



NWM has undertaken numerous projects since its inception in 2011. Repeat business has been the formula to our prosperity, and we will continue reapplying our team based philosophy to ensure our clients remain satisfied.

Based in Queensland, we specialise within the water sector in the management, design, and delivery of water and wastewater infrastructure, with some of our specialist projects being undertaken in other states. Some of our framework solutions have been applied nationally. The scope of services encompasses the total water cycle.

Our services include assistance in the running of technical management functions of private and public organisations through program management activities, government regulatory obligations, total asset management planning and providing industry technical support. We can manage multiple projects of all sizes from inception and through each project phase using both project management and technical management skills. This capability includes the undertaking of planning, design and documentation, and construction management services. We also provide design certification services.

NWM's aim is to provide competitive services to clients and seeks to develop on-going cooperative partnerships. We are focused on professionalism, integrity and client satisfaction and will adapt our services to meet client specific needs.

NWM is an ethical and fair dealing company. It minimises carbon emissions and it provides annual community support through donations to its charities Aussie Helpers, and the Royal Flying Doctors Service.



Jeff Ballard RPEQ 6854
Founding Director
Water Engineer

Professional Member of
**AUSTRALIAN
WATER**
ASSOCIATION



Recipient of the Regional Service Award
Australian Water Association
Qld Branch 2016-17



NWM provides:

- ◆ Water quality management system auditing, risk assessments, and Water Validation
- ◆ Asset management
- ◆ Dam safety management
- ◆ Major Projects
- ◆ Erosion & sediment control plans
- ◆ Industry advice
- ◆ Technical office resourcing
- ◆ Risk management
- ◆ Environmental management
- ◆ State and federal government applications
- ◆ Land tenure and cultural heritage management
- ◆ Development impact assessments
- ◆ Development applications
- ◆ Technical business total management planning and reporting
- ◆ Program and project management
- ◆ Cost estimates
- ◆ Strategic planning
- ◆ Design and investigation
- ◆ Construction management
- ◆ Operational management



NWM applies these services to:

- ◆ Dams and catchments
- ◆ Water treatment
- ◆ Bulk distribution systems
- ◆ Reticulation systems
- ◆ Sewerage collection systems
- ◆ Sewerage pump stations
- ◆ Sewerage pressure mains
- ◆ Sewerage treatment plants
- ◆ Recycled water systems
- ◆ Irrigation systems
- ◆ River water pump stations
- ◆ Riverine engineering management
- ◆ Stormwater and ESC design
- ◆ Subdivisional design
- ◆ Water balance calculations





Major Projects

NWM has major projects skills and experience to specifically focus on creating and implementing delivery frameworks for major projects relating to water resources and infrastructure.

Technical Management Focus

Whilst many projects can be run with pure project management, the water industry is technically specialised and often needs technical focus. NWM has industry expertise as it combines 3 services in 1:

- ◆ Technical management skills and experience
- ◆ Program and project management skills and experience
- ◆ Water industry skills and experience

NWM generally operates on the “Owner-side” of the market, but where opportunities arise and no conflicts of interest are apparent, it is available to engage in “Contractor-side” services including arrangements where operational services are contracted.

Program Management

NWM wants its clients to operate efficiently and effectively. We can assist in providing single point documentation for tracking purposes, strategic reviews, and reporting to management of all capital and non-capital projects from conception to disposal.



Cost Estimates

Accurate costing forms the basis of cost plans and enable a detailed comparison and evaluation of project options. NWM has industry experience in conducting comparative reviews of preliminary and detailed cost estimates.

Project Management

NWM embraces the PMBOK methodology. We are highly skilled in integrating all elements of project management together to achieve project outcomes. We can assist in strategic decision making including:

- ◆ Sequencing and staging methodologies
- ◆ constructability assessments
- ◆ preparation of project schedules
- ◆ delivery programmes including risk adjusted schedules.





Technical Business Planning and Reporting

NWM understands that the core to effective water business management is relevant and efficient total management planning. NWM has significant experience in this area.

NWM's certified lead auditor can provide auditing and gap analysis services to ensure your business is optimally aligned with your strategic, business unit and operations plans.

We can tailor investigations to suit small, medium and larger water service providers including:

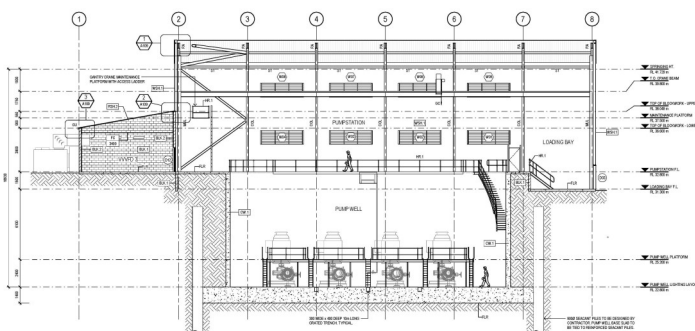
- ◆ Performance management and systems, including KPIs and National Performance Reporting via SWIM
- ◆ Information management and systems
- ◆ Energy management
- ◆ Infrastructure plans
- ◆ Infrastructure Charges Plans
- ◆ Water demand management
- ◆ Training
- ◆ Water service provider overviews
- ◆ Liquid trade waste management
- ◆ Outdoor water use conservation



- ◆ Financial management plans and models
- ◆ Drinking water quality delivery strategies
- ◆ Drinking and recycled water quality certified audits
- ◆ Water efficiency management
- ◆ Asset management
- ◆ Governmental compliance reports
- ◆ System leakage management
- ◆ Drought management
- ◆ Service standards
- ◆ Operations management
- ◆ Sub-metering policies and procedures

NWM can also offer security management services in the form of:

- ◆ Security Management Plans
- ◆ Business Continuity Plans
- ◆ Emergency Response Plans
- ◆ Emergency procedures
- ◆ Implementation plans





NWM can provide management assistance, and provide advice and skills in the areas identified below.

Industry Advice

- ◆ Legislative changes
- ◆ Industry awareness
- ◆ Peer review

Technical Office Resourcing

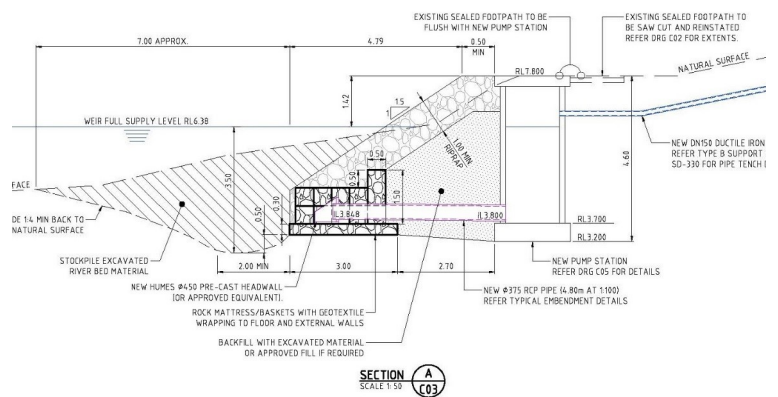
- ◆ Review of QA procedures for planning design, contracting, operational management, and asset management
- ◆ Development of Design Standards
- ◆ Creation of and updating of standard water and wastewater drawings
- ◆ Program Management

Environmental Management

- ◆ Coverage across all activities is standard practice on all projects

Risk Management

- ◆ Coverage across all activities is standard practice on all projects
- ◆ Creation of critical spares registers
- ◆ Creation or updating of risk registers
- ◆ Remaining raw water supply modelling



Staff Management

- ◆ Assistance in the creation of minimum competency/maturity levels using mentoring programs specific to the water industry
- ◆ Assessment and creation of position descriptions

State and Federal Government Applications

- ◆ Management of funding applications and claims
- ◆ Material change of use licence applications with State Government

Land Management

- ◆ Land tenure management including the management of the creation of easements for pipelines
- ◆ Creation of Indigenous Land Use Agreements in consultation with legal entities and state governments

Development Impact Assessments

- ◆ Rates charges calculations
- ◆ Headworks charging and Priority Infrastructure Plans

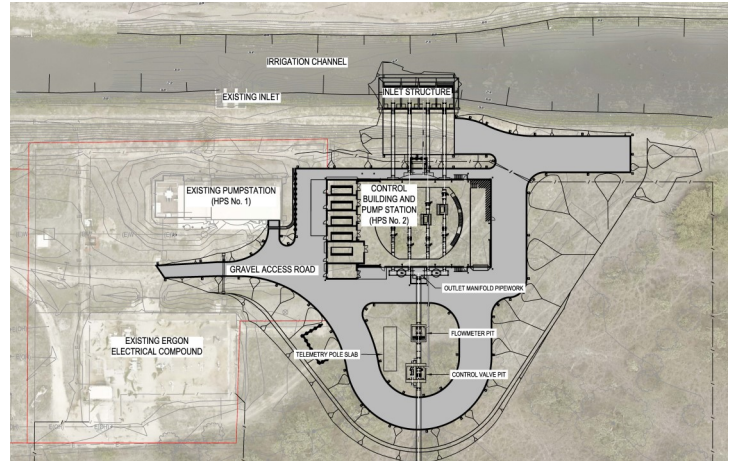
A formal risk management process provides a structured method of identifying and analysing risks and opportunities which then enables the development of treatment strategies. NWM utilises the current international standard to enable informed decisions on risk exposure. NWM understands that the risk management process is vital in contractually allocating risk in an optimal manner.



NWM has experience in strategic planning functions including:

Water

- ◆ Raw water availability modelling
- ◆ Identification, timing and costing of future water sources
- ◆ System modelling
- ◆ Infrastructure strategies
- ◆ Water supply & distribution system planning reports
- ◆ Future reservoirs scoping studies
- ◆ Water supply demand factors and diurnal variations
- ◆ Water supply network monitoring programs to determine peaking factors
- ◆ Water pump station planning reports (adequacy and efficiency of existing pumps and requirements for new pumps)
- ◆ Existing pipeline future planning
- ◆ Water supply options studies
- ◆ High level area water supply assessments
- ◆ Development impact assessments



Wastewater

- ◆ Sewer infrastructure planning reports
- ◆ Septic tank conversion to sewer planning reports
- ◆ Sewerage pump station upgrade assessments
- ◆ Sewerage treatment plant upgrade loading and timing assessments
- ◆ Proposed sewerage treatment plant assessments
- ◆ Sewerage treatment plant biosolids disposal strategies
- ◆ Effluent reuse planning reports
- ◆ Water balance modelling of effluent disposal for water quality and hydraulic loading
- ◆ Development impact assessments





Design Phase Management & Constructability

Our project development knowledge and experience enables greater certainty and leads to more robust outcomes throughout the project development and pre-construction phases. Our pre-construction services include:

- ◆ Design services
- ◆ Planning and design technical management
- ◆ Options analysis through multi-criteria analysis
- ◆ Constructability analysis
- ◆ Value engineering/management facilitation
- ◆ Cost benefit analysis
- ◆ Tendering management

Our expertise can strengthen the development of the preliminary design leading to increased certainty of costs.

Our design management includes 3 major elements to ensure project success:

- ◆ Complete information gathering prior to design commencement
- ◆ All project briefs have operational signoff
- ◆ The design and documentation produce useful long term asset management information



Our specific capabilities include:

- ◆ Design and project management of rehabilitation projects
- ◆ Modelling for reconfiguration and where increase usage occurs within existing zones
- ◆ Management of service relocations due to Main Roads or other activities
- ◆ Design and documentation of new and replacement bulk and reticulation water supply off-takes and pipelines
- ◆ Design and documentation of new and replacement sewerage collection and pressure mains,
- ◆ Management of development applications for water and sewerage
- ◆ Development management programs for water and sewerage upgrades
- ◆ New and upgrades to, high level booster pump stations
- ◆ New sewerage pump stations and upgrades
- ◆ Sewerage overflow investigations including assessment of potential inter-area overflows
- ◆ Sewerage pressure main replacements and redirections
- ◆ Dam infrastructure replacement programs
- ◆ Water and wastewater treatment plant asset replacement programs
- ◆ Reservoir repair investigations
- ◆ Chlorination facility upgrades
- ◆ Irrigation systems including river water pump stations
- ◆ Riverine engineering management
- ◆ Stormwater & ESC design
- ◆ Subdivisional design
- ◆ Water balance calculations



NWM has extensive on-site construction experience enabling clear and decisive inputs to fundamental construction processes.

We have extensive experience in support of both the owner and contractor project management teams. Our construction services can assist you with the development and preparation of cost plans, integrated project management systems and across the board reporting. Our commercial advice includes cost analysis and reporting, earned value analysis and reporting as well as contract variations and claims management. Our service delivery can be undertaken as on-site supervision or as management services.

NWM can assist project owners or constructors with services including:

- ◆ Design management and constructability advice
- ◆ Erosion & Sediment Control Design
- ◆ Project management support services
- ◆ Superintendency services
- ◆ Project controls, systems development and implementation
- ◆ Risk management and reporting
- ◆ Quality assurance and quality control
- ◆ Contract documentation and administration including Superintendency services
- ◆ Dispute resolution

These services lead to fewer surprises and enable greater control for the owner and constructor on all project outcomes. This supports a better understanding and allocation of risk and enhanced project reporting to assist decision making.



Commissioning

NWM has the industry experience and understanding that commissioning is a quality assurance process that verifies that the works, all relevant systems, equipment and assemblies have been installed, tested, operated and maintained in accordance with the requirements of the relevant contract.

Commissioning also assures that the works are built as designed, are certified by a suitably qualified party and are fit for the intended purpose.

The optimal commissioning process is underpinned by a risk based approach that is fully integrated within the construction program.





NWM can assist the asset owner or operator with services including:

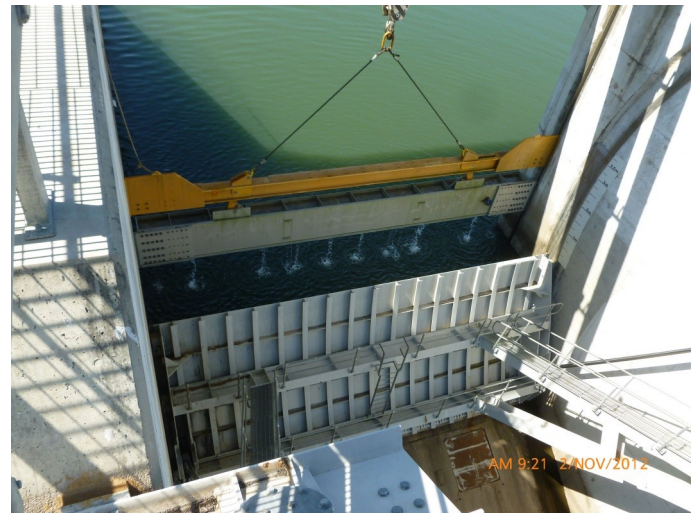
Natural Resource Management

- ◆ IROL/ROL applications, negotiations, and ongoing management
- ◆ Supply Contracts
- ◆ Dam Safety Management - Licence management including ongoing technical support including ongoing reviews
- ◆ Technical management of operational upgrades
- ◆ River water pump station feasibility and design



Operations Management

- ◆ Operations and maintenance contracts
- ◆ Major shutdown management
- ◆ Problem solving of operational supply logistics
- ◆ Environmental licence management
- ◆ Critical infrastructure (security) management
- ◆ Emergency management planning including participation and creation in/of event planning and mock events and attendance at workshops
- ◆ Emergency repair project management



Project Handover Risk Management and Reporting

The services enable an assurance that the intended project outcomes are obtained in the most effective manner and project learnings are documented for continuous improvement.

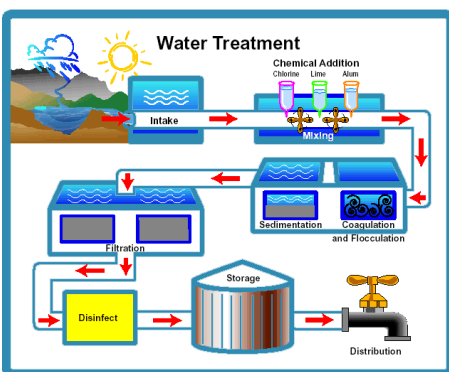
- ◆ Operational controls analysis
- ◆ Earned value management reporting
- ◆ Quality management
- ◆ Post implementation review

Treatment Plant Operational Reviews

NWM has extensive experience in reviewing the practical and strategic needs for operating both water and sewage treatment plants.

Wastewater Catchments

We have undertaken numerous wastewater investigations including inflow/infiltration studies, overflow risk management, water balance modelling, and full system design.



Drinking and Recycled Water Quality Management

NWM has extensive experience in the creation and implementation of management plans for large, medium and small water service providers. Through our technical project management capabilities, we can turn these complex requirements into clear operational tasks.

>> Certified Audits

We are trained, experienced and certified in both drinking water quality and recycled water auditing.

>> WaterVal Assessments

We are experienced in the emerging area of water validation assessments for both water and wastewater.

>> Management Plans & Risk Assessments

We have written a number of drinking water and recycled water plans and can update your existing plans with the surety that risk are address in accordance with guidelines.

>> Advice

If you have issues with your facility or management systems, we can advise you on the best strategy forward.

>> Peer Review

We have undertaken peer review services and can provide advice on information from other sources to provide surety that your projects are implemented correctly.

>> Investigations

We can provide investigative services to resolve root causes of ongoing issues whether they be based on production or procedures.

>> Implementation

We offer services that can implement the outcomes of investigations. Our asset management background also helps with changes to management and monitoring systems and can also provide project management services.



For asset management, NWM often applies the proven Pareto Principle where relevant to target areas that are in need of attention, and uses IIMM and related texts. NWM's asset management services include:

- ◆ Asset system compliance audits
- ◆ Condition and performance audits
- ◆ New product reviews against standards
- ◆ Creation of updating of asset unit rates for use in re-valuations
- ◆ Pipeline maintenance management strategies
- ◆ Pipeline condition investigations
- ◆ Whole of life Models
- ◆ Reservoir roof condition assessments
- ◆ Reservoir seals investigations
- ◆ Pressure mains risk management plans
- ◆ Sewer risk assessments
- ◆ Updating and maintenance of asset registers
- ◆ Critical spares review reports
- ◆ Cathodic protection investigations
- ◆ Asset management renewals investigations
- ◆ Asset management plans
- ◆ Geographic information system management
- ◆ Framework documents
- ◆ Preventative maintenance management investigations
- ◆ Pipeline replacement and rehabilitation projects
- ◆ Drawing system management





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