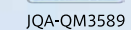


URL <https://www.tgs-sw.co.jp/>



TGS Builds Services in Harmony and Develops Them with Skills.

Message from the President

Tokyo Metropolitan Sewerage Service Corporation (TGS: Tokyo Geisuido Service) was established in 1984 to pursue efficiency and economy, while continuing to serve the public welfare, by integrating and utilizing the funding and technological capabilities of the Tokyo Metropolitan Government and private companies. Since that time, we have worked to maintain and improve sewerage service as a member of the Tokyo Metropolitan Government group by complementing or acting on behalf of the Bureau of Sewerage in sewerage projects of the Tokyo Metropolitan Government.

The projects which were started when TGS was originally established, centering on sludge treatment, have steadily grown and expanded, and now include a variety of commissioned projects from sewer pipes to wastewater treatment plants. Utilizing the advanced technologies, know-how, and human resources, which we have accumulated over the years, we have also developed businesses widely in both Japan and other countries, and have achieved many important results including development of new technologies, training of human resources and transmission of technologies to the younger generation, support in time of disasters, and international projects. In addition, in February of 2020, we registered as a construction consultant and are also promoting a consulting business using the human resources, know-how, and technologies of TGS.

Continuing these efforts, we are also working to surely transmit capabilities rooted at the site and technologies that TGS has cultivated up to the present to the young engineers who will be responsible for the next generation, and to further polish and improve the reliability, safety, and efficiency of projects.

In the future as well, TGS will continue to contribute to realizing a safe, secure, and pleasant capital city of Tokyo through the concerted efforts of all our employees, utilizing the sewerage project operation capabilities developed to date.

Ryoichi Kishimoto

Ryoichi Kishimoto
President

Corporate Philosophy

☐ Complementing and Acting as an Agency

Complementing and acting as an agency for the Tokyo Metropolitan Government, TGS performs its sewerage services to maintain and improve their performances, aiming at achieving a better global environment.

☐ The Best Mix

Ensuring safety and reliability, TGS utilizes administrative experience and brings together the vitality of the private sector to perform sewerage services efficiently.

☐ Ingenuity, and Technical Research and Development

Based on a wealth of on-site practical experience, TGS encourages ingenuity, and technical research and development to improve overall technology.

☐ Pride and Faith

With the pride and faith of contributing to society, TGS acts with sincerity.

Business Policy

As a member of a group related to sewerage in Tokyo, TGS carries out integrated business operations with the Bureau of Sewerage, Tokyo Metropolitan Government and strives to ensure the public nature of those operations. While further strengthening collaboration and continuing to secure safety and reliability, TGS committed to realizing efficient business development, and to maintaining and improving sewerage service.

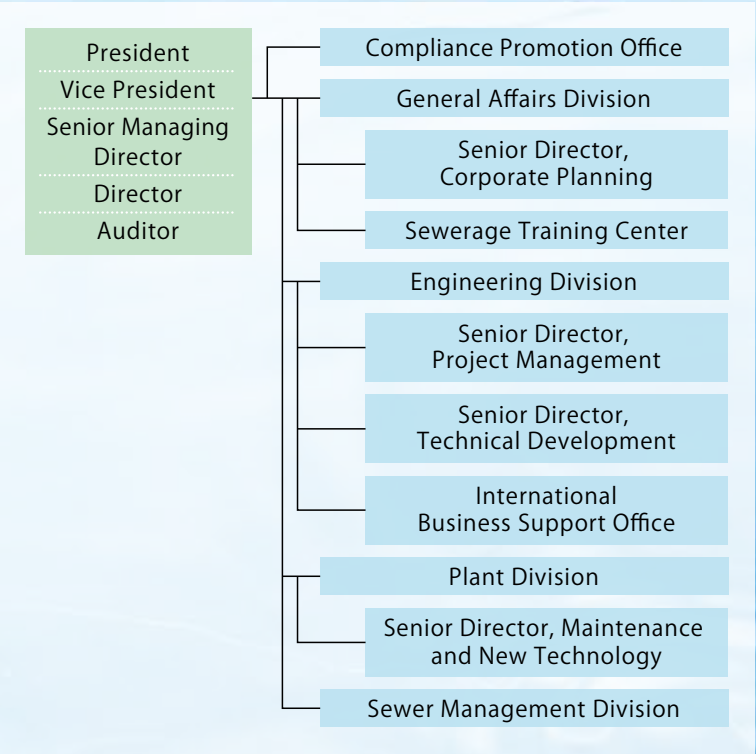
※“Gesuidou” means sewerage in Japanese.



Corporate Outline

Corporate name	Tokyo Metropolitan Sewerage Service Corporation
Headquarters	Nippon Building, 6-2, Otemachi 2-chome, Chiyoda-ku, Tokyo 100-0004 (Plant Division, Technical Development Dept. of Engineering Division, Planning Dept. of Sewage Training Center) Otemachi Nomura Building 11F, 1-1 Otemachi 2-chome, Chiyoda-ku, Tokyo 100-0004
Phone	+81-3-3241-0711 (Main number)
Fax	+81-3-3241-0912 (Compliance Promotion Office) +81-3-3241-0766 (General Affairs Division) +81-3-3241-0909 (Engineering Division) +81-3-3241-0783 (Plant Division) +81-3-3241-0710 (Sewer Management Division)
URL	https://www.tgs-sw.co.jp/
Capital	100 million yen
Sales amount	26,475 million yen (actual amount in FY 2019)
Stockholders	Tokyo Metropolitan Government Tokyo Sewerage Facility Association Sompo Japan Insurance Inc. Meiji Yasuda Life Insurance Company Mizuho Bank, Ltd. Mizuho Trust & Banking Co., Ltd. MUFG Bank,Ltd. Asahi Mutual Life Insurance Co. Tokio Marine & Nichido Fire Insurance Co., Ltd
Established on	August 1, 1984

Organization Chart



History

August 1984	TGS established
October 1984	Sludge treatment plant management service started Sludge Light Office service started Water Recycling Center service started Check service of drainage systems started
April 1985	Sewerage Call Center service started (nighttime and holidays) Parking lot management service started
June 1986	Cooperative development of SPR Method (Sewage Pipe Renewal Method) started
January 1988	Bookselling service started
July 1988	Construction Surplus Soil Improvement Plant Office service started (Currently called Construction-derived Soil Improvement Plant Office service)
November 1994	Non-life insurance agent service started (Ended in October 2010)
May 1998	Public inlet construction management service started
April 1999	Standards revision service for new Sewer Estimation System (SEES) started
July 1999	Acquisition of ISO 9001 certification
September 1999	Maintenance and inspection of sewer facilities service started
February 2001	Sewerage Mapping and Information System (SEMIS) maintenance service started
May 2001	Manhole number character cap sales service started
March 2003	Granularity controlled ash plant operation service started
April 2003	Surplus soil temporary storage facility management service started
April 2004	Sewer maintenance and operation service started
April 2007	Water quality testing service started
April 2008	Sewerage treatment facility maintenance service started
January 2009	Construction supervision support service started Awarded from the Ministry of Land, Infrastructure, Transport, and Tourism in commemoration of 50th anniversary of the establishment of the Sewerage Law
April 2009	Sewerage Training Center service started
April 2010	Service for visitors to sewerage facilities started
April 2013	Service for guiding visitors to Pumping Station in the old Mikawashima Sewage Treatment Facilities started
October 2013	Management and operation services of Sewerage Technology Training Center started
April 2014	International Business Support Office service started
May 2014	Establishment of symbol logotype
October 2014	Letter of acceptance, for the Langat sewerage Project has been issued from Malaysia Government
April 2019	Sewer maintenance and operation services expanded to all 23 special wards
February 2020	Registered as construction consultant.



JQA-QM3589

Acquisition of ISO 9001 Certification

Scope of Registration:

- Operation and maintenance of sewage sludge treatment facilities (condensation, digestion, dewatering, and incineration process)
- Operation and maintenance of water recycling plants
- Operation and maintenance of construction surplus soil improvement plants

Applicable Offices:

Eastern Region Sludge Office, Kasai Sludge Office, Miyagi Sludge Office, Shingashi Sludge Office, Morigasaki Sludge Office, Southern Region Sludge Office, Shibaura Water Recycling Office, Shinjuku Water Recycling Office, Ariake Office, Nakagawa Construction Surplus Soil Improvement Plant Office, and related Departments in Headquarters

Utilizing technological expertise gained from abundant experiences, TGS contributes to society by complementing and acting as the agency for a wide range of sewerage services of the Tokyo Metropolitan Government with its high technology and broad vision.



I Supporting customer services at the forefront

Utilizing a wealth of experience and expertise, TGS supports customer service at the forefront.

Sewer maintenance service

The branches that perform the maintenance of sewer facilities at the forefront have a key role as regional customer service bases. Entrusted with all branch services by Bureau of Sewerage, Tokyo Metropolitan Government, TGS acts as its agency utilizing a wealth of past experience. In 2004, TGS was entrusted with the services of Toshima Branch for the first time. Beginning in FY 2019, TGS has been entrusted with the service of all 23 branches in Tokyo's special wards. To prevent damage to sewer facilities, TGS also inspects the construction work of other companies during nighttime as a maintenance service. Through the appropriate maintenance of these sewer facilities, TGS provides customers with safe, secure, and comfortable sewerage service.

Major services

- Understanding the current condition of sewer facilities
 - Patrol and inspection, survey in pipelines, survey of flooded areas, odor survey, basic survey for the maintenance and diagnosis of sewer facilities, organization of sewerage ledger dataFunctional maintenance of sewer facilities
 - Failure repair, cleaning, inspection, etc.
- Repair of sewer facilities
 - Design data preparation of repair works, supervision support of each workEmergency measures
 - Measures at the time of accidents, localized torrential rain, typhoons, etc.



Checking sewerage facilities



Response to customers



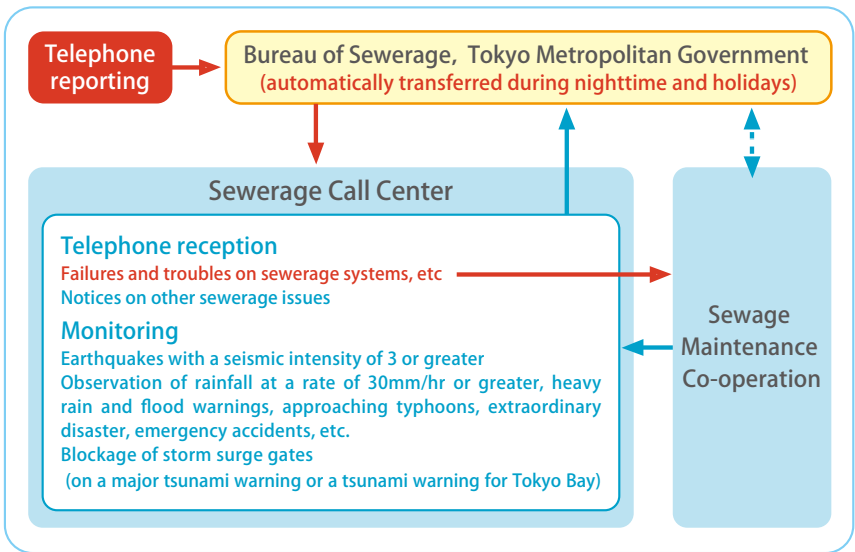
Checking pipes

Sewerage call center service

The Center receives all telephone calls about the failures, troubles, etc., on sewerage systems during the closing time (nighttime and holidays) of Bureau of Sewerage, Tokyo Metropolitan Government (about 13,000 cases per year). Utilizing a wealth of experience on sewerage services, TGS rapidly and appropriately deals with reports and messages to improve our service responding to the customers' needs.

Major services

- Reception service of inquiries about sewerage systems (during nighttime and holidays)
- Service to collect, understand, and send information such as abnormal weather information (during nighttime and holidays).
- Blockage of storm surge gates on issuance of major tsunami warnings or tsunami warnings



Private sewer-related service

To train engineers responsible for private sewer works and improve their technical capabilities, TGS holds qualification tests and renewal courses for engineers responsible for private sewer works in cooperation with prefectural level sewage works associations. TGS also holds pre-test courses for some prefectures including Tokyo.

In Tokyo 23 Wards, TGS performs inspection and confirmation service to check if systems such as private sewer in residential land, and disposer drainage treatment systems are properly constructed and their performance is satisfactory.

Major services

- Qualification examinations and renewal courses for engineers responsible for private sewer works

 - Services related to the above examinations and courses in Tokyo Metropolitan, Kanagawa, Saitama and Ehime Prefectures, etc.
 - Service to dispatch lecturers to Tokyo and 19 prefectures.
 - Opening of a preparatory course (e-learning) for taking "Examination for Engineers in Charge of Private Sewer Works"
- Check of disposer maintenance

Disposer drainage treatment systems (Number of systems in 23 Wards after one or more years of service: about 350 cases per year)

 - Confirmation of maintenance conditions
 - Analysis of treated water quality and confirmation of cleaning conditions

(Actual amount in FY 2019)
- Inspection of private sewer

Private sewer/disposer drainage treatment systems in 23 Wards (Number of systems constructed by Tokyo Metropolitan Government designated contractors: about 5,600 cases per year)

 - Verification and confirmation of actual work with submitted plan documents



Training course for engineers responsible for private sewer works



Inspection of private sewer



Check of a disposer drainage treatment system

Sewerage system visitor support service

TGS is in charge of receiving and guiding visitors to 13 water reclamation centers and the Kuramae Water House (Kuramae mizu no yakata), which is a visitors' center for sewerage facilities in the ward area of Tokyo.



Visitors' Room, Kasai Water Reclamation Center



Secondary sedimentation tank at Mikawashima Water Reclamation Center



Kuramae mizu no yakata, Asakusabasi main line

Other services

In addition to various services supporting the sewerage of Tokyo Metropolis, TGS is engaged in the sales of sewerage-related goods and books, parking lot management service, etc.

Major services

- Sales of books such as guidebooks for the design of sewerage facilities edited by Bureau of Sewerage, Tokyo Metropolitan Government
- Manufacturing and sales of "manhole number character caps" attached to manhole covers
- Management of monthly parking lots using the planned service sites of Bureau of Sewerage, Tokyo Metropolitan Government 9 sites [Higashisakashita, Shingashi, Ochiai (2), Ikejiri, Kuramae, Seijo, Nakagawa, Shibaura]
- Manufacturing and sales of Ido Mill Meters® (time meters) for measuring the operating time of power well pumps.
- Development and sales of the spot deodorization system "Aqua Ozone Master" using ozone water



Sales of books



Sales of manhole number character caps



Parking lot management service



Sales of Ido Mill Meters®

* "Water reclamation center" means sewerage treatment plant.

Disaster recovery support service (Support period: March 2011 to March 2015)

At the request of Urayasu City and Katori City in Chiba Prefecture, damaged by liquefaction during the Great East Japan Earthquake, TGS provided disaster recovery support such as sewer cleaning, sewer inspection, and manhole damage investigation, utilizing a wealth of expertise in sewerage facilities, in cooperation with the Bureau of Sewerage of the Tokyo Metropolitan Government and Sewage Maintenance Co-operation. Establishing a support office in Urayasu City, TGS checked the execution design of disaster recovery work and supervised the construction.

TGS thus greatly contributed to disaster recovery support and recovery work for other municipalities in addition to Tokyo Metropolitan area.



Damage situation



Damage recovery support activity (sewer cleaning)



Damage recovery work activity (visit of State Minister for Reconstruction Tani)

II Supporting the operation and maintenance of sewerage treatment plants

Using advanced technology cultivated for a long time, TGS contributes to the stable and efficient operation and maintenance of sewerage treatment plants.

Sewerage treatment service

In sewerage treatment, maintenance/inspection of sewerage treatment facilities and water quality testing must be performed regularly. Among the 13 water reclamation centers in the ward area of Tokyo, TGS performs maintenance at 12 and water quality testing at all 13 centers.

Facilities managed by TGS

- Sewerage treatment maintenance service
Shibaura, Mikawashima, Ariake, Nakagawa, Kosuge, Kasai, Ochiai, Nakano, Miyagi, Shingashi, Ukima, Morigasaki
- Pumping station maintenance service
Central Region Pumping Station, Northern Region Pumping Station, First Eastern Region Pumping Station, Second Eastern Region Pumping Station, Southern Region Pumping Station
- Water quality testing service
Shibaura, Mikawashima, Sunamachi, Ariake, Nakagawa, Kosuge, Kasai, Ochiai, Nakano, Miyagi, Shingashi, Ukima, Morigasaki

Major services

- Sewerage treatment facility maintenance service
- Pumping station facility maintenance service
- Water quality testing service



Inspection of high-voltage motors



Water quality testing service

Sludge treatment service

In 1984, TGS was entrusted with the operation service of a sludge treatment facility in Shibaura Water Reclamation Center, and has gained 30 years and more of experience since then. At present it comprehensively manages all 6 sludge treatment plants in the ward area of Tokyo, treating about 970 thousand tons of sludge per year (actual amount in FY 2019).

Facilities comprehensively managed by TGS

- Water Reclamation Center: Kasai, Miyagi, Shingashi, Morigasaki
- Sludge Treatment Plant: Eastern Region, Southern Region

Major services

- Operation service for sludge treatment plants
- Maintenance service for sludge treatment plants
- Procurement and management of chemicals such as coagulants

Comprehensive management of sludge treatment plants

In addition to the operation and maintenance of sludge treatment plants, TGS comprehensively manages the procurement of chemicals as well as repair service. As a trustee, it secures the quality of Sludge treatment service and performs maintenance with ingenuity.



Operation monitoring of sludge treatment plants



Inspection of dewatering facilities



Inspection of incineration facilities

Optical fiber network facilities management service

The optical fiber network facilities of the Bureau of Sewerage, Tokyo Metropolitan Government, laid inside of sewers, are used for data communication for OA systems, remote monitoring control, rainfall information systems, etc., playing a part in the efficiency improvement of sewerage services. TGS carries out the 24-hour monitoring and maintenance management of these optical fiber network facilities. TGS is also entrusted by the Bureau of Sewerage, Tokyo Metropolitan Government, with the survey of the Bureau's optical fiber network facilities, and is entrusted by private communication companies with the survey and design services on the use of sewerage optical fibers.

Major services

- Twenty-four-hour monitoring and maintenance management of optical fiber network facilities
- Maintenance management of optical fiber cable facilities
- Survey on optical fiber network facilities



Inspection of communication systems



Inspection of optical fiber cables

III Contributing to reduction of environmental load

Utilizing the expertise gained from a long time experience, TGS is contributing to the formation of recycling-oriented society in cities.

Water recycling service

In the ward area of Tokyo, treated wastewater is further treated using advanced method. It is then effectively used for toilet water, sprinkling water, water for restoring clear streams, etc. as a new water resource (recycled water).
TGS is entrusted by Bureau of Sewerage, Tokyo Metropolitan Government with the management service of three water recycling plants, contributing to creating recycling-oriented society.

Major services

Shinjuku Water Recycling Plant
Daily treatment amount: about 3,500 m³/day
• Distributed as toilet water to high buildings in Nishi-shinjuku/Nakano-sakaue District
Project for restoring clear stream in three rivers in Jonan area
Daily treatment amount: about 80,500 m³/day
• Providing water for restoring clear stream to Shibuyagawa River/Furukawa River, Megurogawa River, and Nomigawa River

Ariake Water Recycling Plant
Daily treatment amount: about 2,300 m³/day
• Distributed as toilet water to Tokyo Waterfront City
Shibaura Water Recycling Plant
Daily treatment amount: about 5,800 m³/day
• Distributed as toilet water to buildings in Shinagawa Station East Exit District, etc.
• Distributed as road sprinkling water for mitigating the urban heat island and water for other purposes.
(Actual amount in FY 2019)



Inspection of water recycling plants



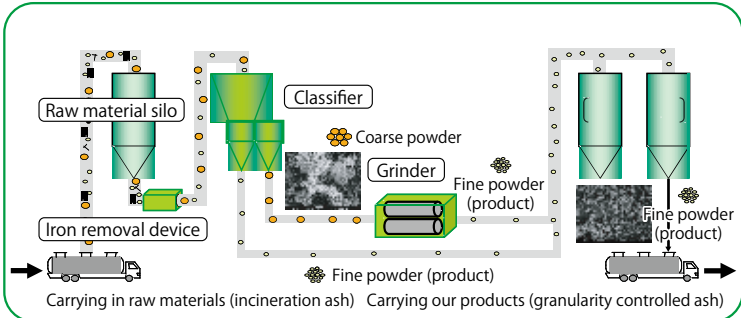
Restoration of clear streams

Sludge recycling service

Together with the sludge treatment service, TGS efficiently performs the operation, management, etc. of sludge recycling plants. It also makes a study of expanding the use of recycled goods, contributing to creating recycling-oriented society.

Major services

- Operation and maintenance management services of granularity controlled ash
- Sales of granularity controlled ash
- Sludge carbonization service



Process chart of manufacturing granularity controlled ash



Granularity controlled ash plants

Construction surplus soil improvement service (Soil improvement center called "Tsuchizukuri no sato")

To utilize surplus soil generated from sewerage construction as a resource, TGS improves the soil to soil with superior compacting characteristics and earthquake resistance (measures against liquefaction). This service contributes to the realization of a city with low environmental impacts, including preservation of the natural environment by reducing extraction of pit sand, prolongation of the life of landfill disposal sites, and reduction of CO₂ by shortening transport distances.
The amount of improved soil reused from FY 1988 (service started) to FY 2019 is about 3.55 million m³.

Major services

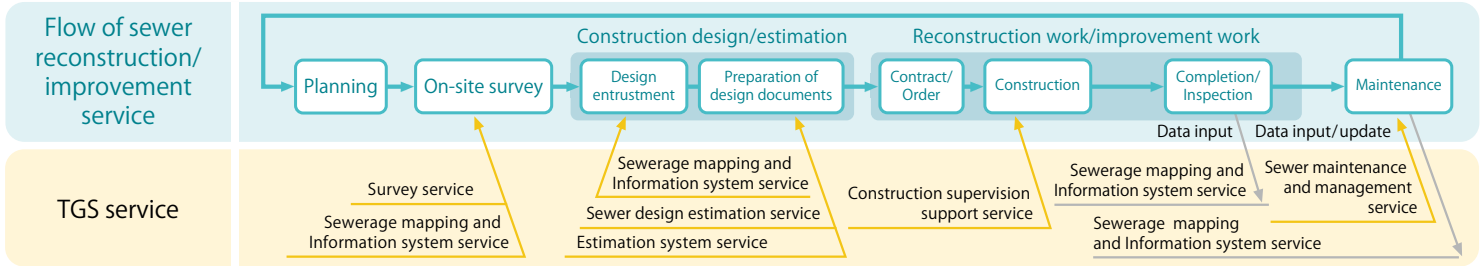
- Operation service
Treatment capacity: 150 tons/hr.
Annual production of improved soil: 198,000 tons (120 thousand m³)/year
- Management service such as reception of construction surplus soil and delivery of improved soil
- Quality control service (Carrying out soil tests such as CBR)



Nakagawa Construction Surplus Soil Improvement Plant ("Tsuchizukuri no sato")

IV Supporting reconstruction and improvement services

Utilizing a wealth of experience and technical expertise, TGS contributes to smoothly carry on reconstruction and improvement services in Tokyo Metropolitan Government's Sewerage Services.



Survey service

TGS is entrusted by Bureau of Sewerage, Tokyo Metropolitan Government with various surveys and design, contributing to implementing effective reconstruction/improvement service.

Major services

- Basic survey of mechanical/electrical systems related to reconstruction service
- Various surveys and design of pipeline facilities related to reconstruction service
- Survey on reconstruction of main line by the free cross section SPR construction method
- Survey related to optical fiber networks

Sewerage mapping and information system service

Through the functional improvement/maintenance and data update of Sewerage Mapping and Information System (SEMIS) of Tokyo Metropolitan Government, TGS is contributing to promoting efficient and appropriate maintenance service and reconstruction/improvement service.

Major services

- Maintenance of Sewerage Mapping and Information System (Data management of the pipelines with a total length of 16 thousand km and about 490 thousand manholes in 23 Wards)
- Input/update of data such as information on sewerage facilities
- Input of pipeline diagnosis information data and expansion image data of pipeline internal surfaces
- Design support functions (maintenance of design sewer CAD systems)

Sewerage Mapping and Information System

Facility plane figure

Part of ledger information is shown in the Internet Website of Bureau of Sewerage, Tokyo Metropolitan Government

Pipeline diagnosis information

Sewer design estimation service/Estimation system service

TGS performs sewer design estimation service for the Bureau of Sewerage, Tokyo Metropolitan Government, and also is responsible for improvement and maintenance and management of the estimation system, contributing to appropriate and efficient sewer facility reconstruction, improvement, seismic retrofitting, and optical fiber services.

Major services

- Sewer design estimation service (reconstruction work, improvement work, earthquake-resistance reinforcement work, etc.)
- Improvement and maintenance of "System for New Sewerage Construction Work Compendium"
- Revision of "Estimation Standards of the Bureau of Sewerage, Tokyo Metropolitan Government" (Civil Works Common Standard, Sewer/Open cut Method Standard, Sewer/Tunnel Standard, Civil Facilities Standard, Architectural Facilities Standard, Survey/Entrustment Standard, and Sewer Maintenance/Management Standard)
- Revision of design unit prices
- Functional improvement, maintenance of Quantity Calculation System

Construction supervision support

Using its abundant experience and expertise in the supervision of sewers, and complementing and covering part of the services of the Bureau of Sewerage, Tokyo Metropolitan Government, TGS facilitates the efficient and secure execution of reconstruction and improvement projects, contributing to build comfortable and safe wards.

Major service

- Construction supervision support service



Status of construction supervision support services

● ● ●

V Building a future sewerage system

Positively utilizing on-site wisdom gained from practice, TGS addresses the technical research and development of new sewerage and the fostering of future sewerage engineers.

Technical research and development projects

- Setting technical research and development themes directly related to sewerage services, TGS is conducting joint research with Bureau of Sewerage, Tokyo Metropolitan Government and private companies.
- Cooperating with Bureau of Sewerage, Tokyo Metropolitan Government, TGS tackles technical research and development in practical fields.
- With the participation of development-oriented companies, TGS grapples with technical research and development.
- Displaying “mobility” and “flexibility,” TGS aims at creating business in a short period.
- TGS secures income from industrial property rights such as patents obtained by research and development.

Industrial Property Rights

Number of industrial patent rights: 229

TGS has been placing emphasis on technical research and development since its establishment. As of the end of March 2020, TGS had applied for a cumulative total of 522 industrial property rights such as patents, and 229 had been granted, including patents and utility models. International patents have also been obtained for some technologies.

Examples of development themes and results

Development themes		Examples of development results
Improvement safety	Promotion of measures for aging facilities	● Sewer renovation method ; SPR Method**, Omega Liner Method* ● Shield tunneling method/pipe jacking method ; Compact Shield Tunneling Method*, DO-Jet Method**(Non-open cut construction method for dealing with obstacles in the ground), Mechanical T-junction shield Tunneling method* (T-BOSS Method) ● Manhole-related methods ; Footstep metal automatic replacement equipment*, Manhole frame removal and renewal method* (MR ² Method), Ecolo-guard method hybrid * (manhole rehabilitation method)
	Promotion of flood countermeasure	Optical fiber water level gauge*, Optical level switch*, Backflow prevention valve device for house inlet (Kantan-kun*), Communication-Enabled Manhole Cover
	Promotion of earthquake countermeasures	● Earthquake-resisting construction method for sewerage ; Non-open cut method to prevent manhole floating* (float less method*), Earthquake resistance reinforcement method for existing manholes* (Garigari-kun*), Earthquake resistance reinforcement method for liner pipe-manhole junction* (Taishin Ippatsu-kun*), Earthquake resistance reinforcement method for existing large diameter pipes, Preventing horizontal deviation of the joint of a manhole frame (Bondo-kun*) ● Sewer renovation method ; SPR Method**, Omega Liner Method*
Improvement of comfort	Improvement of combined sewer system	Water surface control device, Grease interceptor (Kyuchaku-Ou), Automatic flushing device for sewers (Flush Gate).
	Advanced treatment	Anaerobic and simultaneous nitrification-denitrification treatment method
	Ambient environmental countermeasure	Deodorant lid/deodorant cap (Boushuu-Ou), Ozone deodorization equipment (Aqua Ozone Master), Photocatalytic air cleaning filter, Pipeline pressure release device, Rust prevention and deodorization type pressure relief device
Conservation of the global environment	Effective use of resource	Granularity controlled ash, Precast concrete products (sewer pipes, etc.) using granularity controlled ash*
Improvement of service efficiency	Encouragement of soft plan ^{*2}	Optical fiber cable installation robot*, Optical fiber water level gauge system*, Optical level switch*
	Improvement of maintenance	● Sewer facilities ; Void inspection device around house connection, Closing method of unoccluded connection, Mirror type television camera for inspection, Inspection and diagnosis support system by pipe inner surface mapping, Comprehensive sewerage information control system, Automatic flushing device for sewers (Flash Gate), Communication-Enabled Manhole Cover, Blade less air blower (Hole air streamer*/HAST*), Inner drop pipe (Smart Catch), Ecolo-guard method* (anti-corrosive coating method, using granularity controlled ash as coating material) ● Sludge and sewerage treatment facilities ; Phosphorus fixing agent (Hosuamitto*), Laser beam type sludge density meter, Honeycomb sludge concentrator, Untouchable V®, Simple dehydration test kit, Sewerage system maintenance and management system (S-Cube Plus*), Water delivery type water flow generator for scum accumulation prevention (Aqua-streamer)

In cooperation with relevant Associations, TGS provides introduction and education about the developed technologies so that they are widely used at home and abroad. Methods marked “**” have their own association. Please refer to each association’s website.
^{*2} Soft Plan means “Sewer Optical Fiber Teleway Network PLAN ” ® : Registered trademark in Japan.

Actual examples of technical research and development

Improvement of safety (reconstruction of aging facilities)

Development of SPR Method®

This method enables reconstruction in sewage-flowing sewers. It is a pipe reconstruction method available for various cross section shapes such as circular, horseshoe-shaped, rectangular-ones.
(Received 59th Okochi Memorial Award)



Rehabilitation of large diameter pipes (under construction)

Improvement of comfort (improvement of combined sewerage systems)

Development of a water surface control device

This device is developed to reduce the outflow of debris from the storm overflow chambers of sewerage facilities. It is easily installed. It reduces the outflow of debris into public water body with no power , and has an economic benefit due to low initial investment and low maintenance costs.



After installing a water surface control device

Conservation of the global environment (effective use of resources)

Application development of granularity controlled ash

The granularity controlled ash is made by classifying and grinding sewage sludge incineration ash and controlling its grain sizes. It is effectively used as high quality raw materials for civil engineering works such as concrete secondary products.



Granularity controlled ash




Concrete segments for shield tunneling method (using granularity controlled ash)

Effective use of services (Enhancement of maintenance management)

Development of a bladeless air blower (hole air streamer®/HAST®)

This is a new ventilation system developed for improving work safety in sewer facilities. It can be easily installed without blocking the manhole and can continuously send a large volume of air. It enables easy movement of workers and carrying of materials in and out of the facility while air is being sent.



Bladeless blower (Workers moving in and out of the facility)

Human resource development/Technology succession

Training service

To stably provide sewerage services in the future, the three parties supporting Tokyo’s sewerage works - the Bureau of Sewerage, TGS, and private companies - need to cooperate in acquiring enough manpower and ensuring the inheritance of the technology and know-how acquired up to date.
In April 2009, TGS was entrusted by the Bureau of Sewerage, Tokyo Metropolitan Government, with projects on human resource development and technical inheritance. TGS is now carrying out training and other activities.
In October 2013, TGS was also entrusted with the management and operation of Sewage Technology Training Center, and hence TGS instructors are providing training to private companies that use Sewage Technology Training Center.



A lecture scene



A training scene

Archives service

TGS collects, sorts out, stores, and utilizes valuable materials such as historical facilities, old books, pictures related to Tokyo’s sewerage facilities. TGS is studying ideas for utilizing historical assets located around the former main pump house at the Mikawashima Treatment plant, which was designated as an important cultural property first as a sewage facility in 2007, and also comprehensively conducting the management and guided tour operation of the Facilities.



Former main pump house at the Mikawashima Treatment plant

● ● ●

VI Contributing to problem-solving for municipal governments and others nationwide

Consulting business

Utilizing TGS's human resources, know-how, and technology to strengthen support for municipal governments.

- Operation and maintenance support service for Yugawara-machi Clean water center

Approval and Registration

- Registered as construction consultant (sewerage division): Ken 02 No. 10714
- Registered measurement certification business (concentration): No. 1413

VI Contributing to the improvement of the global wa ter environment

Twenty four hundred million people in the world do not seem to be able to access appropriate sanitary facilities, and the needs for the sewerage that play an important role in securing safe and sanitary water environment is increasing especially in Asian countries.

Responding to these needs, the Tokyo Sewerage groupe, which consists of Bureau of Sewerage, Tokyo Metropolitan Government, TMG and Tokyo Metropolitan Sewerage Service Corporation, TGS actively pursues international contribution, using various sewerage-related technologies, expertise, management methods, human resources, etc. accumulated in its history of more than 100 years, according to the needs of countries and regions.

As the management organization complementing and acting as a policy cooperation organization for the sewerage services of Bureau of Sewerage, TMG, TGS is pursuing international development in cooperation and integrated with Bureau of Sewerage, TMG, sharing responsibilities with each other depending on cases.

Project Content

Promotion of overseas infrastructure development projects

- Feasibility study / planning
- Instruction of operation and maintenance

Overseas promotion of development technologies

- SPR Method
- Water surface control device
- Floatless Method
- Hole air streamer

Strengthening of information dissemination

Promotion of personnel exchange and training

Major technical support activities and their action areas

European countries (Germany, France, Belgium, United Kingdom)

- June 16, 2010: Water surface control device License agreement with Steinhardt GmbH
- May 7, 2014: TGS concluded an Letter of Intent with Steinhardt GmbH to demonstrate the performance evaluation of water surface control.
- On May 17, 2018: TGS concluded a Memorandum of Understanding on joint development of a water surface control device with Steinhardt GmbH.



European countries

- Expansion of SPR Method
Total of 10 countries including Germany, France, Russia, Hungary, Poland, Rumania, the Netherlands, Spain, Austria, and the United Kingdom



Mongolia

- September 2012- August 2013: Project to establish development plan for water and sewerage sectors in Ulaanbaatar City, Mongolia (Order from JICA)
- 2019 Dispatch of Operation Guidance Survey Mission for strengthening safety measures of Central Wastewater Treatment Plant (CWWTP) in Ulaanbaatar City (Order from JICA)



Asian countries

- Expansion of SPR Method
Total of 6 countries/regions including Singapore, Republic of Korea, China, Taiwan, Malaysia, and Vietnam
- July 5, 2010: Water surface control device Republic of Korea: License agreement with N4TEC DS Co., Ltd.
- June 25, 2020: Hole air streamer (HAST-e) Taiwan: License agreement with NO DIG Co., Ltd.



India

- November 2010: Visit to India as member of delegation of Tokyo Waterworks International Development (Bureau of Waterworks, TMG)
- May 2011-February 2012: Part of "Commissioned project for investigation of infrastructure, systems, and export promotion (Feasibility study for businesses such as smart community in global market) (Order from METI)
- November 2012: Investigation in Haryana state F/S (Water Sector)



Myanmar

- September 2016 – February 2017: Part of work in Study on improvement of sewerage infrastructure of Yangon City in Republic of the Union of Myanmar (Study on Economic Partnership Projects in developing countries in FY 2016) (Order from Ministry of Economy, Trade and Industry)



Malaysia

- August 2010 - March 2011: Preparation of National Water Service Master Plan (Order from Ministry of Economy, Trade and Industry (METI))
- September 2011 - June 2012: Preparatory study on PPP project of Water Sector in Malaysian metropolitan areas (Order from JICA)
- February 2012 - March 2012: Dispatch of Experts for Capacity Building of O&M of Pantai sewage treatment plant (Order from JICA, TGS is the sole contractor)
- July 19, 2012: Malaysia-Japan Workshop on Sewerage
- November 19, 2013: Malaysian SPAN visited the facilities of the Bureau of Sewerage, TMG.
- October 10, 2014: Letter of acceptance, for the Langat sewerage Project has been issued from Malaysia Government.
- March 4, 2015: Technical support for the Langat Sewerage Project by TGS has been commenced.
- July 30, 2015: Invitation of high Malaysian government officials to Sewage Works Exhibition (Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Bureau of Sewerage, TMG)
- February 2017-September 2018: Human resource development project for practicing engineers by JICA Partnership Program
- October 3, 2019: Ceremony for the first incoming flow to Langat Centralised Sewage Treatment Plant (CSTP)



Indonesia

- November 2010-June 2012: Implementation of preliminary investigation for South Bali reclaimed water supply project (PPP project)

New Zealand

- December 10, 2012: Floatless method Technical Assistance Agreement with HYNDS
- November 20, 2013: Greater Wellington Municipality and other municipalities visited the facilities of TMG
- August 2014: Test construction in Porirua City, Wellington Region



Brazil

- July 2016: Field study on sewerage services in Brazil



North and South American countries

- Expansion of SPR Method
United States (Los Angeles, Atlanta, Cleveland, and so on), Canada, Argentine, and Columbia



Legend

- Promotion of overseas infrastructure development projects
- Overseas promotion of development technologies