Supplementary Submission No 1a

EXAMINATION OF THE AUDITOR GENERAL'S PERFORMANCE AUDIT REPORTS JUNE - DECEMBER 2020

Organisation: Department of Planning, Industry and Environment (DPIE)

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Department of Planning and Environment

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Mr Greg Piper, MP
Chair of the Public Accounts Committee
Member for Lake Macquarie
Assistant Speaker
Parliament of NSW
Macquarie Street
SYDNEY NSW 2000

3 June 2022

Subject: Auditor-General's Performance Audit report - *Water conservation in Greater Sydney*- Department of Planning and Environment

Dear Mr Piper

Thank you for your letter dated 19 May 2022 requesting further information on our response to the Public Accounts Committee, dated 31 August 2021, on progress against the Auditor-General's Performance Audit report recommendations for water conservation in greater Sydney, 23 June 2020.

The Department of Planning and Environment supports the need for a greater emphasis on water conservation. The NSW Water Strategy, August 2021, is the first 20-year water strategy for all of NSW, and it puts water on the same footing as other essential state resources and services, such as transport. As a 20-year Strategy, delivery of actions will span short, medium and longer-term time horizons. The NSW Water Strategy, has a strong focus on water conservation, including recycling, stormwater harvesting, water efficiency and leakage reduction.

Action 6.6 of the strategy commits to the implementation of a state-wide Water Efficiency Framework and Program. The strategy notes the framework and program will:

- involve collaboration between all levels of government, water utilities, the private sector and the wider community,
- focus on building water efficiency capacity, gaining a greater understanding of water use, improving the evaluation of water efficiency initiatives and increasing private sector involvement,
- consider the total water cycle (from water supply through to wastewater treatment and reuse or discharge to oceans and waterways),
- embrace adaptive management and continual improvement and provide clear governance,

- provide a clear statement of NSW Government policy and messaging of the need to support and invest in water efficiency across all sectors, and
- consider the effectiveness of BASIX (the Building Sustainability Index) in driving and sustaining water efficiency.

Action 7.1 focuses on the piloting of new technologies to increase our water options, such as onsite household grey water reuse technologies.

Action 6.7 of the strategy commits to proactive support for water utilities to diversify sources of water, including groundwater, stormwater harvesting and recycling.

Work has commenced to deliver against these actions, with the Department:

- developing a Water Efficiency Framework to provide guidance on best practice,
- completing a review of water efficiency options and technologies and developing a research and innovation roadmap,
- recently launching NABERS water starters program, assisting NSW buildings to get a first time water rating and compare water use with similar building types,
- delivering a social housing water efficiency project, installing water efficient fittings, toilets and fixing leaks in Land and Housing Corporation and Aboriginal Housing Office managed properties across the state,
- running a washing machine replacement trial for social housing tenants,
- partnering with Sydney Water to implement a smart metering project to better understand how water is used within homes, including the use of rainwater tanks and recycled water,
- partnering with the Water Conservancy to deliver the smart water advice subscription offer, helping local water utilities engage with their communities on water use, and
- delivering the regional leakage reduction program that is being informed by expertise from the metropolitan water utilities.

In addition, a range of water conservation initiatives are being delivered by water utilities, Councils, not-for profit organisations and the private sector.

The Draft Greater Sydney Water Strategy was released in September 2021 for public comment and the final has been approved by Cabinet and is due to be released by the end of July 2022. The Greater Sydney Water Strategy also has a strong commitment to water conservation, identifying a potential reduction in overall demand in greater Sydney that could be achieved over time from adopting a comprehensive water efficiency program. The Strategy identifies that by 2030, a cumulative 38 GL/year could be saved each year, and by 2040, 49 GL/year of drinking water could be saved each year, which is equivalent to 55% of the annual maximum water production of Sydney's Desalination Plant (90 GL/year).

NSW Department of Planning and Environment's responses to Public Accounts Committee questions:

Recommendation 1: By July 2021, the Department should develop a clear policy and regulatory position on:

a. **potable water reuse: engaging with the community to understand whether highly treated recycled water can be considered as a future option for drinking water.**

The Committee notes in its response the Department indicated that the draft Greater Sydney Water Strategy commits Sydney Water to investing in a purified recycled water demonstration plant and to undertake community engagement for information and feedback on this option. The Committee further notes the Greater Sydney Water Strategy is in draft and that there is no current timetable for community engagement on purified recycled water.

Can you please provide a proposed timetable for the implementation of this recommendation, noting the recommended deadline of July 2021?

There are three key ways that DPE and Sydney Water are delivering on this recommendation.

Consultation on the draft Greater Sydney Water Strategy

As part of developing the Greater Sydney Water Strategy, the Department of Planning and Environment engaged with the community on a draft Strategy. As part of the engagement process, the community was provided with information on the options and potential for highly treated recycled water (purified recycled water) as a future drinking water option. Through a series of engagement events and activities, including public community information sessions, between Tuesday 28 September 2021 and Monday 8 November 2021, there were more than 700 direct interactions with the community across this consultation period. There was a survey which asked community members to indicate their support for purified recycled water as a potential future option for drinking water and 75% of the 481 respondents agreed or strongly agreed that purified recycled water should be one of the future water supply options considered for Greater Sydney.

Other key insights from the consultation were:

- more people strongly agree or agree with the priorities and actions in the draft strategy than disagree or strongly disagree,
- community strongly supports water conservation measures to save drinking water and use water more efficiently,
- significant support for more rainfall-independent water supplies including recycled water and desalination,
- support for ways to better reuse our water, including the potential for purified recycled water for drinking and increased stormwater reuse,
- an understanding that the community needs to change the way it thinks about and uses water into the future including using water more wisely.

Sydney Water community engagement program and demonstration plant

In addition to the consultation on the draft Strategy, Sydney Water will continue to lead the community engagement on potable water reuse (referred to as purified recycled water). Sydney Water has continued to progress a number of actions, noting that the final strategy is yet to be published. Detailed Design of the purified recycled water demonstration plant and visitor is nearing completion and major items have now been procured. Construction commenced on site in May 2022. Operational completion is scheduled for the first quarter of 2023, from which time visitors will be able to attend the site.

Sydney Water recently took receipt of a 'Wonders of Water' vehicle that will be used as part of a community education and engagement program, considering an 'all options on the table' approach, including purified recycled water. The van will visit community events, public places and schools to provide an interactive experience about the urban water cycle and how Sydney compares to other parts of the world.

Sydney Water continues to engage with the community to understand sentiment towards a range of water related issues including attitudes towards water conservation and a range of options for water supply augmentation.

Consultation with the water sector to remove barriers and enable future options

Consistent with our commitment in the NSW Water Strategy, we are consulting with the community – primarily with water utilities, regulators and industry experts in the first instance – to understand the policy and regulatory barriers to all forms and scales of recycled water. Consultation will continue and will likely include different sections of the community as our policy framework progresses in 2022/23.

b. water recycling: addressing reported barriers such as developer chargers and improved access to planning and land release processes for private water utilities.

The Committee notes in its response, the Department indicated that reforms to the licensing framework for private utilities were approved by Cabinet, including the interaction between the Water Industry Competition Act 2006 (WICA) and the planning approvals process. The Department also indicated that the NSW Government accepted the NSW Productivity Commissioner's recommendation to reintroduce water and wastewater developer charges in Sydney and the Lower Hunter, and that work has begun to implement this.

Can you please elaborate on the further work being undertaken to improve the interaction between the WICA and the planning approvals process for private water utilities, as well as the timetable for releasing the Greater Sydney Water Strategy?

A new regulation is currently being drafted to support the amendments to the Water Industry Competition Act passed by Parliament in October 2021. This will further enable private water utilities to compete in the market. Work is also continuing for options to streamline the approval

process for private water and sewerage schemes under the Environmental Planning and Assessment Act 1979.

In addition, changes were made by the Minister to Sydney Water's Operating Licence requiring Sydney Water to publish long term servicing information (by 30 June 2021) and update that information at least once during the licence review. This requirement supports early and transparent access to information, which was identified as a key barrier to private sector participation. The provision by Sydney Water of servicing information for major systems over a 10+-year horizon facilitates private water utility's proposing alternative servicing proposals early in the development planning process.

The final Greater Sydney Water Strategy has been approved by Cabinet and is due to be released by the end of July 2022

c. **stormwater harvesting: enhancing cooperation between State and Local Government, Sydney Water and private water utilities.**

The Committee notes in its response, the Department indicates that it has established a dedicated project team, supported by an economic consultancy, to identify the governance model and regulatory approach to regional stormwater management.

Can you please provide details on the timetables for the project team's outputs and how they will support stormwater harvesting in Greater Sydney?

There are three key ways that DPE is delivering on this recommendation.

Regional approach to stormwater management and facilitation role

The dedicated project team leading this work has already delivered outputs in response to this recommendation. In line with recommendations of a Strategic Options Business Case, to determine which entity should deliver a regional approach to stormwater management in the Mamre Road and Aerotropolis initial precincts, the Minister for Lands and Water has appointed Sydney Water as the stormwater drainage manager for these precincts. This appointment will enable delivery of integrated water cycle management in these precincts and contribute to Government's vision for the Western Parkland City.

For the Mamre Rd precinct, stormwater will primarily be collected in regional detention basins. Stormwater collected from these basins will be distributed via a third pipe system to meet irrigation and industrial demands. Highly treated wastewater (from the Upper South Creek Advanced Recycling Centre) will be used to top up the supply if needed. This innovative approach will both reduce the demand on drinking water and play an important role in reducing the impact of stormwater discharges on South Creek and its tributaries. The use of regional detention basins will also free up developable land, by reducing land required on lot to meet waterway health targets.

The Department is playing an active role in facilitating cooperation with Sydney Water and Councils' to confirm roles and responsibilities of the various parties of this new approach. This is important for

determining developer charges, land acquisition requirements, and the timely role out of development.

Learnings from the implementation of integrated water cycle management approach is important for informing future servicing in other areas, including the role and contribution of wastewater recycling and stormwater harvesting to meeting water needs, including those related to urban amenity, cooling and greening.

Best practice IWCM framework

The Department is undertaking a review of best practice Integrated Water Catchment Management (IWCM) which will inform the development of a State-wide IWCM Framework. As part of the best practice IWCM review, the Department will consider the IWCM plans Sydney Water has developed for the Aerotropolis and Mamre Rd to identify next steps and key priorities for enhancing cooperation to support stormwater harvesting opportunities.

Stormwater harvesting policy review

The Department is also reviewing its approach to the regulation of stormwater harvesting. It is anticipated that this review will be complete by the end of 2023.

Recommendation 2: By July 2021, the Department should establish clear mechanisms to ensure water conservation is treated explicitly in the management of Greater Sydney's water resources, including:

a. **establishing formal governance arrangements to assist in developing and implementing Sydney Water's planning and reporting for water conservation.**

The Committee notes in its response, the Department stated that a dedicated Water Conservation Working Group is being established to oversee the implementation of the water efficiency framework across Greater Sydney and the rest of the State.

Can you please provide further information on the timeframe and milestones for the establishment and outputs of this working group as this recommendation was due to be completed by July 2021?

A Water Sector Leadership Group has been established, co-chaired by the CEO NSW Water Sector in the Department of Planning and Environment and the Deputy Secretary of NSW Treasury and attended by the chief executives of the state-owned corporations and the Deputy Secretary of the Department of Regional NSW. This group has responsibility for implementing the Government's vision for the water sector, including water conservation and efficiency.

An inter-agency Implementation Oversight Committee (IOC) for the GSWS has been established and will report to the Water Sector Leadership Group. It will have representatives from Sydney Water, WaterNSW, NSW Health, Treasury, Dept of Planning and Environment-Planning, Dept of Planning and Environment- Water, Government Architect and Environment and Heritage Group. They will provide oversight of all the actions included in the Greater Sydney Water Strategy Implementation Plan, including those related to water conservation and efficiency. The Implementation Plan, to be published with the strategy, identifies the key actions that will be undertaken over the next three years to deliver on the priorities of the strategies and who is responsible for delivering on those

actions. It is expected that the IOC will meet approximately every six weeks, with the first meeting scheduled in June 2022.

A Strategic Water Efficiency working group was formed in early 2022, chaired by the Department of Planning and Environment and attended by senior staff responsible for the planning of water efficiency in Sydney Water and Hunter Water. The working group will report to the IOC above. The purpose of the working group is to encourage discussion and exchange knowledge between its members on the strategic planning, development and implementation of water efficiency initiatives and to promote best practice water efficiency management in NSW.

The terms of reference note the working group will:

- Share the learning's and experiences in planning, implementing and evaluating water efficiency programs and initiative to improve knowledge and lift capabilities.
- Collaborate and identify synergies across the different programs and initiatives.
- Discuss strategic issues, policy, programs and project information to improve strategic planning of water efficiency.
- Facilitate the dissemination of information in NSW.
- Represent the key points of contact at strategic level among its members.

Outside the Sydney area, there are over 89 local water utilities owned and managed by local governments and five regional water counties, we engage with the local water utilities on water conservation via the Water Directorate, the Town Risk Reduction Working Group and a facilitated co-design process for specific initiatives.

b. establishing roles and responsibilities for water conservation research, planning and implementation, and engaging Sydney Water, IPART and other agencies in this activity.

The Committee notes in its response, the Department indicated that establishing roles and responsibilities for water conservation research, planning and implementation has been included in the forward work plan for the Department's Water Group

Can you please provide further details on the progress, timeframes and milestones for this work as the establishment of these roles and responsibilities, noting the recommended deadline was July 2021?

A public Implementation Plan has been developed to show progress against the actions in the NSW Water Strategy, including water conservation and research and innovation. Part 1 of this plan identifies:

- what we will deliver in 2021-22 under the seven priorities in the NSW Water Strategy
- who the lead agencies and partners are that will work together to deliver the actions.

We will publicly report on progress annually, and update the Implementation Plan every year to reflect actions for the year ahead. Annual reporting on implementation will provide transparency and accountability for delivering the Strategy for the NSW community.

Implementation of the Strategy is adaptive and has been designed to address changing and emerging issues through regular review. An integrated framework for reviewing and reporting against the NSW Water Strategy, the 12 regional water strategies and two metropolitan water strategies (Greater Sydney Water Strategy and Lower Hunter Water Secuity Plan) will allow us to track the effectiveness of implementation against achieving the actions of the NSW Water Strategy. The NSW Water Strategy will be formally evaluated and updated at least every five years.

c. **evaluating progress with the Greater Sydney Water Strategy, including annual reviews of the level of investment (by DPIE and Sydney Water) in water conservation.**

The Committee notes in its response, the Department stated that the Greater Sydney Water Strategy will have a regular monitoring and evaluation report which will include data on the progress of Sydney Water and the Department on water efficiency and conservation actions.

Can you please provide further information on the progress, timeframes and milestones for this work?

Analysis of water conservation programs in Sydney was undertaken to inform the water demand forecasts and potential future water savings in the Greater Sydney Water Strategy. In addition, we engaged consultants to undertake a comprehensive review of Sydney Water and the Department's progress against the Water Efficiency Framework in August 2021. This review was shared with Sydney Water and is informing the future focus of water efficiency in Sydney.

The Greater Sydney Water Strategy is due for release in mid-2022 and will be accompanied by an Implementation Plan detailing the detailed actions and responsibilities over the next three years to deliver on the key priorities identified in the strategy, including actions related to water conservation. The Greater Sydney Water Strategy will include annual updates on the status of the actions in the implementation plan, including progress towards meeting the water efficiency and conservation goals and actions identified in the GSWS. This will be reported to the Water Sector Leaders Group, and where appropriate, to Cabinet. The first update to Cabinet is expected to be in the second quarter of 2023.

In addition a more detailed Monitoring and Evaluation Framework is being developed that will inform in detail how to monitor progress against the implementation action, but also monitoring for other key inputs and trends to establish whether the fundamental assumptions on which the strategy has been developed have significantly changed, and whether the strategy is delivering on its intended outcomes.

Recommendation 4: By July 2021, the Department, working with Sydney Water, should assess the viability of current and future water conservation initiatives, including:

a. **commissioning a detailed options study to inform a water conservation program.**

The Committee notes in its response, the Department stated it has engaged consultants to develop a best practice water efficiency framework and a gap analysis of current water efficiency programs and activities in Sydney. This response does not directly address the recommendation. The Committee further notes, water conservation is broader than 'water efficiency' as the former also covers a reduction in water loss, waste or use.

Can you please provide further information on progress with a detailed options study to inform water conservation initiatives more broadly?

As part of developing the Greater Sydney Water Strategy, the potential for water conservation (including recycling, leakage reduction and water efficiency) to contribute to water security and drought resilience was assessed, along with supply augmentation options. The strategy identified that an ambitious, but achievable water conservation program could deliver water savings of 49GL by 2040. This volume of water savings was based on a joint assessment by Sydney Water and the Department of Planning and Environment.

Jacobs, who were engaged by the Department to assist in the engineering analysis of options to inform the strategy, considered the potential for both purified recycled water and desalination to address the supply/demand gap and contribute to drought security.

The strategy also identified, at a strategic level, the potential additional demands of water to achieve greening and amenity outcomes, and the contribution that recycled water and stormwater could play in achieving these outcomes. Greater use of stormwater and recycled water to cool and green the city – an additional 68 billion litres of water will be required by 2035 to support these liveability outcomes. Of this, it was estimated about 48 GL (70%) could be met by stormwater, rainwater and recycled water.

More detailed and place-based assessment of recycling opportunities for both purified recycled water and for third pipe applications (ie for non -drinking purposes) is being undertaken by Sydney Water as part of its more detailed service and asset planning. This will inform Sydney Water's Long Term Capital and Operations Plan which is currently being developed and will be complete in mid-2023.

In addition, the Department engaged consultants to identify and collate water efficiency initiatives and technologies within Australia and internationally, this report will be made available on the Department's website as a reference document in the second half of 2022.

b. applying an evidence-driven method to assess water efficiency and leakage management initiatives, and water recycling schemes.

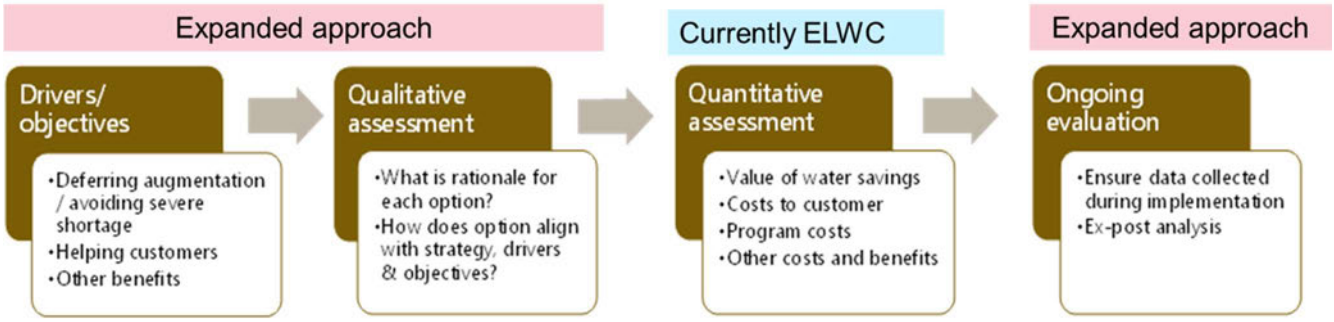
The Committee notes in its response, the Department has engaged consultants to review the Economic Level of Water Conservation (ELWC) method and develop a new Water Efficiency Assessment Approach. The Committee further notes, water conservation is broader than water efficiency and this recommendation also related to leakage management activities and water recycling schemes.

Can you please provide further information about how the Economic Level of Water Conservation (ELWC) method relates to the new Water Efficient Assessment Approach?

The Water Efficiency Assessment Approach recommended by the consultants broadens the scope of assessment for water efficiency, taking into consideration both regional and metropolitan water utilities.

The Economic Level of Water Conservation (ELWC), is currently used by Sydney Water and Hunter Water as a requirement under their Operating Licences. ELWC currently assesses the value of water at a point in time (ie associated with a specific dam level) and acts as a threshold for deciding which individual water efficiency initiatives will be included in a yearly program. An economic assessment remains embedded within the Water Efficiency Assessment Approach. However, the Water Efficiency Assessment Approach aims to achieve better alignment with strategic water servicing objectives, by broadening the scope of assessment (as seen in the figure below) to require a preliminary, qualitative assessment of water efficiency initiatives against the water efficiency program objectives. It also includes a final assessment of the water efficiency program as a package in relation to the overarching objectives and drivers of the water efficiency program.

In the Sydney context, the objectives and drivers will specifically relate to the role water efficiency has in supporting a resilient water supply for Greater Sydney as identified in the Greater Sydney Water Strategy. The objectives and drivers may also include other considerations, such as managing the impacts of water restrictions or supporting vulnerable customers. Finally, the Water Efficiency Assessment Approach embeds ongoing evaluation to improve the robustness of assumptions and quantitative assessments of options in future years.



ELWC is one quantitative method of assessing which individual options should be included within a water efficiency program. The recommendations included by the consultant for the new Water Efficiency Assessment Approach recommends several methodological and computational improvements to Sydney Water and Hunter Water's current ELWC approach. The Department will continue to monitor this method against the strategic outcomes to ensure it provides a robust, evidence driven approach to assessing water efficiency.

The Water Efficiency Assessment Approach can apply to leakage, but alternative mechanisms, such as shadow pricing are currently being investigated by IPART. The Department will continue to work with IPART to ensure a robust, evidence driven approach to assessing leakage. The Water Efficiency Assessment Approach can be applied to small scale recycled water schemes but is not appropriate for assessing larger regional recycled water schemes, which will continue to be assessed as part of Integrated Water Planning processes.

c. **reviewing BASIX including water savings targets, program design and implementation.**

The Committee notes in the Department's response, the 2021 NSW Water Strategy commits to review BASIX and that a dedicated role is being created to lead this work and that funding has been secured. The Committee further notes this review has been delayed until Q3 2022.

Can you please clarify why the review was delayed a further 12 months?

The formal review of BASIX water, involving targeted stakeholder engagement, was delayed, as time is needed to gather water use data needed to evaluate BASIX. Without a good understanding of the water being used by BASIX dwellings it is not possible to assess if BASIX is achieving its intended outcomes to reduce water use. This includes matching utility water consumption data with the Department's BASIX database. This work has been underway for several years and is proving more challenging than initially anticipated, due to the source data that has been collected making matching difficult.

The Department has received funding via the Smart Places Acceleration Program (Digital Restart Fund) and partnered with Sydney Water to deliver a smart metering (end use) project to better understand how water is used within homes (indoor versus outdoor water usage, toilets, showers etc), including the use of water from rainwater tanks and recycled water sources. This information is needed to better understand how BASIX is working and to inform future changes. The insights into water end use cannot currently be gained from existing residential water meters that are read once a quarter. COVID initially caused supply chain issues and resourcing issues for this project, however high resolution meters are currently being installed on up to 250 homes.

A permanent resource was recruited in March 2022 to lead the formal review of BASIX (water). A request for quotes to undertake the BASIX review was sought in early May 2022. DPE remains committed to undertaking a review of BASIX during 2022 and a revised timeline is currently being established, in consultation with the partners across the water sector to ensure we have sufficient capacity and capability to deliver the desired outcomes.

If you have any further questions, please contact [redacted].

Yours sincerely,

[redacted]

Michael Cassel

Secretary
Department of Planning and Environment