

# 02

For Safe and Secure Water Supply

## Working 24 hours a day to produce safe and tasty water

Safe and high-quality water production

### Purification plants

Our purification plants are “water manufacturing factories,” which take water from the Yodo River and turn it into safe and clean potable tap water. Water is essential to our daily lives. The purification plants operate all day and night every day throughout the year.

### Maintenance of purification facilities

The purification plants and distribution plants must constantly send water to customers. Therefore, we are making constant efforts to provide safe water at any time, which include continuous facility inspections and the scheduled replacement of aging equipment, reinforcement of the quake resistance of existing facilities, development of distribution reservoirs, and advancement of the management system of the purification plants and distribution plants.

### Advanced water treatment system

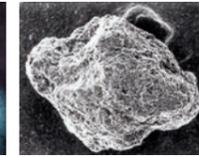
The advanced water treatment system was developed by adding ozone<sup>(1)</sup> treatment and granular active carbon<sup>(2)</sup> treatment to the conventional water purification processes so as to produce safer and tastier water. The advanced water treatment completely removes foul and musty odors, substantially reduces trihalomethane, and improves safety against cryptosporidium and other pathogenic microorganisms, demonstrating effectiveness in improving the overall quality of tap water.

### Three features of the advanced water treatment system

- 1 No musty odors!**  
With ozone and granular active carbon, foul and moldy odors can be completely removed and organic substances that generate chlorine odors can also be reduced.
- 2 Trihalomethane substantially reduced!**  
The advanced water treatment system has lowered the average annual trihalomethane level to around 10% of the standard level.
- 3 Enhanced safety against microorganisms!**  
The strong oxidizing power of ozone ensures the safety of water against microorganisms.



Ozone contact basins



Granular active carbon magnified by electron microscope

[(1) Ozone] Ozone (O<sub>3</sub>) has strong oxidizing power. It effectively eliminates foul and musty odors by decomposing of musty-odor causing organic substances and helps the oxidization of manganese in water and the sterilization of water.

[(2) Granular activated carbon] Granular activated carbon is a porous particle of the size of sand. It effectively eliminates substances from which trihalomethane derives and odor-causing organic substances dissolved in water. Microorganisms that reside on the porous surface of granular activated carbon particles break down the offending particles.

### Our purification plants



#### Kunijima Purification Plant

The oldest purification plant completed in 1914. It has a standard daily supply capacity of 1,180,000 m<sup>3</sup> and supplies water to the central, northern, and northwestern areas of the city.

Location: 1-3-14 Kunijima, Higashi Yodogawa-ku, Osaka



#### Niwakubo Purification Plant

Completed in 1957. It has a standard daily supply capacity of 800,000 m<sup>3</sup> and supplies water to the mid-western and southern areas of the city via the Oyodo and Tatsumi Distribution Plants.

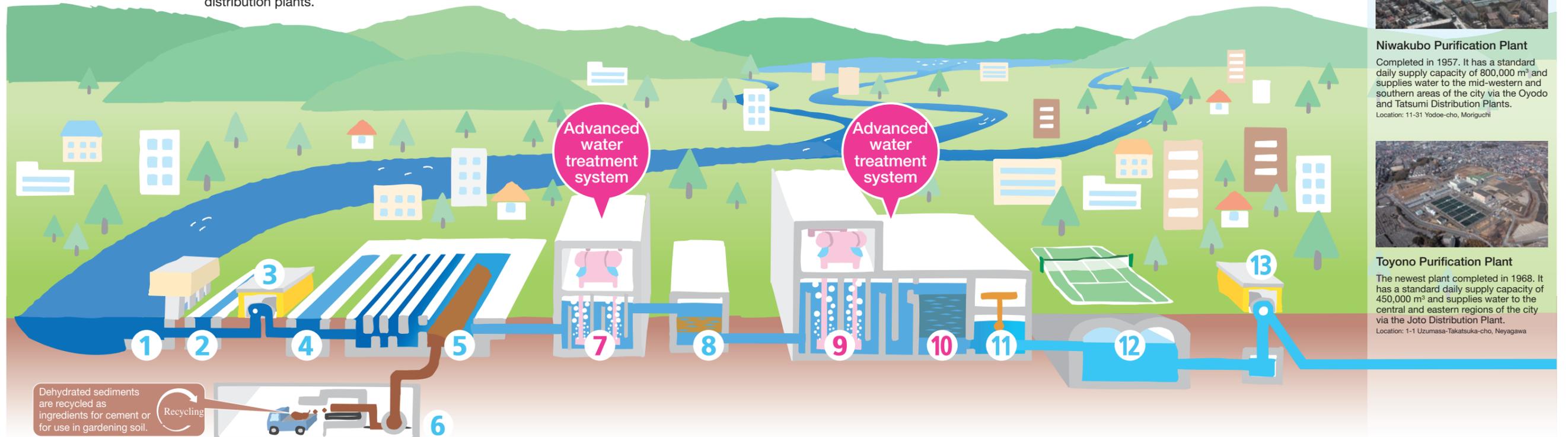
Location: 11-31 Yodoe-cho, Moriguchi



#### Toyono Purification Plant

The newest plant completed in 1968. It has a standard daily supply capacity of 450,000 m<sup>3</sup> and supplies water to the central and eastern regions of the city via the Joto Distribution Plant.

Location: 1-1 Uzumasa-Takatsuka-cho, Neyagawa



Dehydrated sediments are recycled as ingredients for cement or for use in gardening soil.



- |  |  |   |   |  |   |   |   |   |  |   |  |   |
|--|--|---|---|--|---|---|---|---|--|---|--|---|
| <b>1 Intake pipe</b><br>Takes water from the Yodo River. | <b>2 Grit basins</b><br>Remove waste and sand. | <b>3 Intake pumps</b><br>Pump water from the grit basins. | <b>4 Receiving well</b><br>Adjusts the level of intake water. | <b>5 Coagulo-sedimentation basins</b><br>Facilitate micro-particle settling with aluminum sulfate introduced into the water. | <b>6 Wastewater treatment facilities</b><br>Dehydrate and process sediment. | <b>7 Intermediate ozone contact basins</b><br>Ozone exposed to water initiates manganese oxidation and organic substance decomposition. | <b>8 Rapid sand filters</b><br>Filter water through layers of sand. | <b>9 Post ozone contact basins</b><br>Ozone exposed to water decomposes organic substances that may generate musty odors and trihalomethane, and it sterilizes the water. | <b>10 Granular activated carbon filters</b><br>Eliminate organic substances that may generate trihalomethane by absorbing them with granular activated carbon or breaking them down with microorganisms. | <b>11 Chlorine contact basins</b><br>Add chlorine to water in order to ensure the disinfection of water until it reaches each faucet. | <b>12 Service reservoirs</b><br>Treated water is stored in basins. | <b>13 Distribution pumps</b><br>Apply pressure to water according to the amount of use, to distribute it to each faucet of customers. |
|--|--|---|---|--|---|---|---|---|--|---|--|---|

