

IAC News (Extra Issue.1)

President's Report

◆ Project site visit to the Tokyo Metropolitan Outer Ring-Road Sites

On November 13th, JSCE had a field trip to the Tokyo Metropolitan Outer Ring-Road construction sites with 11 newspaper writers from 9 companies. We visited the shown area of the Figure-1 in Chiba Prefecture. Within planned 12.1 km area, 7.4km is under construction. (See Figure-2) Although this road's main structure was first designed and admitted by the government in 1969, the plan had been changed to the final one in 1996, mainly because of the environmental factors. (See Figure-3, Picture-1)

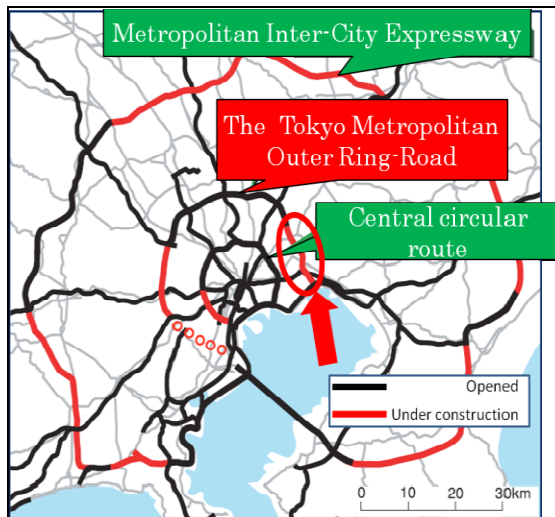


Figure-1



Picture-1



Figure-2

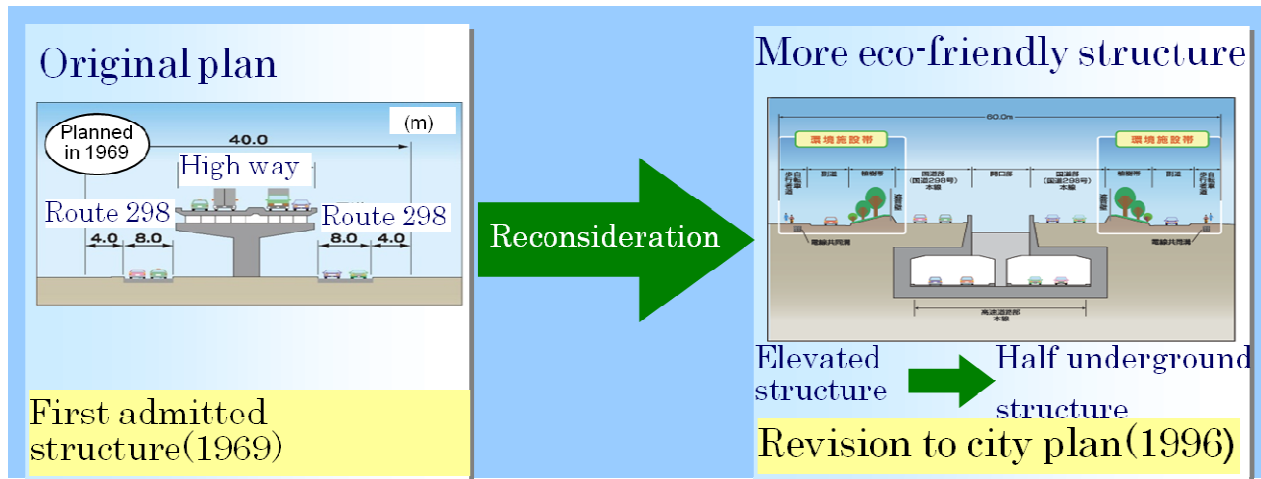


Figure-3

The sites' characteristics are as follows;

1. The government had to purchase owners' (3000 people) land before construction. Local people need the limits not only of the construction automobiles' entrance to the sites but also of the noise or vibration caused by construction activities.
2. There are 3 big roads, 6 railroads and 2000 life-lines crossing the planned line which are to be dealt with delicate care.
3. The structures have to be constructed under the condition of high underground water level and soft soil.
4. The bidding systems are mainly Design-Build and Negotiation which needed about 1-year to decide the contractor.

This time, I introduce 3 topics of the sites within the visited area.

The first one is to construct the box culvert which crosses under Keisei railroad by Roof-&-Culvert Method. The construction steps are shown at the Figure-4-1, Figure-4-2. The size of the culvert to pull and set under the railroad is 18.4m's height, 43.8m's width, and 37.4m's length; which is one of the biggest sizes in the world. When we visited, the contractors were preparing to build the areas to construct the culvert before pulling. I wished I could see the pulling of the huge culvert box.

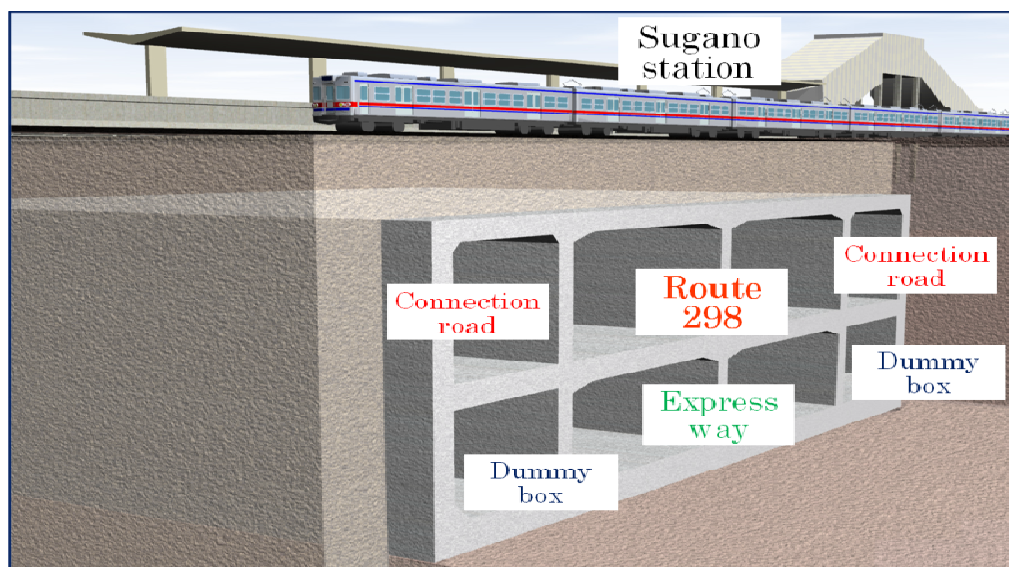


Figure-4-1

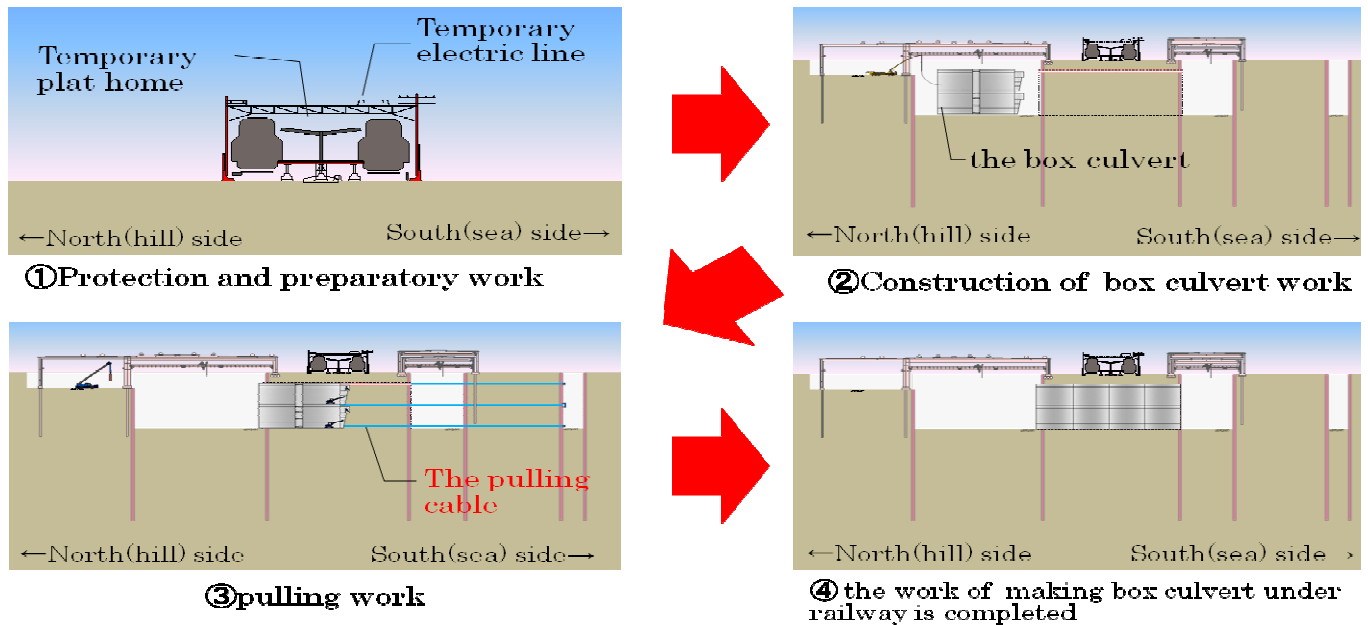


Figure-4-2

The second one is also the construction of the box culvert that crosses under the Sobu-line railroad using Caisson Construction Method which is shown at Figure-5-1, Figure-5-2, and Figure-5-3. The contractor was building the column to support the roof to scaffold the railroad base. This technology is also very delicate one under the condition of operating trains.

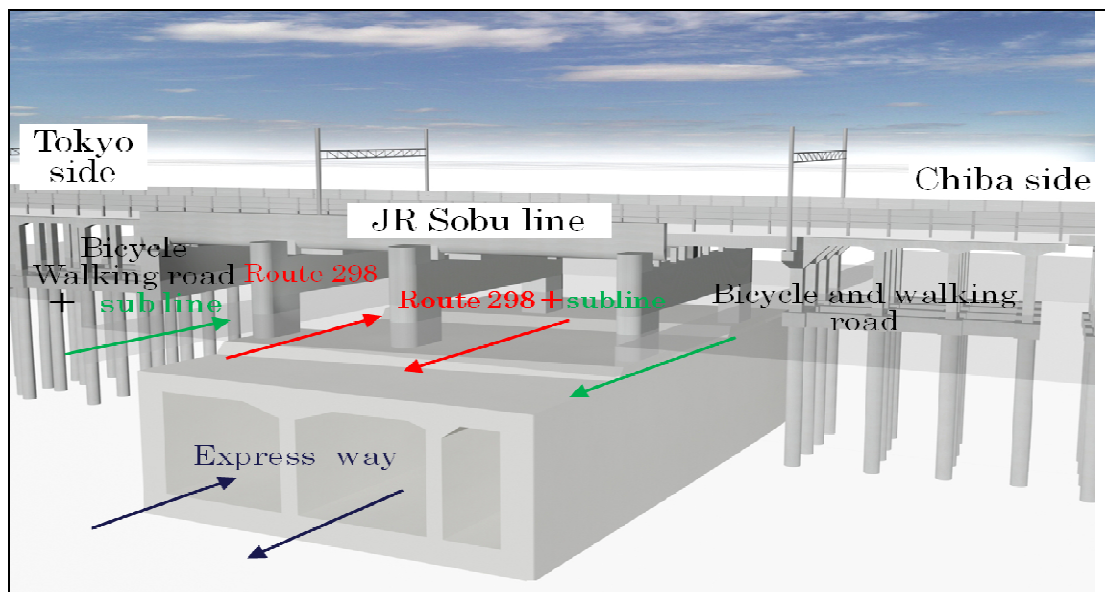


Figure-5-1

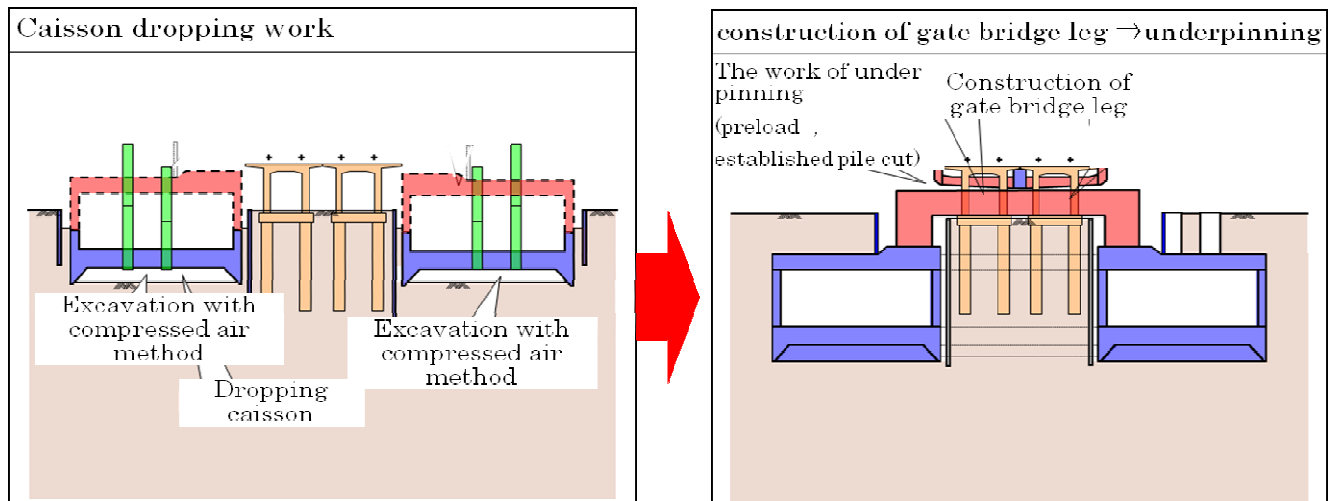


Figure-5-2

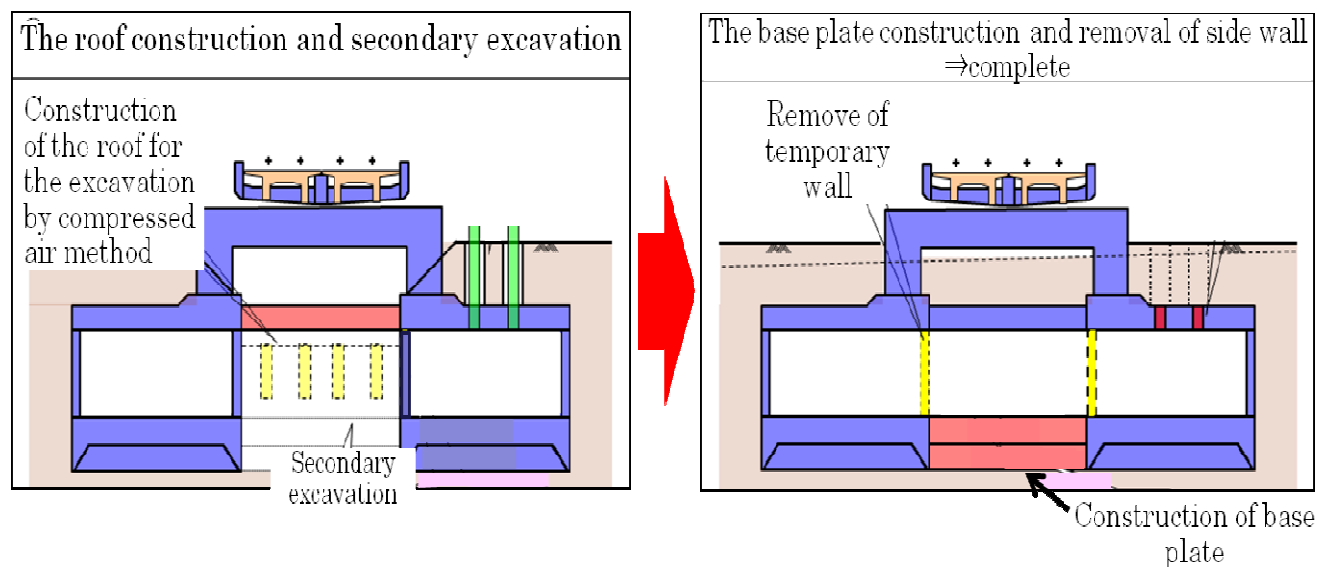


Figure-5-3

The third one is to construct the interchange close to the heavy traffic (about 130,000 cars per day) road. Since the road could not be stopped because of the traffic volume, contractors change the line and construct the box culvert step by step as shown in Figure-6.

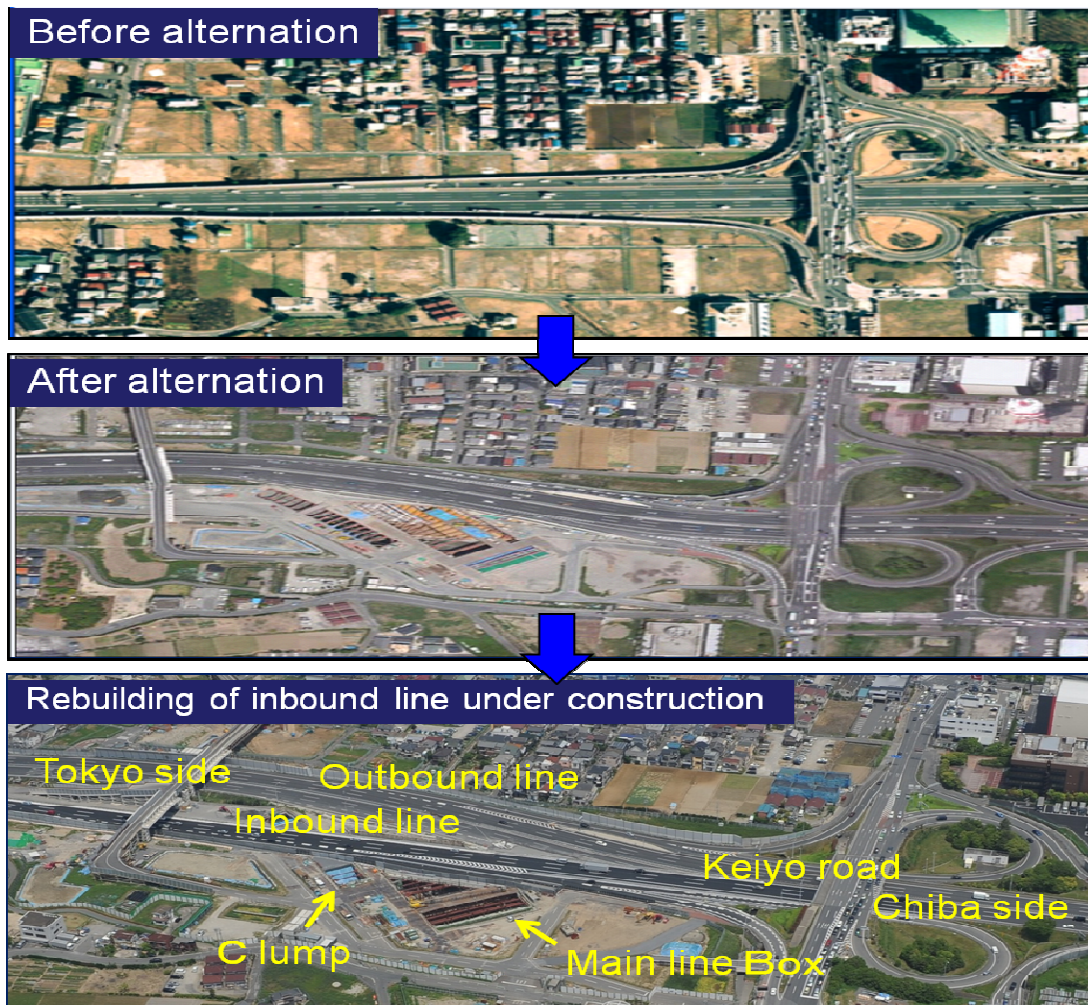


Figure-6

After the field trip we discussed the environmental issues, construction technologies and bidding systems. The road structure was changed to reduce the influences of the noise. Various construction technologies are used under the very hard condition of railroad operation. The bidding system has pros and cons on the point of work volume both for the owners and contractors.

I expect that this kind of field trip with mass communication people will help to change the image of Japanese construction and let many people understand the meaning of social foundation.

Takehiko Ono

What's Happening

- 12/14 : VIBRA-MOT International Conference (Hanoi, Vietnam)
- 12/21 : Int'l Construction Management Series 5/5
(<http://committees.jsce.or.jp/kokusai/management2012>)
- 2013 1/19-21 : The 54th Convention of The Institute of Engineers, Bangladesh (Chittagon, Bangladesh)

Updates

- ACECC 6th CECAR in Jakarta, Indonesia (August 20-22, 2013)
<http://committees.jsce.or.jp/acecc/6thcecar>
- Concrete Committee International Newsletter No. 31
<http://www.jsce.or.jp/committee/concrete/e/newsletter/newsletter31/index>.

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