

# Struggling with Natural Disasters

## Underground Facilities Protecting the City from Flood Damage

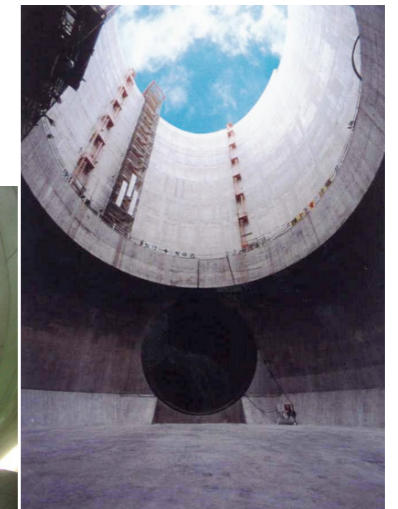
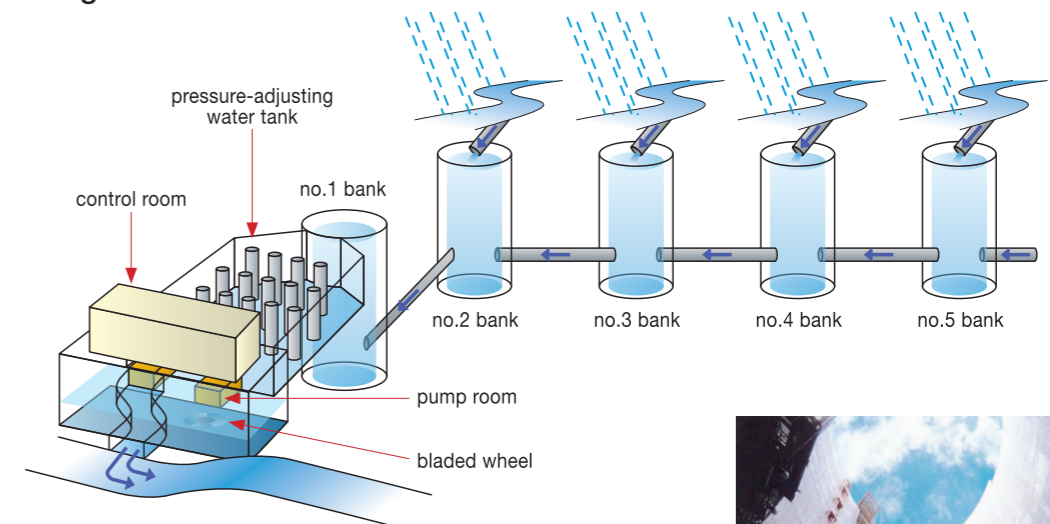


Inside of the pressure-adjusting water tank of the Metropolitan Area Outer Underground Discharge Channel.

These photos show the Metropolitan Area Outer Underground Discharge Channel. The facility, which is 6.3 kilometers (3.9 miles) long, is located 50 meters (164 feet) below the trunk road of metropolitan area. When heavy rain falls, it prevents floods by temporarily storing vast amounts of rainwater and discharging it to the remote rivers. It is an immense facility supported by a wide variety of new technologies, including flood flow inlets, water flow control mechanisms, and high-powered pumps to discharge the stored water to the rivers after the flooding has subsided. This has resulted in dramatically less flood damage in the 987-square-kilometer (381-square-mile) river basin surrounding Tokyo.

While structures such as river levees and dams are important in protecting residents from flood damage, facilities like this also play an unseen but crucial role.

## Design of the Metropolitan Area Outer Underground Discharge Channel



1. Even the tunnels connecting each bank are immense. 2. View from inside one of the banks looking up. When flooding occurs, water comes down in torrents.

Due to its climatic and geological conditions, Japan experiences a variety of natural disasters including torrential rain caused by typhoons and seasonal rains, earthquakes and volcanic eruptions. And because a large portion of the country is steep mountainous terrain, most of its population and industry are concentrated in the limited flatlands. When a natural disaster occurs, its effects can easily escalate. Japan has continuously developed disaster measures to overcome such difficult conditions and is known as one of the most advanced countries in terms of disaster reduction. Following are some of Japan's latest efforts.