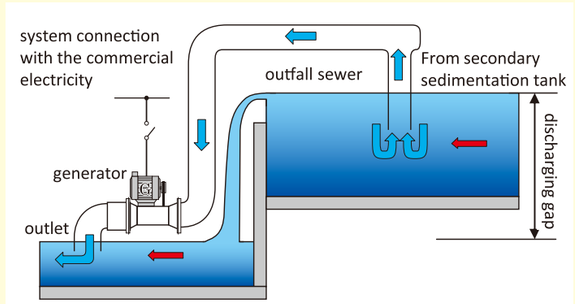
Small Scale Hydraulic Power Generation

The outfall for the treated water is installed several meters above sea level to protect it from high tide. There are 5 stations that generate around 800,000kWh electricity/year using the discharge gap (equivalent to the electricity consumption of 220 ordinary households). Hydraulic power generation is capable to generate stabler than photovoltaic or wind power generation.

●Operation started: June 2005



Photovoltaic (Solar) Power Generation

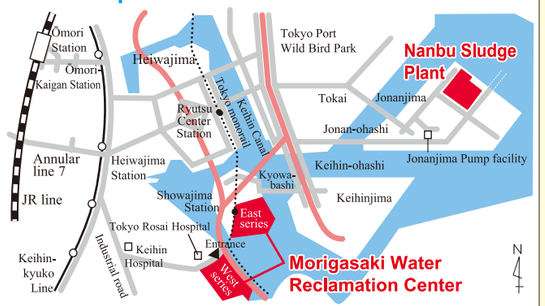
There are no tall buildings around the eastern facility of the center, and therefore 4,480 sheets of solar cell modules of 250 W have been installed on the shelter coverings of the openings of reaction tanks. The maximum power output is 1MW, and the power of 1.15 million kWh (equivalent of the power consumption of 320 households) is obtained annually.

●Operation started: April 2016

Hydraulic and photovoltaic power generation are the sources of clean energy, which does not emit greenhouse gases such as carbon dioxide.

These kinds of power generation reduce 900 tons of carbon dioxide annually, contributing to the reduction of environmental load.

Guide map



●Address West series: 5-2-25, Omori-minami, Ota-ku, Tokyo 143-013 (office)
East series : 2-5-1, Showajima, Ota-ku, Tokyo 143-0004
Tel : 03-3744-5981

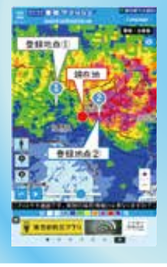
●Access Terminal Station of Keikyu Bus (for Morigasaki) from Ōmori Station or Kamata Station on JR Line
No thoroughfare for vehicles between East site and West site.

Tokyo Amesh

Tokyo Amesh is the system that shows rainfall in and around Tokyo in real time.

The rainfall is measured by radars and ground rain gauges.

※Tokyo Amesh is the registered trademark of the Tokyo Metropolitan Government.



Sewer Adventure

Pass the sewer quiz to become a sewer master.

Bureau of Sewerage website

https://www.gesui.metro.tokyo.lg.jp/

Beware of crooked dealers who pretend to be related to the Bureau of Sewerage!

The Bureau of Sewerage does not rely on businesses to repair or clean drainage facilities in housing.

Facility tours of Water Reclamation Centers

Facility tours of water reclamation centers are available except weekends, holidays, and the New Year's season.

Please contact us about reservations and details.

«Contact point for arranging facility tours»

Telephone: 03 (3241) 0944

Hours: 9:00 ～ 17:00 (weekdays only)

令和6年3月発行：東京都下水道局総務部広報サービス課 新宿区西新宿2－8－1
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Water environment cultivated by the district

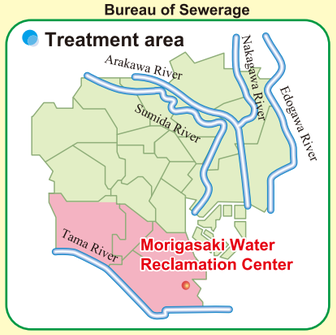
Morigasaki Water Reclamation Center

Earth-kun, the mascot of Bureau of Sewerage

Morigasaki Water Reclamation Center is the largest wastewater treatment plant in Japan that consists of two facilities：west and east. Treatment area includes most of Shinagawa, Meguro, Ota, Setagaya wards and part of Shibuya and Suginami wards. The whole area amounts to 14,675ha. It accounts for one-fourth of the whole ward area. Also it accepts wastewater from Nogawa treatment area in Tama area.

Part of the sludge produced in Morigasaki Water Reclamation Center is utilized to generate electricity through a process of gasification in digesters. The rest sent to Nanbu Sludge Plant through a pressure feed pipe, together with the sludge which is sent from Shibaura Water Reclamation Center.

Treatment area



(As of April 2024)

- Operation started：
  April 1966 (stormwater drainage)
  April 1967 (water treatment)
- Site area : 415,309m²
- Treatment capacity: 1,540,000m³/day
- Sludge treatment facilities:
  Concentrator : 4
  Thickener : 3
  Digester : 4
  Sludge elutriation tank : 1
- Storm water storage tank : 26,000m³
- Storage tank in wet weather : 118,000m³

Water treatment facilities

Western facility:
Grit chamber : 28
Primary sedimentation tank : 11
Reaction tank : 12
Secondary sedimentation tank : 24
High-rate filtration system : 1

Eastern facility:
Primary sedimentation tank : 18
Reaction tank : 11
Secondary sedimentation tank : 20

Average quality of influent and final effluent

The final effluent from the water reclamation center complies completely with the water quality standards of the Tokyo Metropolitan Environmental Security Ordinance and is sufficiently clean for fish to live in.

(Units: mg/L)

Item	Influent		Final effluent		Regional water quality standards
	Omori trunk	Ota trunk	West series	East series	
BOD	150	130	3	4	——
COD_{Mn}	73	67	7	8	35 or below
Total nitrogen	29.8	26.8	10.2	11.4	30 or below
Total phosphorus	3.2	3.0	0.7	1.4	3 or below

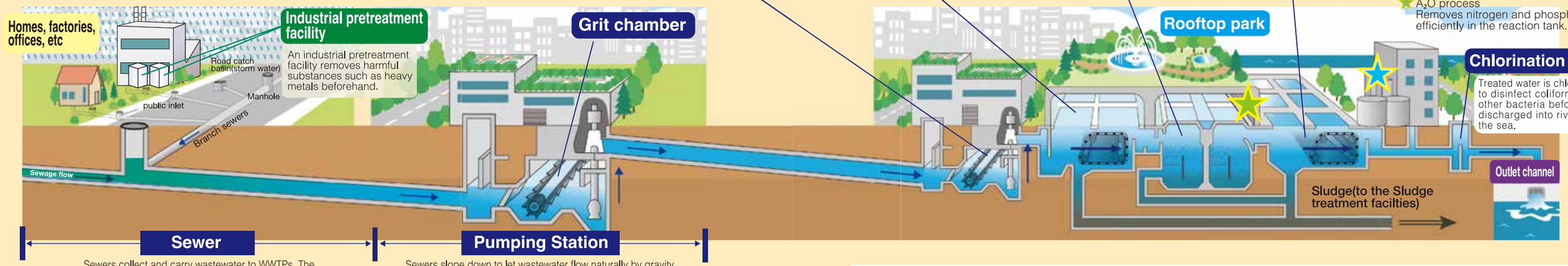
Average values of 24-hour test conducted in FY2022

※The higher values of BOD and COD indicate the higher levels of water contamination. BOD describes the amount of oxygen required by microorganisms to eat organic material in water, and COD describes the amount of oxygen required by oxidizer to decompose organic material in water. The quality levels of discharged water are specified in terms of BOD for rivers and COD for seas. Total nitrogen and total phosphorus are closely related to the generation of red tides.

BUREAU OF SEWERAGE
TOKYO METROPOLITAN GOVERNMENT

Sewerage System

Sewerage system is mainly composed of 3 components*:
sewers, pumping stations and wastewater treatment plants (WWTPs)*.
Sewers collect and carry wastewater.
Pumping stations pump wastewater to avoid sewers getting deeper.
WWTPs treat and clean wastewater.
We perform inspection, cleaning and maintenance every day to keep them working properly.
*WWTPs in Tokyo are called “Water Reclamation Centers”.



The Role of Tokyo Sewerage

Improvement of a Living Environment by Treating Wastewater

We treat wastewater from houses and factories and ensure a comfortable living environment.

Flood Prevention by Draining Stormwater

We protect the city from flooding by draining stormwater immediately from roads or residential areas.

Water Quality Conservation in Rivers and the Sea

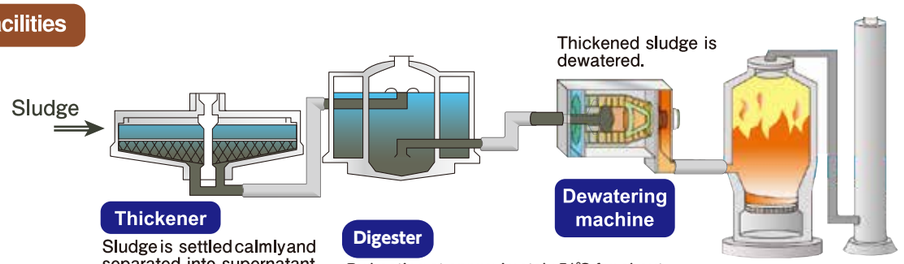
We conserve the water quality of rivers and the sea by treating wastewater and returning treated water to them.

Our New Roles

Now we play new roles in creating a good urban environment.
We use sewerage resources and energy effectively, for example, reclaimed water and sewerage heat. We also utilize rooftop spaces of our facilities as parks.

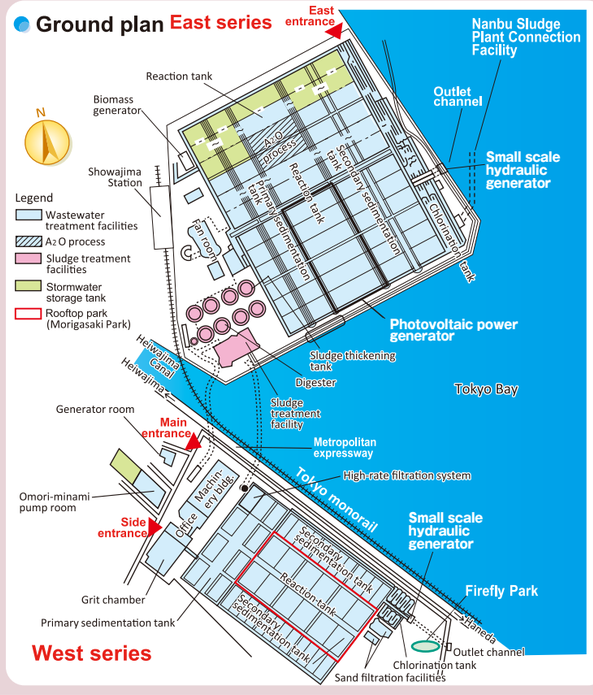
Sludge treatment facilities

Sludge is thickened, dewatered and incinerated.



※**In case of a WWTP with no sludge treatment facility**, it transports sludge to another WWTP with sludge treatment facilities.

Ground plan East series



Features of Morigasaki Water Reclamation Center

Biomass Power Generation Using Methane Gas

The generated sludge in the wastewater treatment process is thickened in thickeners.
Thickened sludge is heated *1 in an anaerobic state *2 and the organic content of sludge is gasified (methane gas) for a sludge digestion period of about twenty days at approximately 51°C, and then supplied to an electricity generation facility that uses biogas*3.
Approximately 20 million kWh of electricity is generated annually using methane gas, as fuel for generating facilities.

*1: A state of being without oxygen
*2: To warm up the sludge, hot water from generating facilities and hot water produced with waste heat at Nanbu Sludge Plant are used.
*3: renewable energy generated by bacteria


▲ Digester


▲ Power generator

The flow of digestion gas power generation