ON-LAND CIVIL ENGINEERING

Land Development Work for Fujitrans Corporation Logistics Center (Aichi, Japan)

Land development work ordered by Fujitrans Corporation for the Fujitrans Corporation Logistics Center has been completed in the village of Tobishima in Ama-gun, Aichi Prefecture.
The area where the work was carried out is located at Nagoya Port, which handles the largest volume of cargo in Japan. Improvements are being carried out to make the Logistics Center a major distribution base. The ground formation work involved the creation of a vast site of land of approximately 200,000m² that was raised about one meter higher than the surroundings as a countermeasure against tsunami. At present, a portion of the site has started to be put to use as a container yard, with plans calling for the construction of a new distribution warehouse to integrate distribution functions.

Construction of Bridge Pier on National Route 45 across Kesennuma Bay in Matsuzaki District (Miyagi, Japan)

The work has been completed in the city of Kesennuma in the Matsuzaki District of Miyagi Prefecture.
As a leading project for recovery from the Great East Japan Earthquake. Along the Sanriku Coast in the Tohoku region, repair work is being carried out at a rapid pace on the Sanriku Coast Expressway (Reconstruction Road), a 359 km stretch of a road specifically for use by automobiles that connects the three prefectures of Miyagi, Iwate, and Aomori.
Plans call for the construction of a bridge across Kesennuma Bay, which forms the main part of the Kesennuma road section of the Sanriku Coast Expressway. The bridge will have a length of 1,344 meters and cross over the Okawa River in the city of Kesennuma in Miyagi Prefecture and Kesennuma Bay. Upon completion, the span of the bridge, which is approximately half the length of the bridge (680 meters), will be the largest for a cable-stayed bridge in the Tohoku region. The JV of which the Company is the main partner for this construction work undertook the building of the piers for this bridge across Kesennuma Bay. The completion of this bridge across Kesennuma Bay will shorten the routes traveled, and it is also expected to contribute greatly to tourism in the Sanriku region.

Earthquake Resistance Work on Shibakawa Floodgate (H25) (Saitama, Japan)

The land that spreads out in the downstream part of the Arakawa River is an area that is below sea level, and should the Arakawa River overflow and breach its banks due to flooding or other reasons, it is anticipated that the area would suffer devastating damage. The Shibakawa Floodgate, which is double-sluice gate type floodgate located at the confluence of the Arakawa River and the Shibakawa River along the left bank of the Arakawa River about 19.7 km from its mouth, was installed for the purpose of preventing floodwater from the Arakawa River flowing back into the Shibakawa River. An earthquake resistance project is underway to enable the floodgate to function even if an earthquake occurs directly underneath Tokyo, in addition to its function to reduce damage from flooding.
Toa Corporation executed earthquake resistance construction work on the right side of the floodgate as viewed in the photograph. The Company is carrying out construction work on left side of the floodgate, too, under a separate work contract.

Rehabilitation of Sewage Drainage System(Tokyo, Japan)

The sewerage network in downtown Tokyo, was constructed nearly one century ago.The Tokyo Metropolitan Government started a project to rehabilitate the sewage drainage network through reconstruction and refurbishment. TOA was awarded a contract to reconstruct the drainage system for surface runoff in Chiyoda ward. Against the construction site of narrow streets with heavy traffic and a dense concentration of buildings, TOA's highly-qualified engineers dealt with various difficulties and utilized the shield tunnel method to complete the drainage system, which measured 2,058m in length with an inner diameter of 2,200mm, on schedule without any accidents.

Newly Completed Project

Ohkusano Tunnel (and One Other Section) for Kyushu Shinkansen (West Kyushu)

Construction work on the Ohkusano Tunnel, one other section, and miscellaneous work for the Kyushu Shinkansen (West Kyushu) was completed in Saga Prefecture.
This project involved construction work on a part of the Kyushu Shinkansen's West Kyushu route, which runs for approximately 143 kilometers connecting the city of Nagasaki (Nagasaki Station) and the city of Fukuoka (Hakata Station), provisionally scheduled to be opened for use in FY2022. Toa Corporation carried out construction work on the tunnel and open segments totaling 2,142 meters between the cities of Takeo and Ureshino in Saga Prefecture.
The opening of this route will shorten the travel time between Hakata and Nagasaki by almost 30 minutes, and it is anticipated that visitors from the neighboring areas will help revitalize the region through tourism and business.

■ **Client** Kyushu Shinkansen Line Construction Bureau, Japan Railway Construction, Transport and Technology Agency
■ **Construction period** March 2013 to October 2019
■ **Project outline** Tunnel
Buffer work
Abutment
Bridge piers
GRS bridge
Rigid-frame viaduct
RC beams
Earth cutting and filling
■ **Site of construction** Takeo City and Ureshino City, Saga Prefecture

Substructure Construction on Kaseibashi Bridge (P3, P4) Bridge Pier Construction Project

The Substructure Construction on Kaseibashi Bridge (P3, P4) Bridge Pier Construction Project was completed in Wakayama Prefecture.
This construction work is a part of a development project for the Kaseibashi Bridge (length: 473 m, width: 6.8 m), which is scheduled to open for use in 2024. Of the two bridge abutments and seven bridge piers that make up the structure of this bridge, two of the bridge piers were built by Toa Corporation using the pneumatic caisson method.
The bridge in current use (on the right in the photo) connects the city center and fills an important role for more than 2,500 inhabitants in the surrounding areas who use the bridge during the daytime. However, because the width of the current bridge is narrow and deterioration is quite advanced, construction work is moving forward to replace it with a new bridge and ensure the city residents can cross safely.

■ **Client** Wakayama City, Wakayama Prefecture
■ **Construction period** June 2018 to July 2019
■ **Project outline** Bridge understructure construction (P3, P4)
Concrete work on foundation
Concrete work on bridge piers
Pneumatic caisson foundation
■ **Site of construction** Wakayama City, Wakayama Prefecture