, Brisbane City Council. Independent Certifier.
- **Aldoga Rail Yard Concept Design, Aurizon, (2013)**. Undertook the supervision and review of a flooding study of Larcom Creek and its tributaries to determine an appropriate elevation to provide the Aldoga Rail Yard, road and rail bridges and culvert structures with adequate flood immunity.
- **Aldoga Rail Yard – Environmental Planning Study, Aurizon, (2013)**. The project involved a review of surface water aspects of the project area and downstream receiving environments.
- **Frankston City Council Water Sensitive Urban Design Guidelines (2011)**, Frankston, Melbourne, Australia. Undertook the review role for the preparation of the Frankston City Council Water Sensitive Urban Design Guidelines.
- **Caloundra to Maroochydore Quality Bus Corridor Impact Management Plan (2008)**, Sunshine Coast, Qld, Australia, TransLink. Project engineer. Assessed proposed transport corridor to determine potential flooding and drainage constraints by reviewing existing flooding reports and driving route.
- **Ipswich Detention Basin Review (2007)**, Ipswich, Qld, Australia, Ipswich City Council. Senior engineer.
- **Matthews Street Stormwater Garden (2007)**, Stafford, Qld, Australia, Brisbane City Council. Project manager and Technical lead. Undertook detailed investigation and design of a stormwater garden (bio-filtration basin).
- **Blackwell Street Residential Development (2007)**, Logan, Qld, Australia, Logan City Council. Project manager and Reviewer. Undertook review of existing rural residential development to determine capacity of existing stormwater management system.

## Water, surface water and hydraulics (cont.)

- **Blackbean Street Detailed Design (2006)**, Logan, Qld, Australia, Logan City Council. Project manager and Technical reviewer. Undertook detailed design of open channel, low-flow pipe and sumps.
- **Coal Haulage Rail Link (2008)**, Moura, Qld, Australia, Queensland Rail (project value: \$341m). Senior engineer. Supervised and reviewed the preliminary culvert and bridge structure design for three different options of a proposed 18-km-long rail line.
- **Blackbutt Range restoration Works (2011-2012)**, Department of Transport and Main Roads, Queensland.

## Flood studies

- **Regency Downs Flood Risk Management Study (2014)**, Plainlands, Qld, Lockyer Valley Regional Council. Acting as the project manager on behalf of Council to facilitate flood modelling and a flood risk assessment for a number of sub-catchments at Regency Downs. I also undertook the review of supplied reports and flood maps to confirm they met the brief requirements and confirmed Council had been supplied with fully working models.
- **Douglas McInnes Drive Culvert and Scour Assessment (2014)**, Laidley, Lockyer Valley Regional Council. The study included the hydrological and hydraulic modelling of the existing network in XP-SWMM and the feasibility of constructing a new pipeline from an existing manhole to an adjacent flowpath which outlets via existing culverts. The adjacent flowpath suffers from erosion with significant erosion downstream of the existing culvert.
- **Overview of Levees for the Provision of Regional Flood Mitigation (2011)**, Ipswich City Council. Project Manager. Managed and reviewed the project into the issues relevant to retrofitting levees in urban areas of Ipswich impacted by flooding from the January 2011 floods.
- **Flood modelling, bridge scour assessment and scour countermeasures design for Waikato Bridge, Ngaruawahia Bypass (2011-2012), New Zealand**. Principal designer for all drainage packages including the flood modelling of the Waikato Bridge that included detailed bridge scour assessment and countermeasures design for the 142m wide bridge with single span of 76.6m between 2 V-shaped piers.
- **Mains Road and Kessels Road Project (2011-2012)**, Queensland. Baulderstone / Parsons Brinckerhoff. Principal Water Engineer. Responsible for the quality of the drainage, water quality and flood modelling for the project.
- **Oxley Creek Flood Study — Substation Review (2005)**, Brisbane, Qld, Australia, Powerlink – Logan City Council. Project manager and Technical lead. Developed RAFTS hydrological and MIKE11 hydraulic model to determine appropriate fill platform levels to provide immunity from 1-in-200 year ARI flood from Oxley creek.
- **Bulahdelah Flood Study — Pacific Highway Upgrade (pre**

## Erosion and Sediment Control

- **Gateway Upgrade North Erosion and Sediment Control Plans (2017)**, Lend Lease. Undertake and RPEQ sign off all hydraulic aspects of the plans. This includes channels, sediment basins, emergency spillways, rock filter dams, etc.
- **Daandine Expansion Project Erosion and Sediment Control Plan, (2015)**, Undertook the hydraulic design of two rock energy dissipaters as part of an Erosion and Sediment Control Plan for the Project.
- **Node 4 Rehabilitation Plan, (2015)**, Moranbah ,Arrow Energy. Strategic Environmental and Engineering Consulting. Undertook the design of the rock lined drainage channel, to prevent excess water running over the pipeline as part of an ESCP and reviewed the rehabilitation drawings from a civil/hydraulic perspective.
- **Warrigal Road Erosion and Sediment Control Plan (2014)**, Brisbane City Council, Qld, Australia. Supervised and reviewed the Erosion and Sediment Control plan for the Warrigal Road extension.
- **Nebo Construction Village Erosion and Sediment Control Plan (2013)**, Pacific National. Supervised and reviewed a conceptual Erosion and Sediment Control Plan (ESCP) for the Nebo Accommodation Village.
- **Sedimentation basin design review – Te Mhi Geothermal Power Project (2011)**, Taupo, New Zealand. Design review of two sedimentation ponds collecting runoff from proposed mining activities.
- **Preliminary Erosion and Sediment Control Plan – Hunter River Water Intake, Rio Tinto (2011)** - Managed and reviewed a preliminary Erosion and Sediment Control Plan for the proposed Hunter River intake and pump station at Muswellbrook, NSW.
- **Sedimentation basin design – Kogan Creek Power Station (2011)**, Qld, Australia, CS Energy. Undertook the sizing of two sedimentation basins for a temporarily disturbed catchment
- **Erosion and Sediment Control Plan – Allens Asphalt Manufacturing Facility (2011)**, Caloundra, Qld, Australia. Allens Asphalt. Undertook the preparation of an erosion and sediment control plan as part of a development application for an Operational Works Development Application.

## Urban development, planning and approvals

- **Maroochydore Central Business District Master Plan (2008)**, Sunshine Coast, Qld, Australia, Maroochy Shire Council. Project engineer. Provided land use planning advice to project team preparing master plan for Maroochydore central business district as major centre for Sunshine Coast region.
- **Maroochydore Shire Council Central Business District Master Plan (2007)**, Sunshine Coast, Qld, Australia, Maroochydore Shire Council. Project engineer. Advised council on proposed flooding and drainage constraints

**2005**), Bulahdelah, NSW, Australia, Roads and Traffic Authority. Project engineer. Steady state one-dimensional backwater analysis software HEC-RAS was used to assess impact of proposed Pacific Highway Upgrade structures crossing Myall River and floodplain.

- **Stable Swamp Creek, Footbridge Assessment, Brisbane, Qld, Australia, City Design.** Project engineer. Managed a team of two people who undertook hydraulic analysis of potential footbridge options using MIKE11.

## Development Assessment

- **Water Management Report – Solar Flair (2011), Kogan Creek, Qld, Australia, Marubeni Corporation.** Prepared a water management plan as part of a detailed proposal for Solar Flair solar thermal power project.
- **Stormwater Management Plan – Mt Isa Fertiliser Complex (2010), Mt Isa, Qld, Australia, Legend International Holdings Inc, Technical lead.** Undertook the review of a conceptual stormwater management plan
- **Flooding and Stormwater Management Report and Operational Works drawings – Allens Asphalt Manufacturing Facility (2011), Caloundra, Qld, Australia.** Allens Asphalt. Undertook the preparation of a flooding and stormwater management report as part of a Material Change of Use development application.
- **Feasibility Assessment – Coolum Ridges (2008), Coolum, Qld, Australia, Maroochy Water Services.** Technical lead. Undertook an independent assessment of an Integrated Water Cycle Management (IWCM) scheme for proposed Coolum Ridges 1,332-lot greenfield residential development.

## Policy

- **Submission on Draft South-east Queensland Water Supply Strategy (2008), South-east Qld, Australia, Stormwater Industry Association Queensland.** Project manager and Technical lead. Developed a submission on draft South-east Queensland Water Supply Strategy developed by Queensland Water Commissions on behalf of Stormwater Industry Association.
- **Submission on Draft South-east Queensland Regional Plan (2006), South-east Queensland, Stormwater Industry Association Queensland.** Project manager and Technical lead. Developed a submission on draft South-east Queensland Regional Plan developed by Office of Urban Management.

associated with master planning of Maroochy central business district.

- **The Bridges Investigation (2007) Yandina, Qld, Australia, Office of Urban Management.** Project engineer. Investigation into feasibility of locating industry at Bridges by identifying flooding constraints to developing 365 ha site.
- **Montville Links Development Application (2007), Montville, Qld, Australia, Office of Urban Management.** Project engineer. Role involved assessing proposed stormwater management and flooding measures against relevant plans, legislation and standards to assist Office of Urban Management in making a decision on development application.

## Mining and resources

- **Cape Lambert Magnetite Mine (2010), Karratha, WA, Australia, MCC Mining.** Lead surface water design. Coordinated the team that undertook water balance modelling (GOLDSIM) to determine reliability of on-site water sources to meet project demands.

## Contact Details

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