

## Photovoltaic (Solar) Power Generation NaS (sodium-sulfur) Battery

Photovoltaic power generation (approx. 330 kW), a renewable energy, has been introduced to Shingashi Water Reclamation Center. Generated power is used for pumps, personal computers, lighting, etc. at the center.



▲ Photovoltaic (Solar) Power Generation

To address power shortages, we control peak electricity demand by the NaS batteries, which are charged at nighttime when electricity demand is low and used during the daytime.

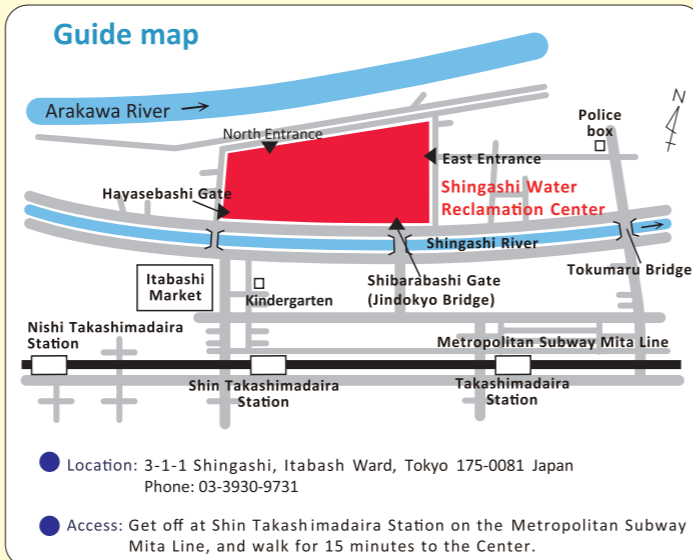


▲ NaS (sodium-sulfur) Battery

## History of Shingashi Water Reclamation Center

“Ukima Wastewater Treatment Plant,” the predecessor of this center, was constructed in order that cleaning up Shingashi River, which was considered as the worst cause of pollution in Sumida River, started operation in 1966 as a pretreatment facility of industrial wastewater from plants near Shingashi River.

Then, Ukima Wastewater Treatment Plant started treatment of wastewater from highly residential areas, most of Nerima, Itabashi and Sugunami wards and parts of Na, Kita, Toshima and Shinjuku wards, in addition to wastewater from the industrial area. The name was changed to “Shingashi Wastewater Treatment Plant” in 1974 and then to “Shingashi Water Reclamation Center” in FY 2004.



**東京都 虹の下水道館**  
 Tokyo Sewerage Museum "Rainbow"

There is a facility to enjoy the experience of learning about the sewerage system, its roles, and the importance of water environment.

- Business hours: 9:30 - 16:30
- Entry Fee: Free
- Closed: Mondays (open on holiday Mondays, closed the next day) and the year-end and New Year holidays  
 Open daily throughout the summer (July 16 - August 31)

Day (October 1)  
 Address: 2-3-5 Ariake, Koto-ku Ariake  
 Water Reclamation Center Management office (A-tower) 5th floor  
 Telephone: 03 (5564) 2458  
 Website: <https://www.nijinogesuidoukan.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.

国指定重要文化財 大正時代の趣ある赤レンガ風の建造物や地下施設を見学できます  
 国三河島汚水処分場唧筒(ポンプ)場施設

- 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/>

**油・断・快適!**  
**下水道**  
 東京都下水道局  
 油・断・快適!下水道



## Water environment cultivated by the district Shingashi Water Reclamation Center

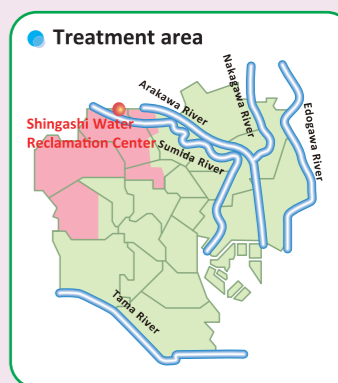


Earth-kun, the mascot of Bureau of Sewerage

The treatment area of Shingashi Water Reclamation Center includes most of Nerima, Itabashi, and Sugunami wards and parts of Nakano, Kita, Toshima, and Shinjuku wards (10,474 ha). The Shingashi treatment area accounts for approximately 18% of the entire Tokyo metropolitan area, and wastewater from there is treated jointly with Ukima Water Reclamation Center.

Treated water is discharged into Shingashi River. In addition, some of it is further treated by sand filtration and used in the center for washing/cooling of the equipment, toilet water and irrigation of the center's green areas.

The generated sludge is incinerated at the center along with sludge pumped from Ukima Water Reclamation Center.



(As of April 2026)

- Operation started: September 1974
- Site area: 184,626 m<sup>2</sup>
- Treatment capacity: 670,000 m<sup>3</sup>/day
- Wet weather storage tank:  
 South side 59,000 m<sup>3</sup>  
 North side 14,000 m<sup>3</sup>

- Wastewater treatment facilities  
 Grit chamber : 17  
 Primary sedimentation tank : 9  
 Reaction tank : 24  
 Secondary sedimentation tank : 15
- Sludge treatment facilities  
 Thickener : 6  
 Concentrator : 4  
 Storage tank : 4  
 Dewatering machine : 11  
 Incinerator : 3

**● 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	Final effluent quality standard stipulated by the Ordinance
	Ukima/Nerima trunk sewer	Hasune trunk sewer		
BOD	190	130	6	25 or below
COD <sub>Mn</sub>	97	82	7	—
Total nitrogen	31.1	30.1	10.8	30 or below
Total phosphorus	5.1	3.1	1.0	3 or below

Average values of 24-hour test conducted in FY2024  
 ※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.



# 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".

## WWTP

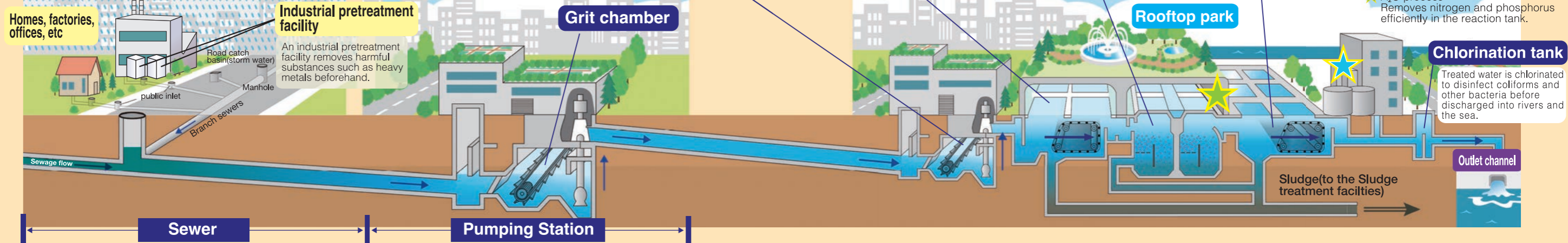
**Grit chamber**  
Wastewater flows into this chamber first. Large objects are removed, then sand and grit are settled out.

**Primary sedimentation tank**  
As wastewater flows slowly through this tank for 2 to 3 hours, solids sink to the bottom.

**Reaction tank**  
Organic matter in wastewater is absorbed to activated sludge, where microorganisms break it down. As microorganisms grow, activated sludge becomes easy to settle.

**Secondary sedimentation tank**  
As activated sludge formed in a reaction tank flows slowly in this tank for 3 to 4 hours, it is separated into supernatant and sludge.

**Advanced wastewater treatment**  
We introduce following facilities to clean treated water even more.  
★ Sand filter/Biologically active filter  
Removes residual suspended solids that the secondary sedimentation tank cannot remove completely.  
★ A<sub>2</sub>O process  
Removes nitrogen and phosphorus efficiently in the reaction tank.



# 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.

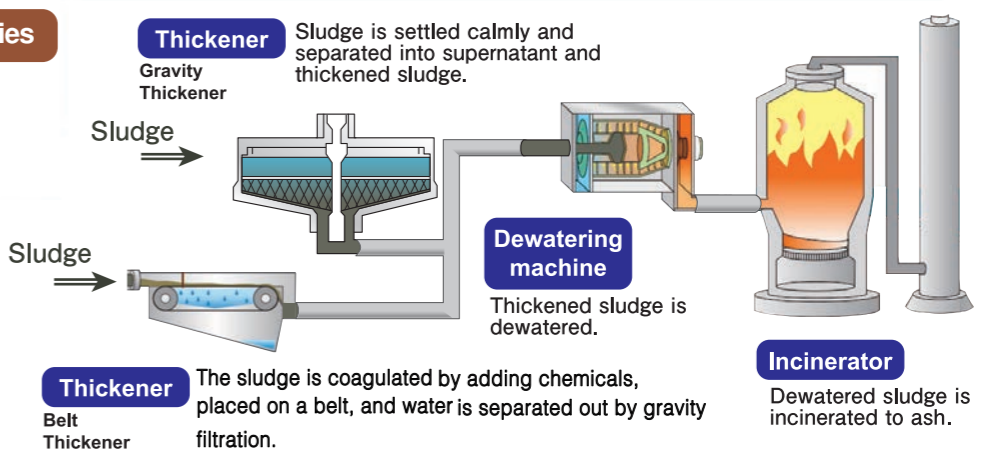
**Flood Prevention by Draining Stormwater**  
We protect the city from flooding by draining stormwater immediately from roads or residential areas.

**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.

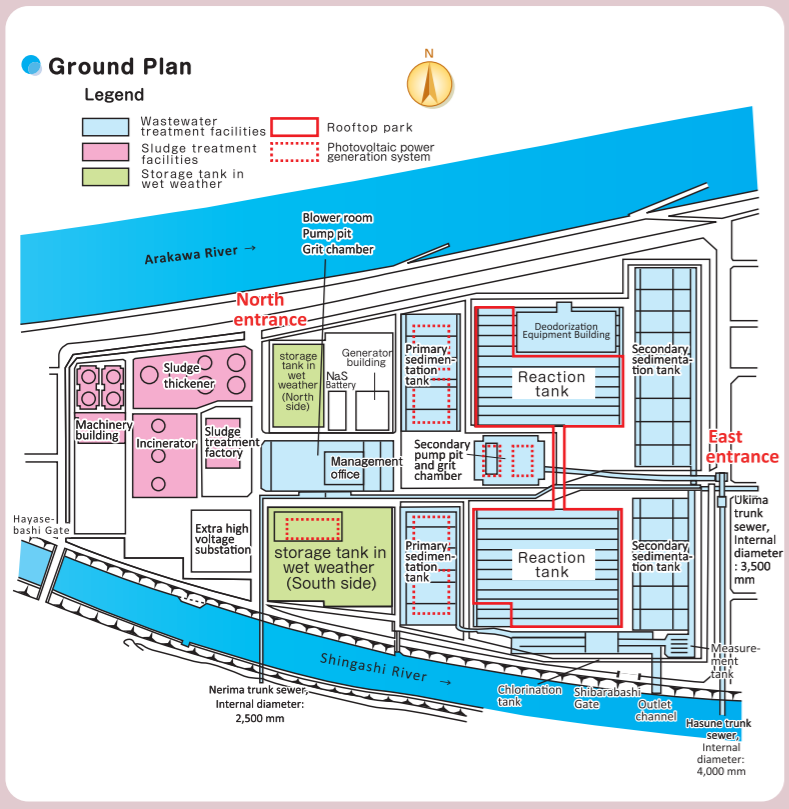
**Our New Roles**  
Now we play new roles in creating a good urban environment. We use sewerage resources and energy effectively, for example, reclaimed water and sewerage heat. We also utilize rooftop spaces of our facilities as parks.

## Sludge treatment facilities

Sludge is thickened, dewatered and incinerated.



※If a WWTP does not have sludge treatment facilities, it transports its sludge to another WWTP that has such facilities.



## Features of the Shingashi Water Reclamation Center

**Wet Weather Storage Tank**  
Stormwater that exceeds the treatment capacity and flows into the water reclamation center during rainy weather is temporarily stored in this tank. Particularly dirty wastewater at the beginning of a rain is stored here, treated at the water reclamation center after the rain stops, and then discharged into Shingashi River.



▲ Top of the storage tank (north side)

**Sludge Incinerator**  
We have installed a state-of-the-art energy neutral incinerator, for the first time in the Bureau of Sewerage. Since the incinerator is designed to generate electricity by waste heat from sludge incineration and to provide power for itself, it significantly contributes to the reduction of energy consumption and greenhouse gas emissions.



▲ Sludge incinerator

## Image of energy neutral incinerator

