Direct Potable Reuse to address Climate Change and Water Security

Patrick Lester N. Ty

Metropolitan Waterworks And Sewerage System Regulatory Office (MWSS RO)

PHILIPPINES

METROPOLITAN WATERWORKS & SEWERAGE SYSTEM
REGULATORY OFFICE

Water Security and Climate Change Resilience

- Based on the studies done by the World Bank, climate change exacerbates the problem for water security as nine out of ten natural disasters are water related.

- If the Philippines is to achieve UN Sustainable Goals on climate and development, water must be at the core of adaptation strategies.

MWSS Concession Area

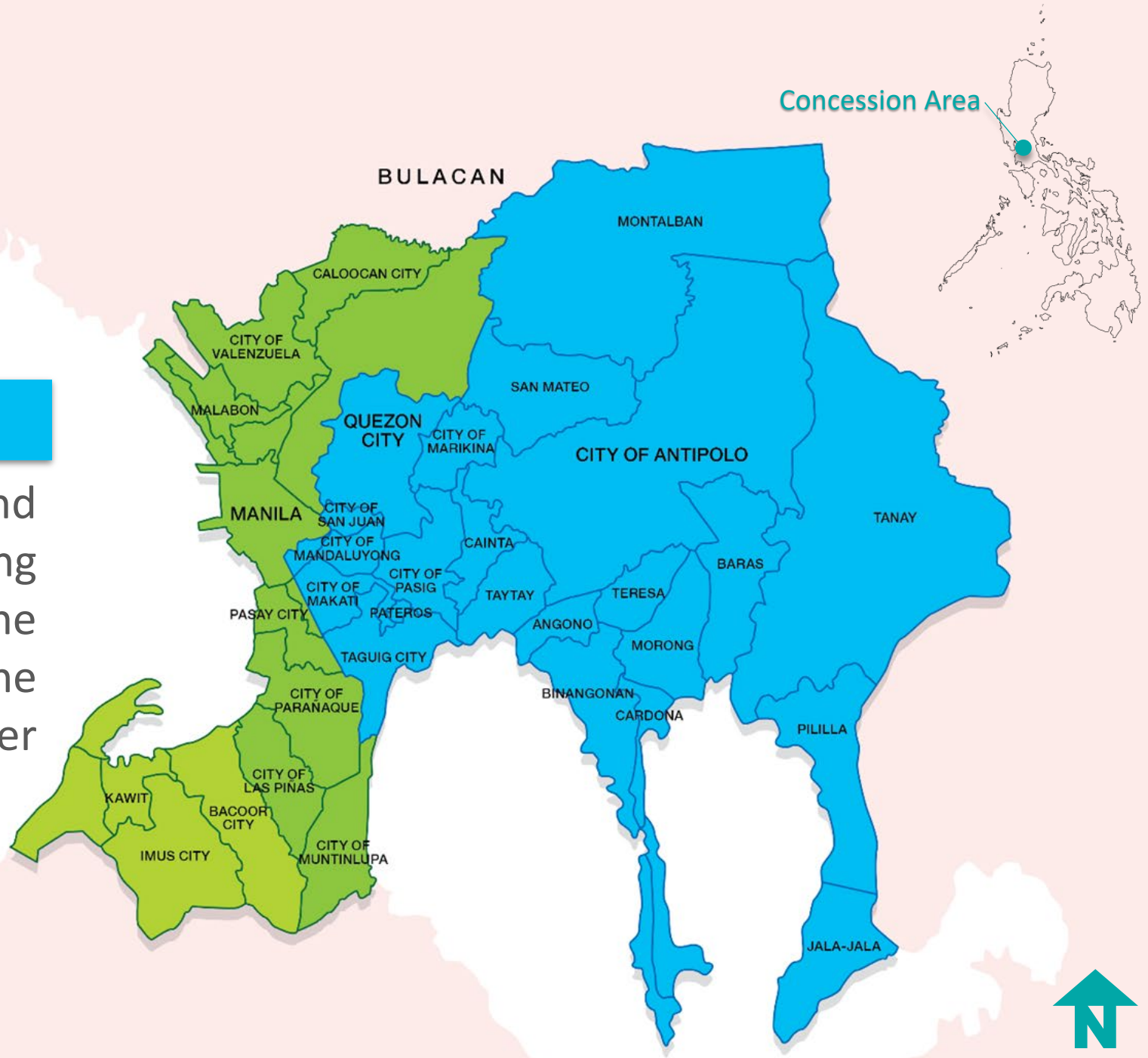
Maynilad

WEST ZONE

MANILA WATER
CARE IN EVERY DROP

EAST ZONE

Due to population growth and urbanization, Metro Manila is facing increasing water stress while at the same time facing an increase in the unregulated discharge of used water to the environment.



Water Security and Climate Change Resilience

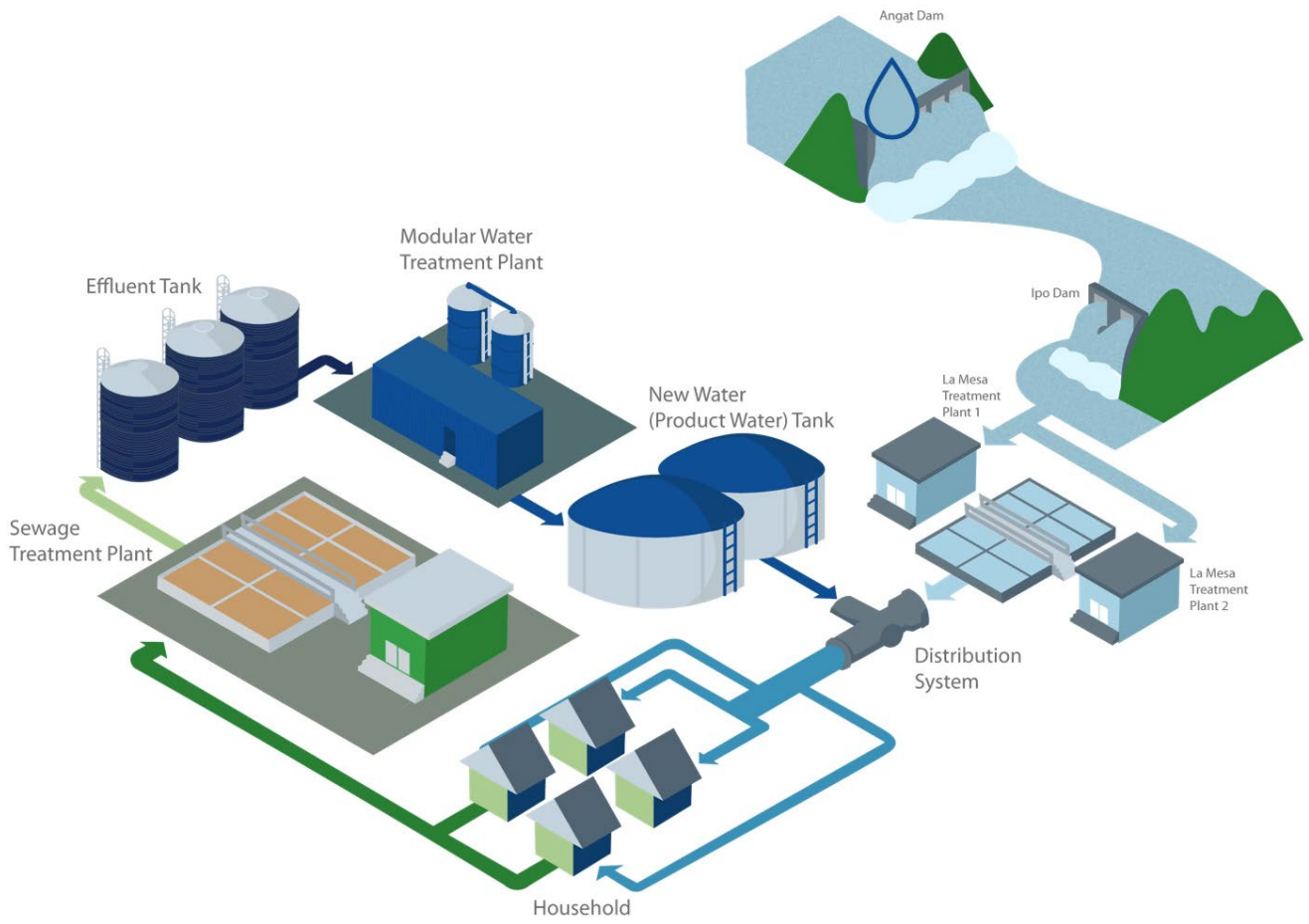
- Wastewater reuse is one of the answers to address Water Security and Climate Change Resiliency of Metro Manila.

- The development of new technology can help address these issues by doing what nature has been doing: recycling water or “NEW WATER.”

What is “New Water”?

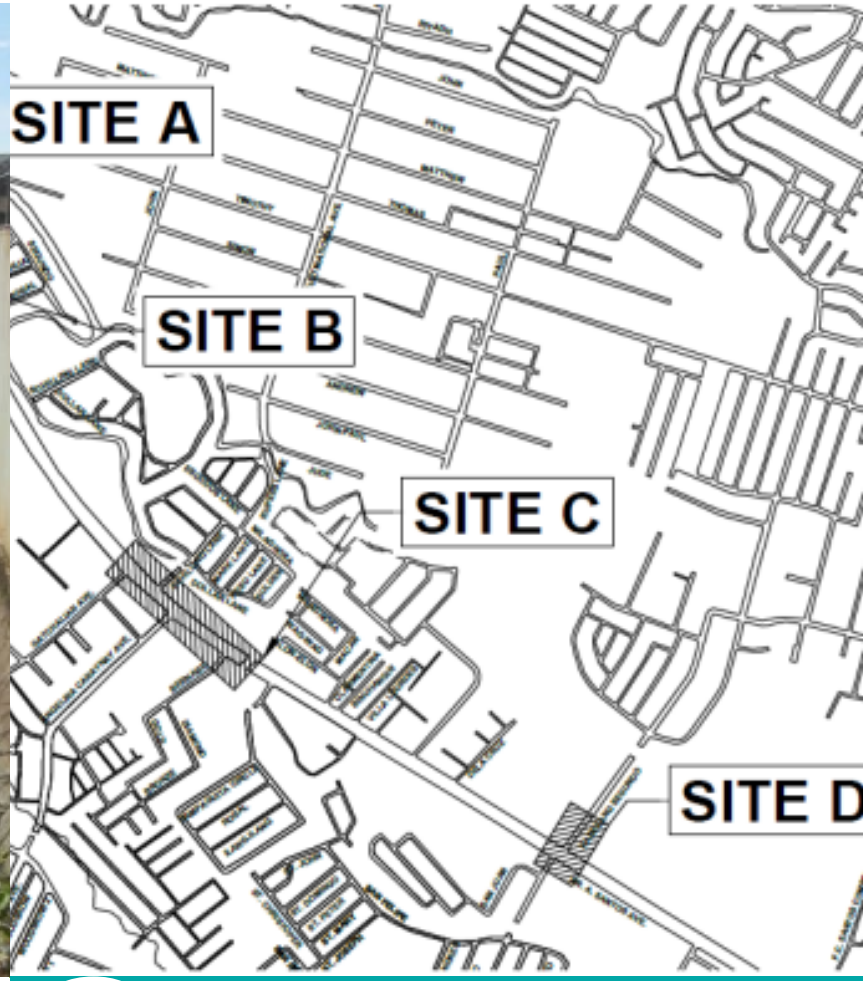
- The **“first direct potable reused water”** in the Philippines
- A **potable by-product** of used water from households that underwent rigorous wastewater and water treatment processes
- Direct Potable reused water is globally-accepted
  - ✓Countries, such as Namibia and United States, have been implementing direct potable reuse
  - ✓The Philippines will be the **first in Asia** to adopt **direct potable reuse** through “New Water”

Benefits of Water Reuse



- Helps conserve resources
- Improves Water Security by reducing over-reliance on existing water sources, as well as reliance on deep wells for alternative supply
- Reduces Greenhouse gas emissions
- Relieves water-stressed areas
- Supports circular economy

Advantages of Direct Potable Reuse



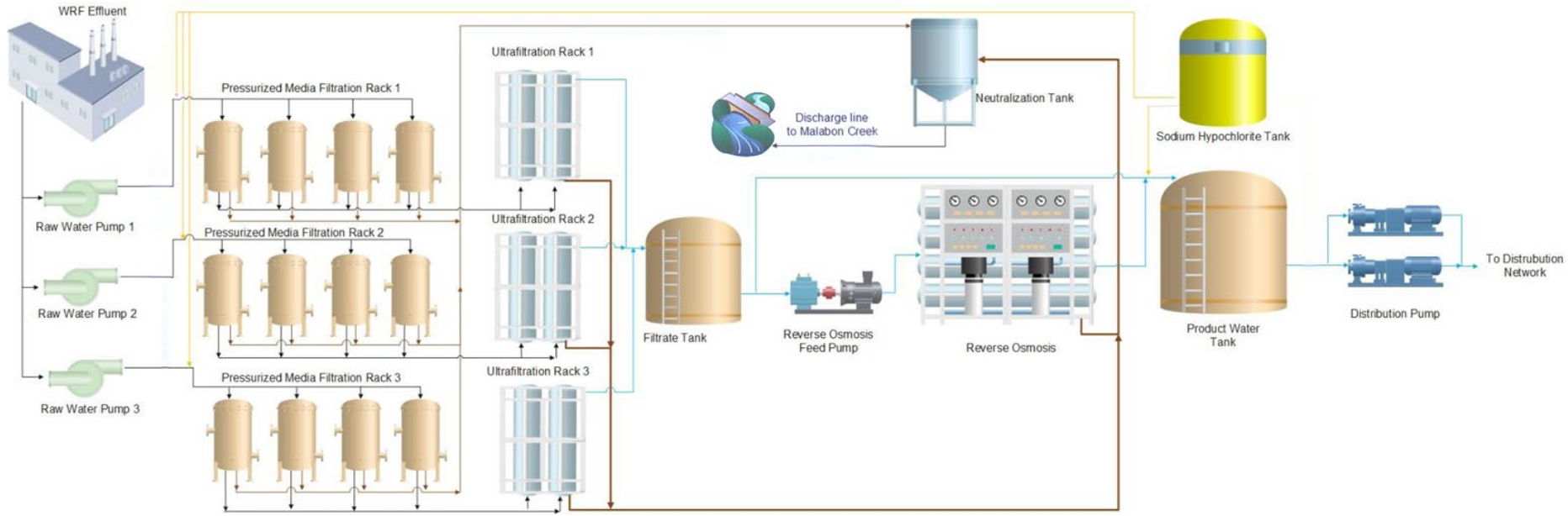
1 Consistent STP effluent quality compared to existing raw water source, such as Laguna Lake

2 STP effluent cleaner than the receiving body of water

3 Proximity of “New Water” plants allow easier delivery of potable water to consumers

“New Water” Treatment Process

10 MLD* Parañaque Modular Treatment Plant (ModTP)



Effluent Tank → Pre-chlorination → Pressurized Media Filtration → Ultrafiltration → Reversed Osmosis → Disinfection → Distribution

EFFLUENT FROM SEWAGE TREATMENT PLANT (STP)

EFFLUENT PRETREATMENT

MIXED WITH TREATED WATER FROM ANGAT DAM

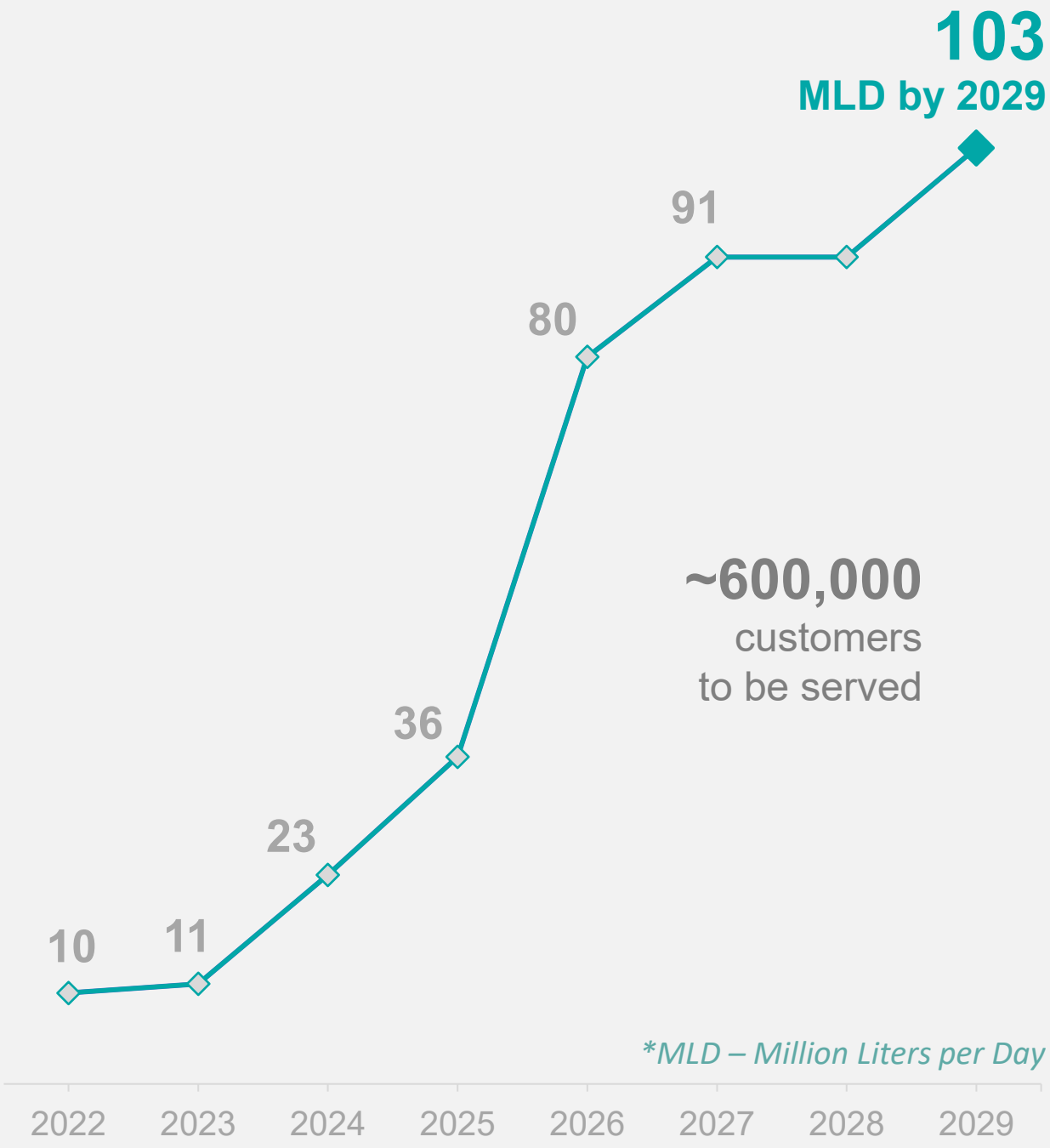
**MLD – Million Liters per Day*

10 MLD Parañaque Modular Treatment Plant (ModTP)

Social Acceptance	Operation	Influence Area	Supply Situation	Water Quality
				
43% residential **56%** commercial	**October 26 2022**	**38,700** customers	**24 hours** supply **7 psi** min. pressure	**PNSDW*-** compliant
Blind and Concept Tests were conducted for Market Research. No complaints to date.	"New Water" was officially launched last July 2022, and the ModTP started its operation on October 26, 2022.	Barangays San Dionisio and San Isidro, Parañaque City, Philippines	Pre-"New Water" supply situation: Rotational, No Water from 6 a.m. to 7 p.m.	On-site laboratory available for hourly control & monitoring of inter-processes & product water

**PNSDW – Philippine National Standards for Drinking Water*

“New Water” as Future Water Source



New Water Sites	Target Capacity (MLD*)	Target Completion Year	Population
Parañaque	Ph1 – 10 Ph2 – 10	Ph1 – 2022 Ph2 – 2025	168,500 (4 Barangays)
Valenzuela	Ph1 – 1 Ph2 – 14	Ph1 – 2023 Ph2 – 2026	45,000 (3 Barangays)
Pasay	Ph1 – 12 Ph2 – 6	Ph1 – 2024 Ph2 - 2027	70,150 (1 Barangay)
Alabang	3	2025	11,200 (1 Barangay)
Cupang	30	2026	200,000 (6 Barangays)
Tunasan	5	2027	23,500 (1 Barangay)
CAMANA	12	2029	79,000 (6 Barangays)

Moving Forward with “New Water”

- Public awareness through Information and Education Campaign (IEC)
  (e.g., Daloy Dunong for schools and customers, Media Interviews, Plant Tours, Roadshows, Social Media Engagement, etc.)
- “New Water” presentation in conferences, exhibitions, etc.
- Consistent water quality monitoring
- Separate complaints monitoring
- Collaboration with different agencies

Water can help fight climate change. There are sustainable, affordable and scalable water and sanitation solutions.

World Water Day 2020 Campaign

WATER & WASH FUTURES 2023
Achieving SDG6 in a Changing Climate

Thank you.

Patrick Lester N. Ty
Chief Regulator, MWSS Regulatory Office
patrick.ty@ro.mwss.gov.ph

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