Western Sydney Leadership Dialogue

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Submission in support of the proposed
Upper South Creek Advanced Water Recycling Centre

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Introduction

The Western Sydney Leadership Dialogue is pleased to lend strong support to the proposal by Sydney Water to establish a world's best-practice Advanced Water Recycling Centre (AWRC) in the Upper South Creek region of Greater Western Sydney. We congratulate Sydney Water on a comprehensive and well-executed Environmental Impact Study (EIS) and Stage 1 Development Application and express our excitement at the prospect of watching this genuinely game-changing utilities project take shape.

Urban heat, and future growth and amenity in Greater Western Sydney (GWS)

As long-term advocates for the communities of Greater Western Sydney and the region's increasingly confident strategic ambitions, as reflected in headland projects like the Western Sydney Airport and the significant transport, health and education expansions of recent years, the care with which the EIS has been prepared is gratifying. As noted in our 2019 policy paper on the Urban Heat crisis in GWS (see above), climate change and its various impacts will hit these communities sooner and harder than most well-populated areas of Australia. Our 2019 recommendations represented practical policy steps to help mitigate the worst of these impacts, which include rapidly rising temperatures, increasingly vulnerable water provisioning, and the accelerating onset of extreme environmental events (drought, heat shock, peri-urban bushfires, extreme storm and flood events).

Specifically, we called in our paper for a more focused and ambitious approach to water systemic efficiency and resilience, challenging all stakeholders to set a **bold 'hard target' of 100GL/20% of recycled water** in Sydney's annual 'water budget' by 2030. We argued that the flow-on impact of making this target a Premier's Priority would extend beyond the obvious (drought-proofing) aspects of diversifying our water sources into other no less vital elements of sustainable living:

- the cooling impact of increasing localized 'green and blue' infrastructure;
- the infrastructure cost-savings arising from reduced pressure on wastewater and ocean outfall loads (especially from regions far from the coast);
- the reduced vulnerability to extreme weather events of localized utility 'circular economies' that are less reliant than linear ones on centralized and/or inter-regional infrastructure;
- improvements in natural waterway flow, and the commensurate physical and mental health outcomes of enhanced recreation and amenity;
- the economic-multiplier impact of new sustainable utility technologies and expertise;
- and, of course, the positive impact that better local water management and urban cooling would bring to bear on Australia's overall emissions footprint.

We regard the proposed AWRC and the project's ethos and approach, as set out in its presented EIS, as a ground-breaking public capital works enterprise ideally suited to help advance a sustainable *and* prosperous future for the people of GWS – and of Sydney, NSW and the nation.

AWRC Objectives

The AWRC objectives offer a whole-of-community vehicle for the people of GWS to:

- **Respond to future growth** in *advance* of it;
- Ensure the **most cost-effective water services** going forward;
- Deliver these with **minimum transitional disruption**;
- Facilitate world **best-practice sustainable** solutions;
- Ensure they are **future-adaptable**, as technological and systemic innovation accelerates.

The Dialogue will be proud to help meet the challenge laid out in these objectives. Key specific aspects of each, and how the project will realise them, include:

Responding to Future Growth in GWS

The project directly responds to the need to service the significant residential and economic growth in the region over the next 35 years, with the population currently expected to grow to 400,000 by 2056. This growth will be driven by the opening of the Western Sydney International Airport in 2026 and public and private investment in the Western Sydney Aerotropolis Growth Area and the South Western Growth area, including in the expansion of road and rail assets, social assets and utilities.

- **Built-in growth flexibility and adaptability**

  The EIS outlines a project delivery approach adroitly tailored to meet the challenges of a truly transitional moment. The planned methodology is to continually evolve the project in stages and over time, to respond to as-yet unknown shifts in population forecast, the progress of climate change, accelerating technological developments and in particular the disruptive advent of the 'circular economy' model of utilities provision. The pace and scale of the project will be driven by the pace and scale of (primary objective) wastewater needs, with Stage 1 seeking approval for a processing capacity of 50 ML/day, and a (nominal) ultimate capacity at this point of twice that. This 'phased capacity' plan is an explicit expression of a key characteristic of recycling/circular economy utility projects: the idea that projected capacity needs/volumetrics are inversely linked to the efficacy of project design, delivery and operational efficiency metrics. As recycling technology and systemic efficiencies 'bed in' and consumer and business water habits evolve through Stage 1, Stage 2 planning metrics will doubtless change constantly in response to changing growth-demand projections. Consumer acceptance of and even appetite for recycled water may well grow faster than the current (properly cautious) appraisals imply. Also, other SW projects in wastewater collection and recycled water networks that are currently distinct may become more integrated.

  In any moment of systemic disruption there are always many moving parts that simply cannot be properly reconciled in advance, and the planning agility built into the AWRC demonstrates keen strategic foresight.

- **Incorporates need for deft 'social license' management**

  A key component of this delivery flexibility, reflected throughout the proposal and especially in the thoroughness of the community engagement elements, is the recognised need for a whole-of-community conversation on recycled water. Recent history in other jurisdictions contains unhappy experiences in which major recycling projects either botched or ignored altogether the 'social license' aspects of what will be quite a radical change in water provisioning in Australia. It's clear from the EIS that the AWRC is determined to heed the hard-earned lessons of past recycling projects in, for example, Brisbane and Toowoomba.

The Dialogue will be pleased to contribute enthusiastically to an ongoing conversations with the people of GWS about water recycling.

Cost-effective delivery and efficient wastewater management for the future

- In responding to future growth in wastewater management needs the AWRC has expressly rejected a 'business as usual' approach to assessing cost-effectiveness. New technologies and systemic change are always a cost risk and excessive fiscal inertia/caution has in the past been a key factor in limiting innovation in Sydney's water provisioning. Sydney Water has now clearly adopted a cost-benefit methodology which more fully incorporates a wide range of projected direct and indirect cost-saving benefits. We welcome and applaud this.

- As just one example: the EIS notes that a large proportion of the Upper South Creek Servicing Area is still semi-rural and is currently serviced by on-site systems such as septic tanks. The AWRC net cost footprint factors in indirect cost elements that in the past have at times been quarantined or under-considered, such as savings of future reduced reliance for wastewater management on long transfers to coastal ocean outfalls, lower leak losses and drought costs, other extreme weather cost reductions, and all the ensuing new infrastructure and maintenance cost implications. As is proper with 'circular utility' cost-benefit analyses the project takes a truly holistic fiscal view.

Project and future services delivery with minimum disruption

- Care has been taken at every stage during the development of the project with the community engagement aspects. The process has incorporated a comprehensive set of opportunities for direct public meetings, community information sessions, door knocks, workshops, newsletters, social media portals and pop-ups. Engagement has spanned Local, State and Federal government stakeholders, impacted landowners, other utilities, interest groups and the full range of culturally and linguistically diverse community groups that make GWS such a rich and vibrant place.

- Specialist consultants have been engaged to prepare and present detailed reports on a wide range of environmental issues, not only relating to the regional waterways but also biodiversity, heritage, air quality noise and traffic impacts. Particular care has been taken with Indigenous engagement and potential implications, and the project itself proudly embodies an explicit aspiration to reconcile our modern water provisioning methodologies with the great Indigenous traditions and wisdoms of sustainable living with this land.

- The Dialogue is also pleased to note the positive potential this project, and the new approach to water recycling, may bring to bear on other evolving aspects of Sydney's water system. Increasing the optionality and diversity of our water sourcing through enhanced recycling – potentially along with desalination and greater reservoir transfer options - may potentially help open the door to alternative solutions to other system component issues, such as Warragamba Dam capacity issues, and flood plain risk mitigation.

- Project works planning incorporates detailed construction and traffic plans, safe pedestrian crossings, avoidance of works in peak times and major community events, noise and light mitigation, and early, clear and ongoing communication and consultation.

World best practice sustainable solutions

Beyond the immediate cost-effective, low disruption, future growth solutions explicitly targeting the project's primary role in managing the Service Area's wastewater needs, the scope, scale and ambition of wider sustainability gains built directly and indirectly into the project are impressive:

- **Strategic scope and heft**: Although a 'three sites' variation of the centralized servicing option represented better value in isolation, ultimately a single centralized plant offered the best value-for-money solution. More importantly in recycling leadership and strategic innovation terms, this pathway offers the best potential for future water recycling and provision at the kind of bulk scales that will be needed to effect whole-of-community usage change, with an eventual potential capacity of up to 100ML/day.

- **Transition 'multiplier' impact:** The project aims to produce high-quality treated water for a wide range of uses, including environmental flows, third pipe recycled water to homes, businesses and agriculture (including intensive hydroponic/agribusinesses), and the maintenance of public spaces and green infrastructure. All these uses are of enormous logistic, amenity and economic benefit in themselves, but will also represent a powerful 'transition multiplier' influence on the hosting economy and communities. It will accelerate water recycling technology and systemic innovation, gradually creating positive community sentiment around water recycling, in which an adroit, whole-of-community conversation can evolve regarding the future-adaptable extension of recycling into other uses.

- **Bold leadership:** That the AWRC and its EIS explicitly opens the door on this future evolution into what has traditionally been politically and civically difficult territory is to the enormous credit of Sydney Water's appetite for transitional utilities leadership, and its strategic seriousness of purpose. The Dialogue similarly regards the moment now to be right for Sydney to have a conversation about recycled water, and urges all public and private stakeholders to recognize the AWRC as an excellent vehicle via which to kick it off.

- **Improving GWS's green and blue 'cooling' infrastructure:** The project itself will directly comprise a new green space around the ARWC site adjacent to Kemps and South Creeks, which in turn will add a pillar component to the ongoing evolution of a green spine through GWS. Clearly however the greatest improvements in the region's 'cooling infrastructure' will flourish downstream, in the expanded 'green and blue' infrastructure AWRC output will help grow. Key to the government's vision of a livable Western Parklands City and WSA/Aerotropolis Growth Area is an increase in green, open, shady public spaces, and the capacity to use recycled water in these areas in far greater volume (especially in drought) is a major practical step forward.

- **Improved natural flows, better water monitoring/quality, recreational and amenity gains:** The AWRC's added systemic capacity to directly boost natural flow in the Nepean and Warragamba rivers, and indirectly the many smaller tributaries, will also add to the expansion of GWS green and blue infrastructure, it will incorporate better water quality and more consistent and diligent monitoring, and this in turn will greatly enhance the rejuvenation of GWS's recreational water options and living amenity in general.

Future adaptable sustainability solutions

- **Spear-heading Australia's shift towards circular utilities:** Moving beyond the project's direct water provisioning benefits in isolation, a feature of the AWRC project which the Dialogue especially welcomes is its explicit anticipation of future expansion beyond mere wastewater treatment and the provision of recycled water for non-drinking purposes, and into other elements of a truly 'circular economy' utilities model. Three options for wastewater treatment in the Upper South Creek servicing area were considered. These were a base

case (essentially 'business as usual' with a new treatment centre and integration into existing ocean outfall assets); decentralized recycling (with up to 15 smaller distributed recycling plants in the catchment area); and the chosen 'Centralised servicing' option (in 'single plant' variation). Sydney Water's EIS analysis and strategic reasoning for the selection of this last option included that a single centralized plant at scale, while not necessarily offering 'best value' in isolation, is however the optimum opportunity for Sydney Water to pursue various modes of resource recovery, in particular wastewater harvesting/recovery for a variety of biosolid production opportunities, energy generation, and other sustainability innovations.

- Again, the Dialogue is pleased to welcome and strongly support this highly commendable signal from a cornerstone utilities provider that the moment is right to begin major practical transformational shifts towards sustainable, circular models of utilities integration.

The moment is now: an anchoring project for our post-Covid resurgence and re-invention

It is hard to envisage a capital works project that could be more adroitly configured and disposed to match this still-precarious but determinedly optimistic moment of economic rejuvenation in GWS. The ARWC proposed by Sydney Water promises to:

- Activate immediate post-Covid local activity, capital works and employment growth;
- Expand local commercial efficiency, viability, and productivity gains;
- Evolve new exportable technologies, skillsets and IP;
- Provide 'value adding' infrastructure leadership and innovation;
- Lead Sydney – and Australia - towards more sustainable urban living
- Manifest a 'new era of development', in which public infrastructure works, private economic expansion and environmental sustainability are mutually aligned and re-inforcing;
- Provide a 'common good' vehicle for whole-of-community agency and shared advance, and add to the region's growing confidence, optimism and shared prosperity.

The Dialogue is proud to lend our support to AWRC

This is a truly exciting project for the people of GWS, and the Dialogue is pleased to lend our support to the project's EIS, and the sweeping vision, attentive engagement, methodical planning and anticipated world-class execution it represents. We look forward to watching the project flourish, along with the supply abundance and stability its recycled water will help bring to an increasingly hot, dry and weather-volatile urban region.

For further information on this submission, please contact our Director of Policy, Luke Turner via luke@westernsydney.org.au.