

# Wastewater Management in East Zone of Metro Manila

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# Manila's Wastewater Management Condition

1997

3% sewer coverage

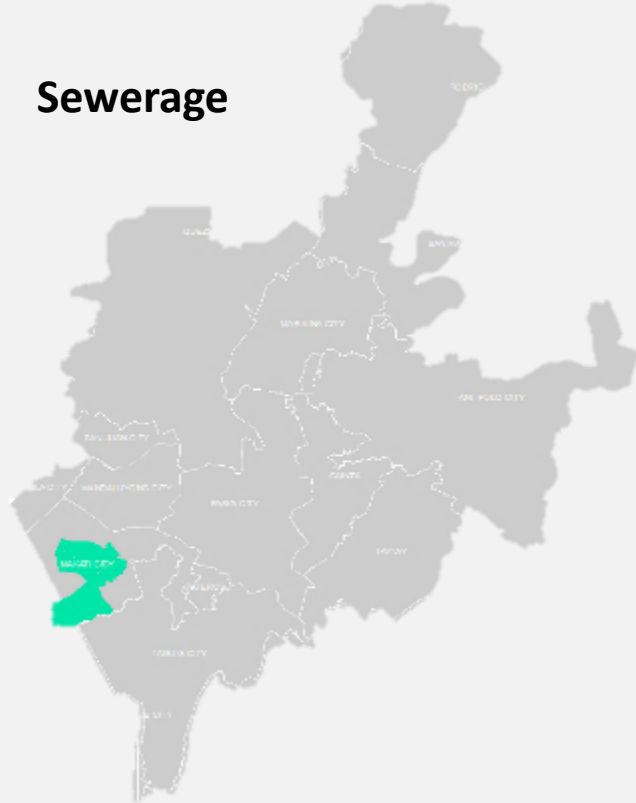
45,000 approx. Population served

1 Wastewater Facility

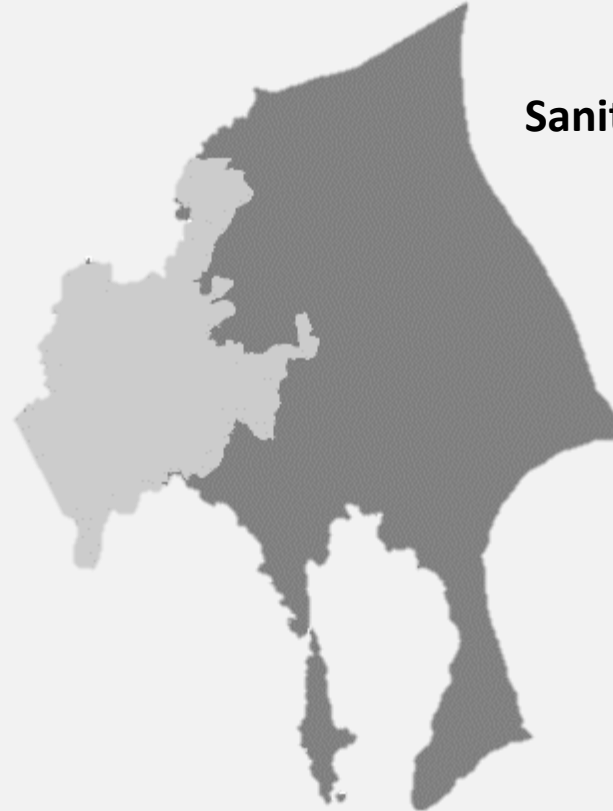
56 Households desludged

269 approx. Population served

Sewerage



Sanitation



Domestic sources were the major pollution source

## CURRENT CHALLENGES

- Expropriate/acquire 100 ha of land and 500 km right-of-way for facilities and sewer network
- Delays in acquisition of permits and limited allowable working hours from Local Government Units
- Lack of willingness of customer to avail of desludging services and connection to sewer network
- Homeowners constructed structures on top of septic tanks, making it difficult to locate and desludge
- High volume of solid waste intrusion
- Uncontrollable discharge from residential, commercial and industrial establishments
- Informal settlers' open defecation and obstruction of waterways
- Limitations brought by COVID-19 Pandemic

# Wastewater Management Strategies

## Sewage Treatment Plant

### Separate System



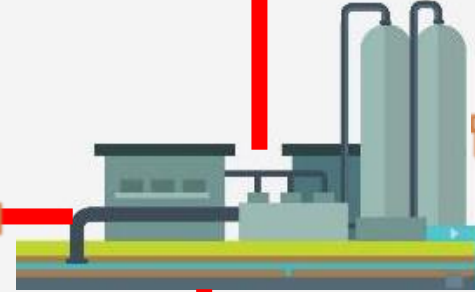
### Combined System



### Non-sewered Service



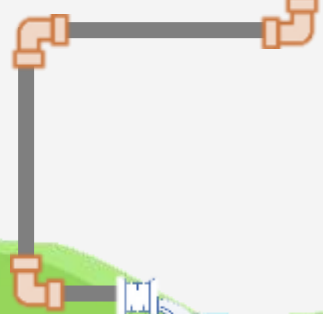
### Pump/Lift Station



The wastewater management of Manila Water includes the **collection** of sewage and septage from households and establishments, to **conveyance**, **full treatment** and **safe disposal** of by-products.



### Effluent



### Biosolids



# Wastewater IEC and Advocacy



Clean-up Drives



Adopt-an-Estero/Water Body Program

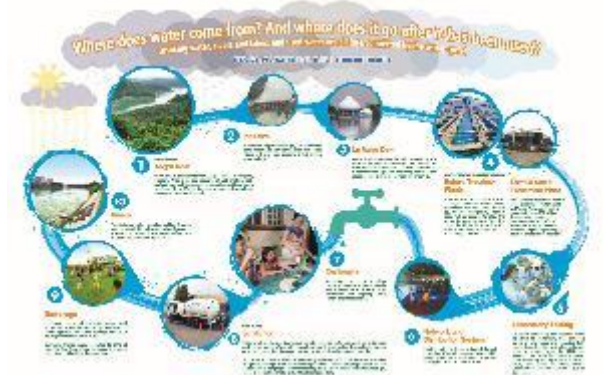


Tree Planting

**MAKI-TOKA TAYO,  
TANDAAN ANG 4S!**

1. SEPTIC TANK DESLUDGING
2. SEWER LINE CONNECTION
3. SEGREGATION OF WASTE
4. SHARE THE ADVOCACY

MANILA WATER  
TOKA TOKA TAYO  
PARA SA MALINIS NA ILOG!  
ASSOCIATED FOUNDATIONS, INC.  
ADB



Lakbayan: Water Trail



Information Education Campaigns



LOCAL GOVERNMENT UNITS

NATIONAL GOVERNMENT AGENCIES

CORPORATIONS AND OTHER ORGANIZATIONS

Partnering with LGUs, NGAs, Corp. and Org

# Wastewater Operations Profile

**34**  
Separate  
Sewer  
System

**5**  
Combined  
Sewer-Drainage  
System

**2**  
Septage  
Treatment  
Plants

**30** Outsourced Services

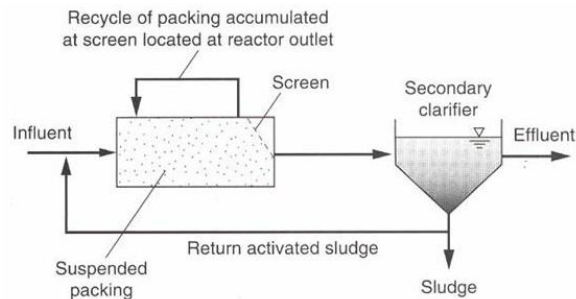
## Initiatives Towards Efficiency



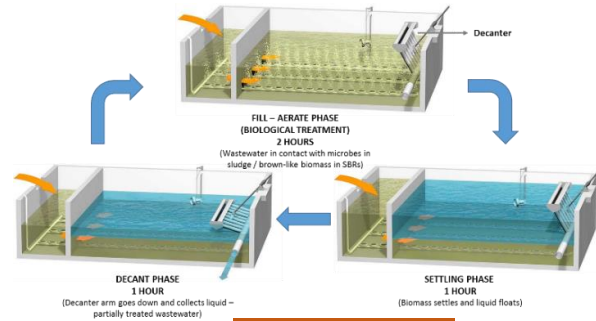
Screw and Turbo Blower



Geotube



CAS + BNR



SBR + BNR



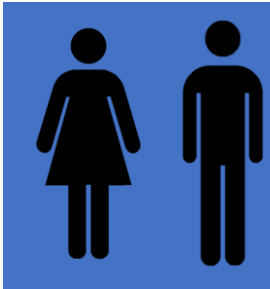
Solar Panels:



Instrumentation



Applications



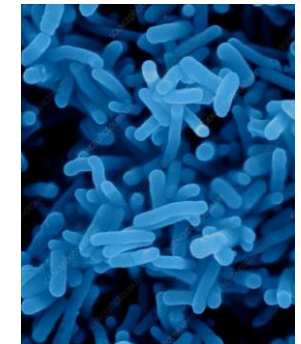
**60%**  
Millenials

**100%**  
Safe Workplace

**15%**  
Women



Operations Central Monitoring System



New culture of microorganisms

# Wastewater Operations Profile

Marikina North (100 MLD)



FTI SpTP (2.8 MLD)



Taguig North (75 MLD)



Olandes STP (10 MLD)

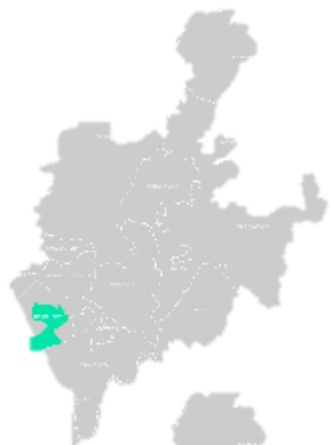


Ilugin (100 MLD)



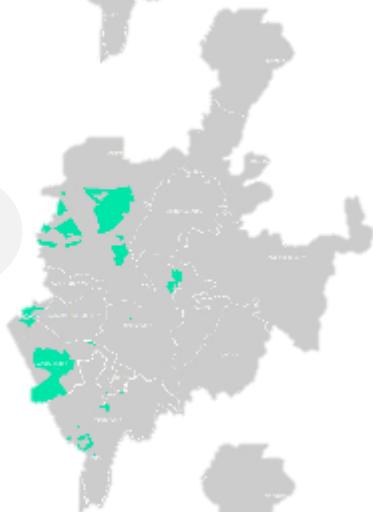
# Wastewater Coverage in East Zone

1997



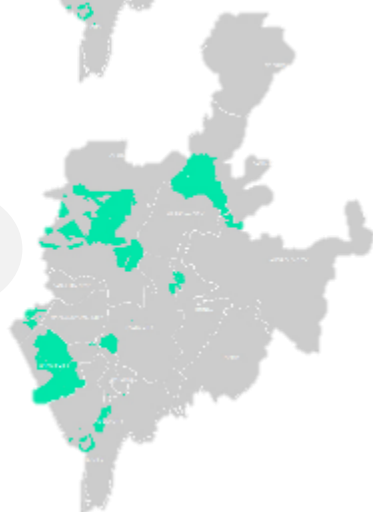
1 Ww Facility  
45,000 Population Served  
40 MLD Total Capacity  
83 km Network  
511,000 kgBOD Removed

2008



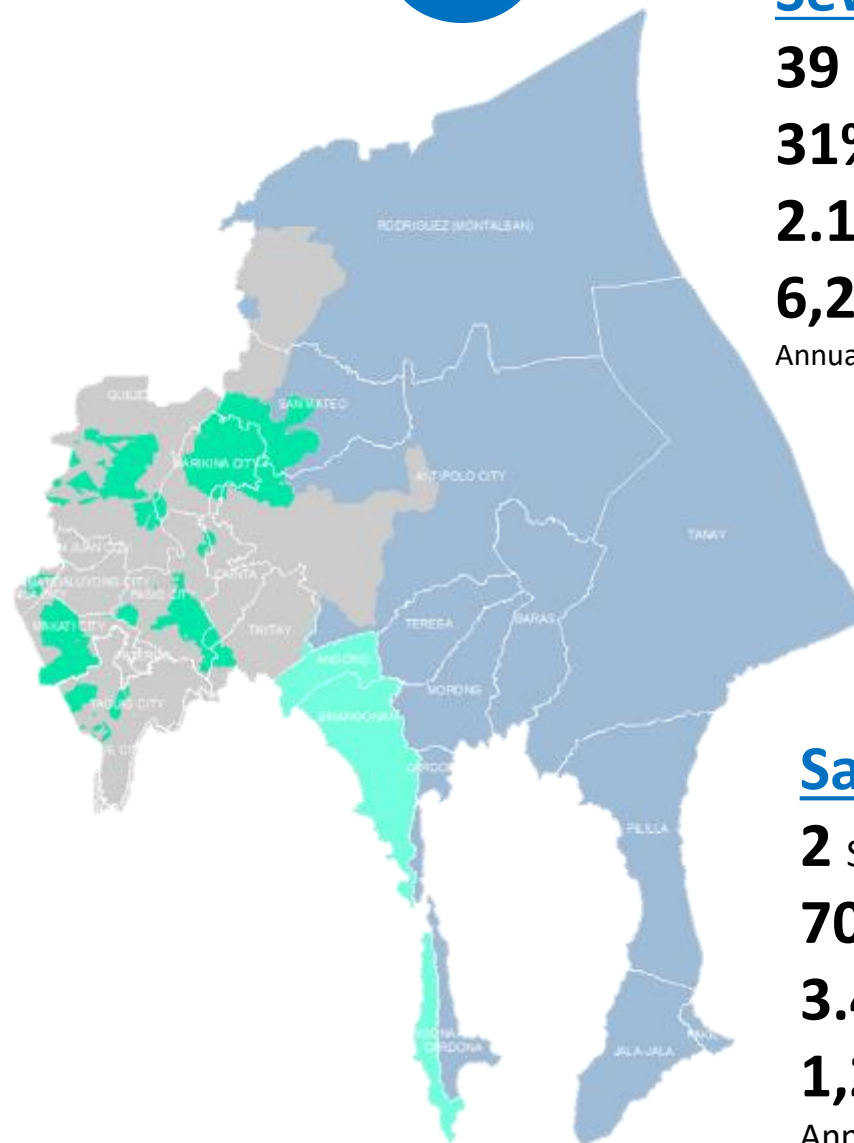
32 Ww Facilities  
336,000 Population Served  
84 MLD Total Capacity  
244 km Network  
2,721,281 kgBOD Removed

2016



40 Ww Facilities  
932,000 Population Served  
310 MLD Total Capacity  
359 km Network  
6,264,000 kgBOD Removed

2020



## Sewerage

**39** Sewage Treatment Plants  
**31%** Sewer Coverage  
**2.14M** Population served  
**6,280,440**  
Annual kg BOD removed

## Sanitation

**2** Septage Treatment Plants  
**70%** Availment Rate  
**3.49M** Population served\*  
**1,282,692**  
Annual kg BOD removed

*\*cumulative 2017-2020; with remaining population to be served until 2021*

# Wastewater Management Moving Forward

1997-2016

2017-2021

2022-2026

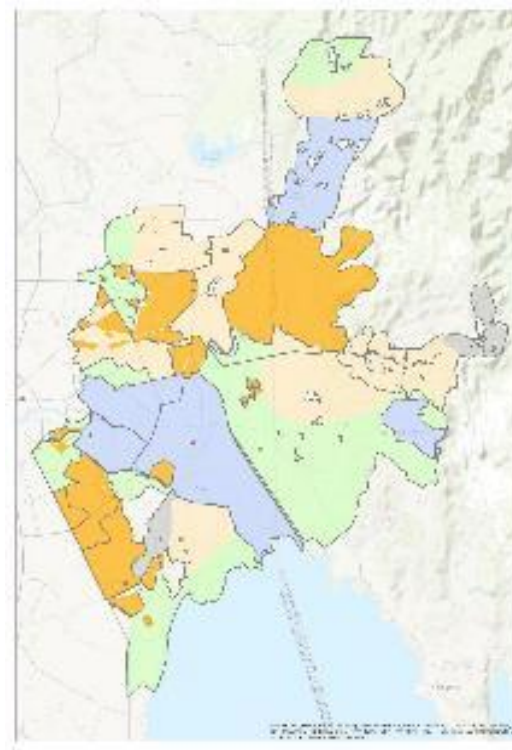
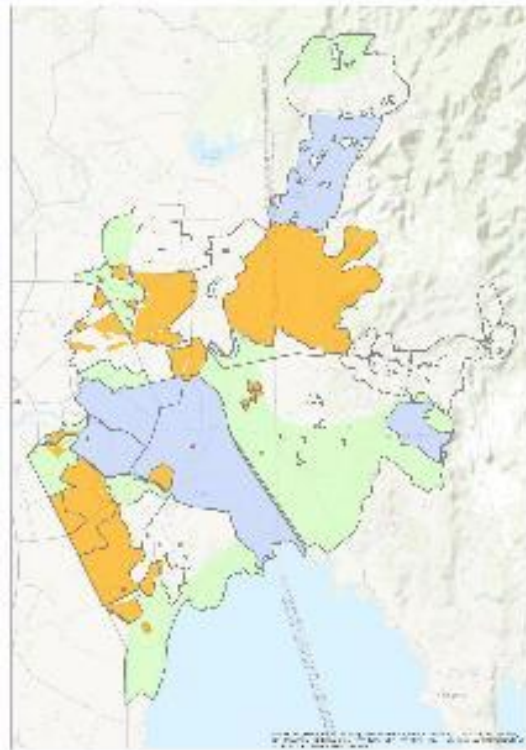
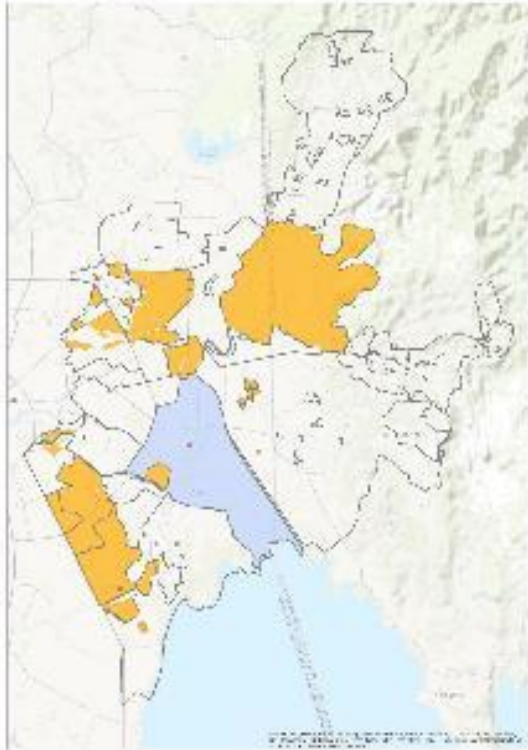
2027-2031

2032-2037

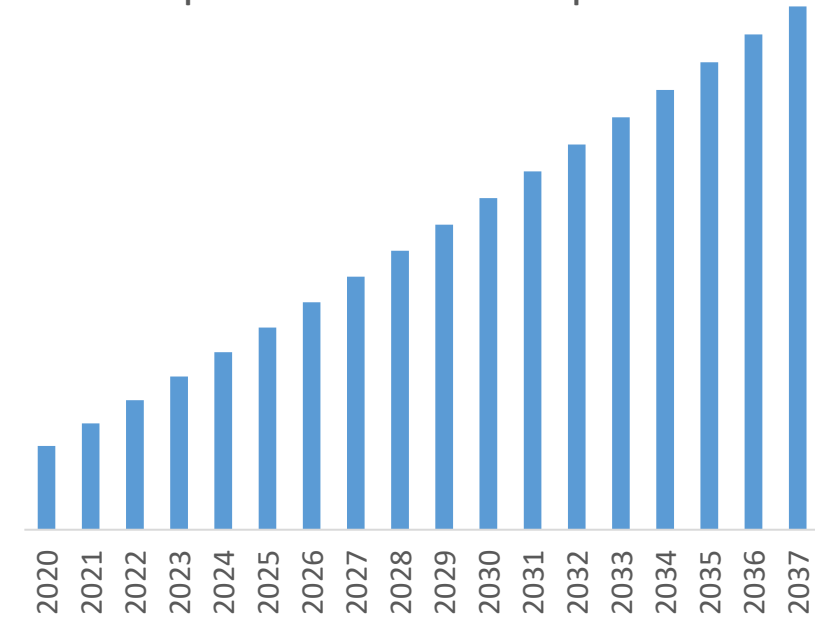
2021

2026

2037



## Septic Tanks to be Emptied



**3** Septage Treatment Plants

**1.4** MLD Total Capacity

**99%** sewer coverage

**475K** Septic Tanks Emptied every 5 years

**41** Wastewater Facility  
**410** MLD Total Capacity  
**455** Km sewer network  
**32%** sewer coverage  
**2.1 M** Population served

**48** Wastewater Facility  
**805** MLD Total Capacity  
**625** Km sewer network  
**65%** sewer coverage  
**4.5M** Population served

**51** Wastewater Facility  
**1,257** MLD Total Capacity  
**885** Km sewer network  
**99%** sewer coverage  
**7.5M** Population served

## Asset Management Plan



# Key Messages

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- Manila Water remains **committed** to serve the East Zone of Metro Manila with water and sewerage services.
- Manila Water will undertake necessary **investments** in providing citywide inclusive sanitation to the the entire East Zone.
- Partnerships** with local government units, national government agencies, regulators and communities are needed for the successful implementation of programs.



**MANILA WATER**

CARE IN EVERY DROP

**MARAMING  
SALAMAT!**