

# Partnering for success: supporting Sydney's growth

*To be the lifestream of Sydney for generations to come*

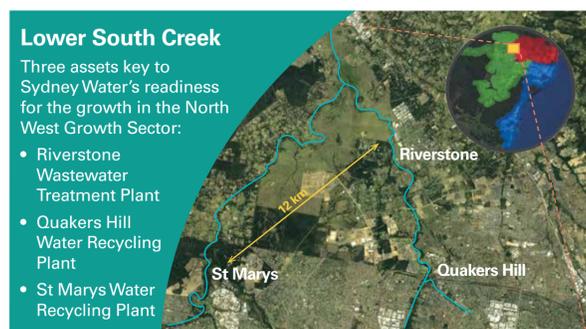
By 2036, we can expect an extra 2.71 million people and over 570,000 new homes across greater Sydney. The surging population of Sydney is putting pressure on our natural resources, housing and infrastructure.

To service the customers of today and tomorrow, Sydney Water developed a framework called **Partnering for Success** which has regional teams, contracting structures and different project delivery models. One of the unique approaches we're currently implementing is the Delivery Partner model for Lower South Creek.

## Pioneering a new model to address the demands of Sydney's growing population

An additional half a million people will live in Sydney's North West by 2040, placing increased demands on the current wastewater treatment capacity. In delivering the Lower South Creek Treatment Program (LSCTP), Sydney Water saw an opportunity to break away from the contractor-led alliancing model and come up with a more effective and innovative partnership model.

The Delivery Partner (DP) model improves commercial efficiency and fosters a continuous improvement culture. The program involves three projects – Riverstone, Quakers Hill and St Marys – with WSP and UGL Limited responsible for all aspects of delivery. Working under the "ONE TEAM" philosophy, Sydney Water's owners, operators, maintainers and engineers are fully integrated into the design and construction and commissioning processes. This partnership approach ensures joint ownership to safely deliver quality services faster to customers and the broader community.

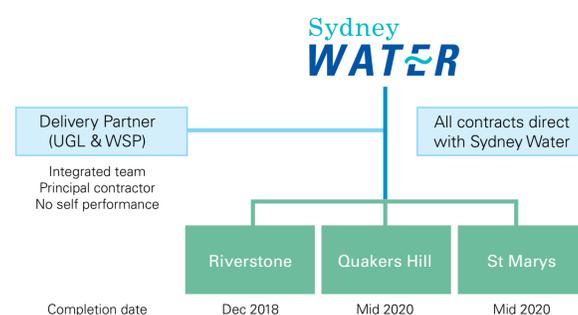


## Creating greater value and maximising cost efficiencies

Since the start of the program, this new way of working has helped reduce commercial risk with prices agreed across all three sites. It's a collaborative framework, creating value by:

- Directly engaging tier two and three contractors
- Eliminating margin on margin
- Packaging works to minimise interface risk
- Improving supply chain integration and uniform procurement of materials and construction contracts.

## Delivery partner: how it works



## Driving innovation in design and construction

The DP model has provided greater opportunities to tackle challenges in innovative ways and trial new contractual and commercial strategies.

From a management perspective, we've used Building Information Modelling (BIM) technologies to provide a holistic view of the projects. This has ensured greater coordination of design processes across disciplines, detailed progress measurement and more accurate estimations of quantities and contract prices.

And when it comes to construction, we will install a Thermal Hydrolysis Process (THP) plant to treat sewage sludge in a more effective way, thereby maintaining our commitment to minimise negative impacts on the environment and community.

In addition, the program-wide approach allows the integrated team to leverage lessons learnt from initial projects and apply them to future programs.

## Working together for success

Building a strong relationship within teams and getting the right culture is essential to success. This is achieved by identifying the right integrated framework.

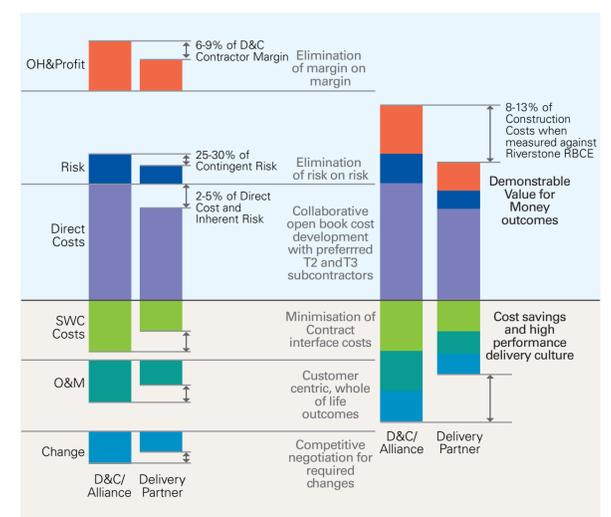
Based on experience, the DP model works well with clear work front delineation and with a linear infrastructure. However, when delivering process infrastructure (e.g. wastewater treatment plant), utmost care must be taken in defining interfaces between packages.

To date, the biggest lesson learnt has been the need for total alignment between Sydney Water's internal teams and the DP. This includes linking design with procurement and construction, enabling the legal and procurement teams to keep pace with the DP timescales and streamlining business, KPIs and financial systems.

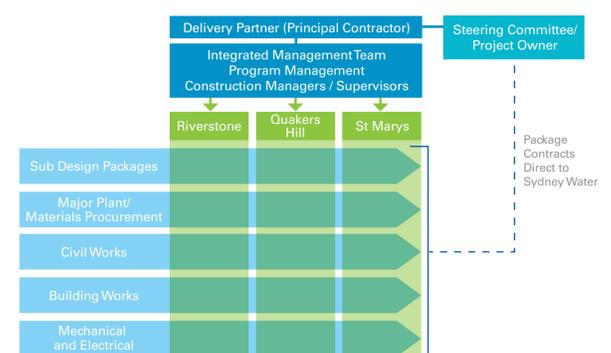
## Delivery Partner Model: Advantages over 'Design and Construct' model

- Integrated team adaptable to needs of the program
- Sydney Water will have full control of the design development – ensuring best value for money and whole of life cycle cost
- Lessons learnt and knowledge acquired from Riverstone to be carried through to subsequent contracts
- Engagement of lower tier contractors from the market – saves on margins
- Ability to set prices early for Quakers Hill and St Marys
- Continuity of works for all subcontractors provides price advantage
- No premium for transfer of design risks.

## Comparative assessment "Business as usual" Delivery Model vs Delivery Partner Model



## Delivery Partner model



# PARTNERING FOR SUCCESS: SUPPORTING SYDNEY'S GROWTH

Mark Simister  
Sydney Water

## KEYWORDS

Partnering, Program, Growth, Delivery Partner

## EXECUTIVE SUMMARY (100 words maximum)

Sydney Water is taking innovative steps to improve delivery performance through the use of the Delivery Partner model pioneered on the London Olympics. The \$400 million Lower South Creek Treatment Program (LSCTP) will improve the quality, capacity and reliability of Sydney's wastewater system, to support an additional half a million people in Sydney's North West by 2040. The scope of the LSCTP includes the amplification and renewal of three wastewater treatment plants located at Riverstone, St Marys and Quakers Hill in Sydney's North West. Rather than delivery separate projects via a traditional design and construct approach, Sydney Water has chosen to deliver a program of work managed by a Delivery Partner. The Delivery Partner enables these works to be delivered as a consolidated Program and ensures learnings and best practices are incorporated into the works, driving innovation, cost savings and benefits to the community.

## YEAR CASE STUDY WAS IMPLEMENTED

2016 to 2020

## CASE STUDY DETAIL

As our cities grow and change around us, the water industry is constantly being challenged to deliver safe and reliable wastewater services to the community and address Sydney's rapid population growth. To create a resilient and smart water future, Sydney Water are always looking for ways to embrace change and look for new and smarter ways of delivering value to the community.

When Sydney Water were faced with the challenge of increasing its wastewater treatment capacity to support an additional half a million people in Sydney's North West by 2040, they decided to pioneer the Delivery Partner approach in the utility sector through the Lower South Creek Treatment Program (LSCTP).

The LSCTP forms an essential part of the Growth Strategy for new development to the North West of Sydney and will involve amplifications at three wastewater treatment plants at Riverstone, St Marys and Quakers Hill. In addition to supporting Sydney's growth corridor the program will also support the development of Sydney's new airport at Badgerys Creek.

Rather than approach each project individually under a separate design and construct contract Sydney Water has opted for a standardised approach with a delivery partner of UGL Limited and WSP responsible for all aspects of delivery.

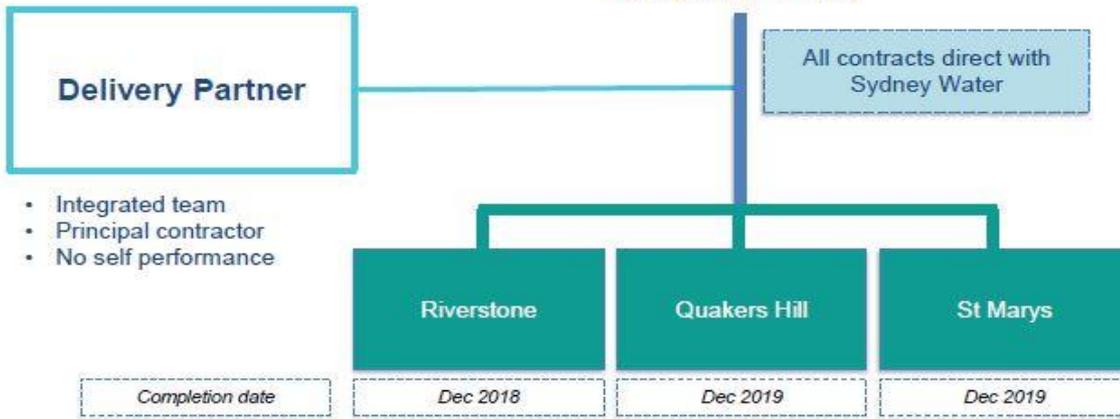


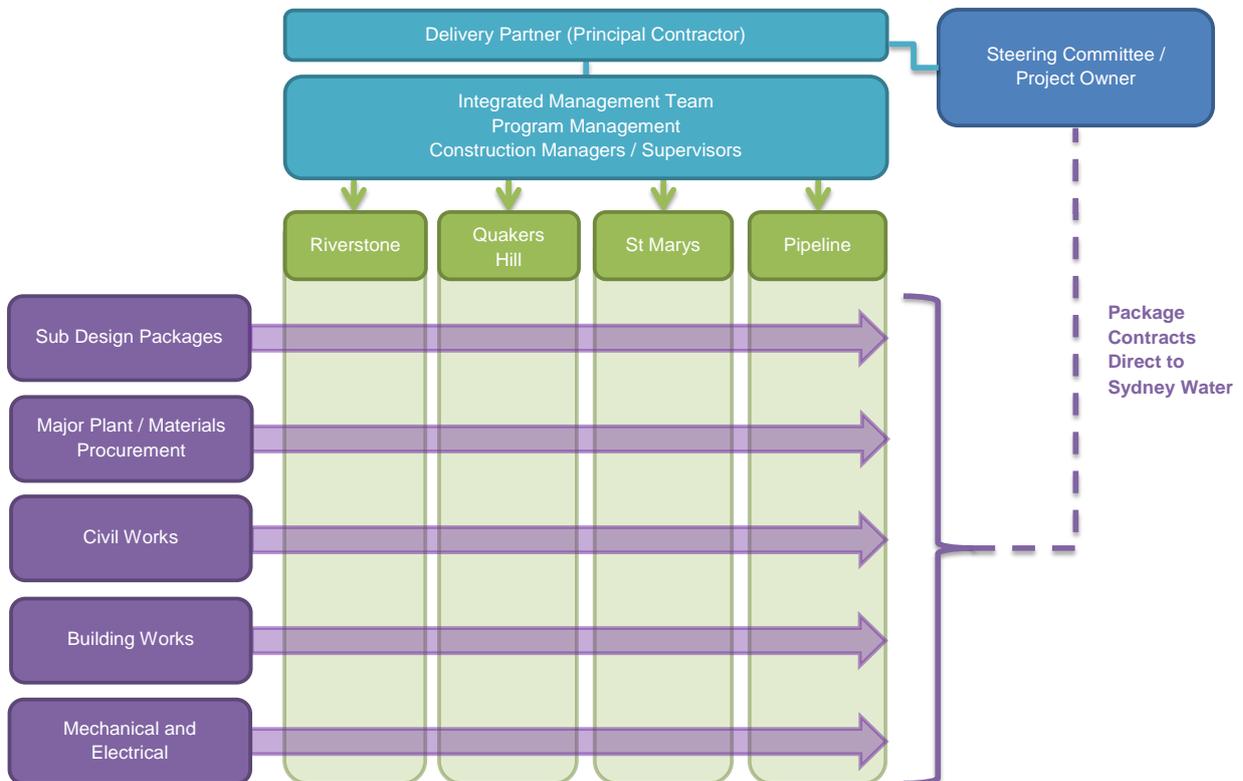
Figure 1: Delivery Partner: how it works

The Delivery Partner approach will achieve major value improvements compared with traditional delivery methods. The foundation of the Delivery Partner strategy is the capability to manage risk, optimise solutions and harness value from the entire supply chain to deliver the highest possible program wide value outcomes.

The Delivery Partner approach is efficient, stripping out contractor margin on margin and focusing all contractors on delivering program wide value to the benefit of Sydney Water and its customers.

Through this new partnering arrangement, The Delivery Partner operates as the principal contractor, accountable for managing all contractors within the Lower South Creek Treatment Programme, but Sydney Water hold the contracts. The biggest lesson to emerge from this so far has been the need for total alignment between Sydney Water’s internal teams and the Delivery Partner, for example: the benefits of enabling the legal and procurement teams to keep pace with the delivery partner timescales.

The model to be used for the Program is represented in Figure 2 below.



By partnering with the private sector, the Program-wide approach allows Sydney Water to focus on synergies, cost and time efficiencies and investigate new and world-class wastewater treatment technology and minimise the impact on communities and the environment.

This has included new techniques for construction, new approaches to designs and a significant drive for the implementation of Building Information Modelling (BIM) technologies and virtual reality in design.

As part of this program, Sydney Water and the Lower South Creek Treatment Program Delivery Partner are also investigating the benefits of introducing granular activated sludge technology at Quakers Hill, its robustness and whether this innovative technology is a viable option for the future of Sydney Water. Adopting a granular activated sludge process could further enhance Sydney Water's global profile and place Sydney Water alongside the future of wastewater treatment technology.

The work done so far on innovation is a great example of how The DP and Sydney Water are working together as one team, looking for program-wide efficiencies that reduce energy use, cost and carbon footprint.