Supply of Reclaimed Water to Tokyo Waterfront City

Ariake Water Reclamation Center supplies highly treated water to Tokyo Waterfront City as reclaimed wastewater.

The reclaimed wastewater is used to flush toilets in buildings and to wash vehicles on "Yurikamome," a new transit system that runs along Tokyo's waterfront.

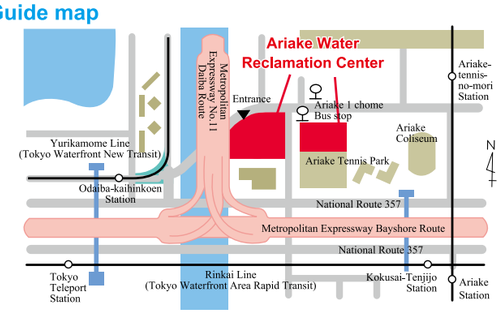

▲Base of Yurikamome vehicles

Above-ground Space full of Sports Facilities

Most of the treatment facilities are installed underground, with the above-ground space used for gymnasiums, heated pools, and sport gyms of Koto-ward and Ariake Tennis Park. These facilities are used and enjoyed by a large number of people.

Phone 03-3528-0191

Guide map



●Address 2-3-5 Ariake, Koto-ku, Tokyo 135-0063, Phone: 03-5564-2033

●Access 8-minute walk from Odaiba-kaihinkoen Station on Yurikamome Line (Tokyo Waterfront New Transit).
13-minute walk from Tokyo-Teleport Station on Rinkai Line (Tokyo Waterfront Area Rapid Transit).
3-minute walk after getting off the Metropolitan bus to "Tokyo Big Sight" or "Tokyo Teleport" at "Ariake 1 chome" from Monzennakachou station on Tokyo Metro Tozai Line or Toyosu station on Tokyo Metro Yurakucho Line.

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)
  Open on Sewerage Day (September 10) and Tokyo Citizens 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.

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/

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)

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Water environment cultivated by the district

Ariake Water Reclamation Center


Earth-kun, the mascot of Bureau of Sewerage

Ariake Water Reclamination Center treats wastewater collected in a separate sewer system, and is located at Ariake Clean Center in Tokyo Waterfront City.The treatment area is part of Sunamachi Treatment District (Tokyo Waterfront City and surrounding areas).

The Center adopts advanced wastewater treatment using A_2O method (anaerobic-anoxic-oxic process) and biological filtration process, and discharges the treated water into Tokyo Bay (Ariake-nishi Canal). Part of the treated water is further cleaned using ozone before being used inside the Center for cleaning facilities, cooling machines, and is also used as water for flushing toilets in buildings in Tokyo Waterfront City.

The generated sludge is pumped through pressure pipelines to Tobu sludge plant for treatment.

Treatment area

(As of April 2023)

- **Operation started: September 1995**
- **Site area: 46,600m²**
- **Treatment capacity: 30,000 m³/day**
- **Wastewater treatment facilities**
  - **Grit chambers: 2**
  - **Primary sedimentation tanks: 3**
  - **Reaction tanks: 2**
  - **Secondary sedimentation tanks: 3**
  - **Biofilm filtration tanks: 6**

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
B O D	140	<1	——
C O D_{Mn}	92	8	15 or below
Total nitrogen	39.0	6.7	20 or below
Total phosphorus	3.9	0.3	1 or below

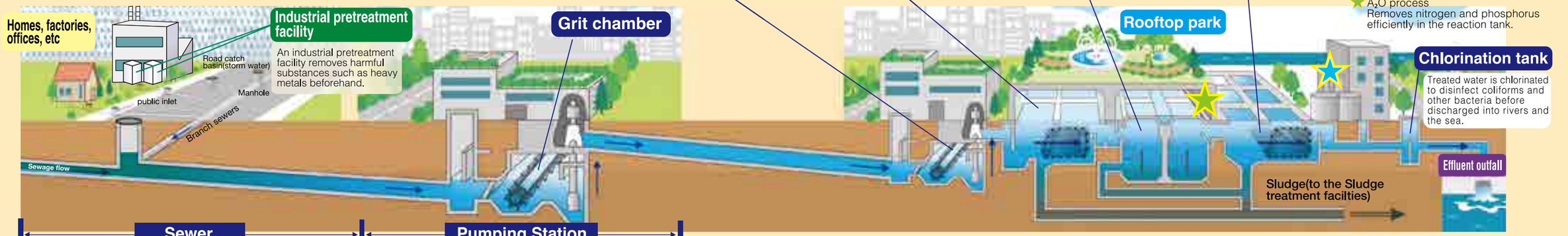
Average values of 24-hour test conducted in FY2021

※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

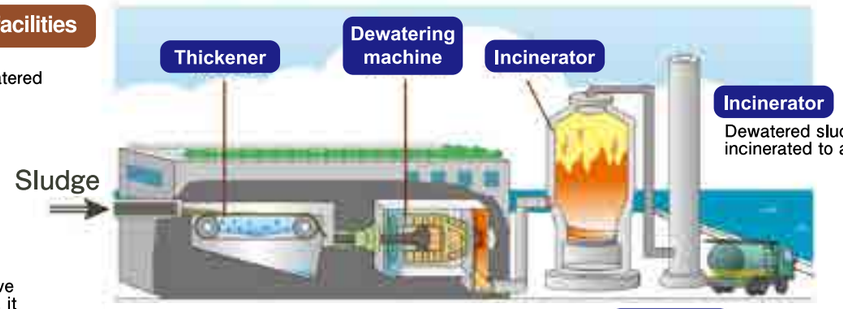
Sewerage System

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”.



Sludge treatment facilities

Sludge is thickened, dewatered and incinerated.



Incinerator
Dewatered sludge is incinerated to ashes.

※If a WWTP does not have sludge treatment facilities, it transports sludge to another WWTP with sludge treatment facilities.

Thickener The sludge is coagulated by adding chemicals, placed on a belt, and water is separated out by gravity filtration.

Dewatering machine Thickened sludge is dewatered.

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 Control in Rivers and the Sea

We improve and control the water quality of rivers and the sea by treating wastewater and returning it to them.

Our New Role

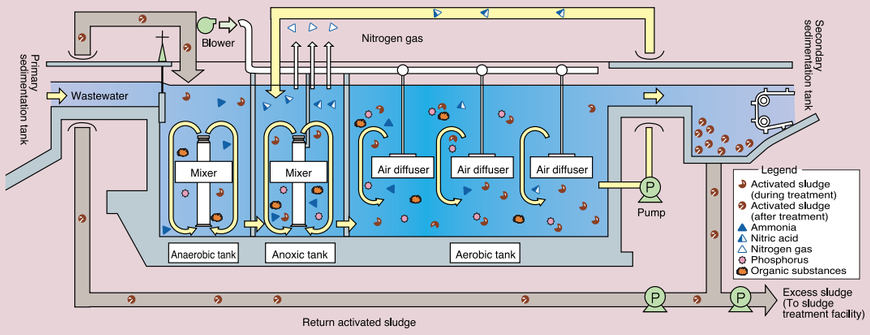
Now we play a new role in creating a good urban environment.
We use sewerage resources and energy effectively, for example, reclaimed water and sewerage heat. We also utilize rooftop spaces of our facilities as parks.

Ground plan

Features of Ariake Water Reclamation Center

Advanced Wastewater Treatment Facility (A_2O method)

Because of nitrogen and phosphorus hard to get removed by means of the wastewater treatment so far used, the red tides still appear in Tokyo Bay due to eutrophication. Hence, we are adopting an advanced wastewater treatment called A_2O method (anaerobic-anoxic-oxic process) in order to remove larger amount of nitrogen and phosphorus.



Anaerobic tank

Wastewater and activated sludge are mixed here without air supply. Due to the lack of oxygen, the microorganisms in the activated sludge discharge the phosphorus that they have stored within themselves into the water.

Anoxic tank

The water from the aerobic tank containing nitrogen combined with oxygen is fed back to the water from the anaerobic tank. The microorganisms then take in the oxygen combined with the nitrogen and start breathing, while the nitrogen deprived of the oxygen gets released in the form of gas.

Aerobic tank

By blowing sufficient oxygen, the organic substance gets decomposed by microorganisms while nitrogen is combined with oxygen. Further, the microorganisms absorb more phosphorus than is released from the anaerobic tank.

Biological Filtration Method

The biological filtration facility has almost the same structure as the sand filtration facility, so that the suspended solids (SS) get removed through physical filtration. Further, air is passed through the bottom of the filter to create a film of aerobic microorganisms (biofilm) on the surface of the filter. This allows the biodegradable dissolved organics remaining in the raw water (treated wastewater using A_2O method) to get adsorbed, dissolved and removed. In this way, cleaner treated water can be obtained.