

## Information on the Construction Site Tour

September 4, 2025

Dear Colleagues,

We hope your preparations for the 28th AsiaConstruct Conference in Seoul are going smoothly. Please find below the details regarding the construction site tour, which will be held as part of the conference program:

### 1. 2025 ACC Construction Site Tour Information

- ◆ Date: September 26, 2025 (Friday)
- ◆ Time: 08:00 – 16:00
- ◆ Departure Location: Hotel Lobby, Fraser Place Central-Seoul
- ◆ Tour Site: Capital Region Second Ring Expressway – Gimpo to Paju Section Construction Site
- ◆ Attire: Comfortable clothing and shoes are recommended for safety reasons
  - \* For safety reasons, participants are advised not to wear high heels or slippers during the site tour.
  - \*\* Safety equipment will be provided on-site
- ◆ Transportation: A chartered bus will be arranged for all participants

### Schedule of the Site Tour

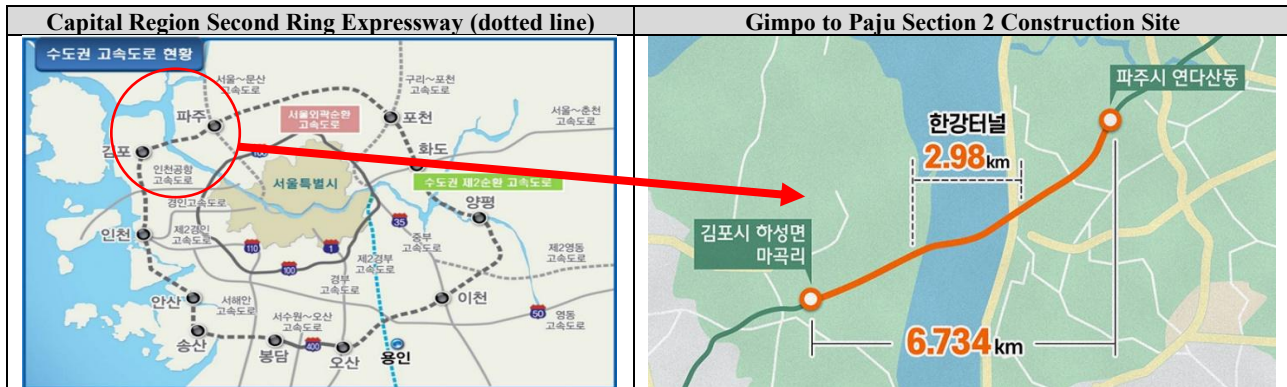
Time	Contents
08:00 - 09:30	Transfer to Site Tour Location (by chartered bus)
09:30 – 11:30	Site Tour (Capital Region Second Ring Expressway – Gimpo to Paju Section Construction Site) <i>Including a Commemorative Photo Session</i>
11:30 – 13:00	Transfer to Lunch Venue (by chartered bus)
<b>13:00 – 14:30</b>	<b>Lunch</b>
14:30 – 16:00	Return to the Hotel (by chartered bus)
<b>16:00</b>	<b>End of Program</b>

### 2. Introduction of the Construction Site

**Project Name: Capital Region Second Ring Expressway – Gimpo to Paju Section 2 Construction Site**  
**Contractor: Hyundai E&C**

#### ■ Project Overview

Section 2 of the Capital Region Second Ring Expressway (Gimpo–Paju), currently under construction by Hyundai Engineering & Construction (Hyundai E&C), is a 6.734 km road segment connecting Magok-ri, Haseong-myeon in Gimpo City to Yeondasan-dong in Paju City, Gyeonggi Province. The most challenging part of this section is a 2.98 km underground tunnel crossing beneath the Han River, being constructed at a depth of 20 to 35 meters below the riverbed.



Sources: Gyeonggi Province(<https://www.gg.go.kr>); Hyundai E&C(<https://www.hdec.kr>)

■ Why did Hyundai E&C choose to construct a tunnel instead of a bridge in this area?

This region lies close to the Military Demarcation Line and serves as a habitat for endangered species such as the Suwon tree frog and the red-crowned crane, which is a designated natural monument. Constructing a surface-level roadway could pose serious threats to these ecosystems. Therefore, a tunnel was proposed as a more environmentally sensitive alternative.

■ Technology: Slurry Shield TBM (Tunnel Boring Machine Method)

Subsequent geological surveys revealed that the area consists of a complex formation with relatively shallow overburden and high water pressure. To address these challenges, Hyundai E&C adopted the slurry shield TBM (Tunnel Boring Machine) method, a tunneling technology that minimizes noise and vibration compared to conventional blasting methods, making it well-suited for high-pressure and weak ground conditions.

This TBM method enables all processes, from excavation and segment lining to soil discharge, to be completed in a seamless, one-stop system, significantly reducing construction time. It also ensures a safer working environment for personnel. Notably, the TBM is equipped with two emergency chambers inside the machine, each capable of supplying oxygen for up to 72 hours in case of emergencies.

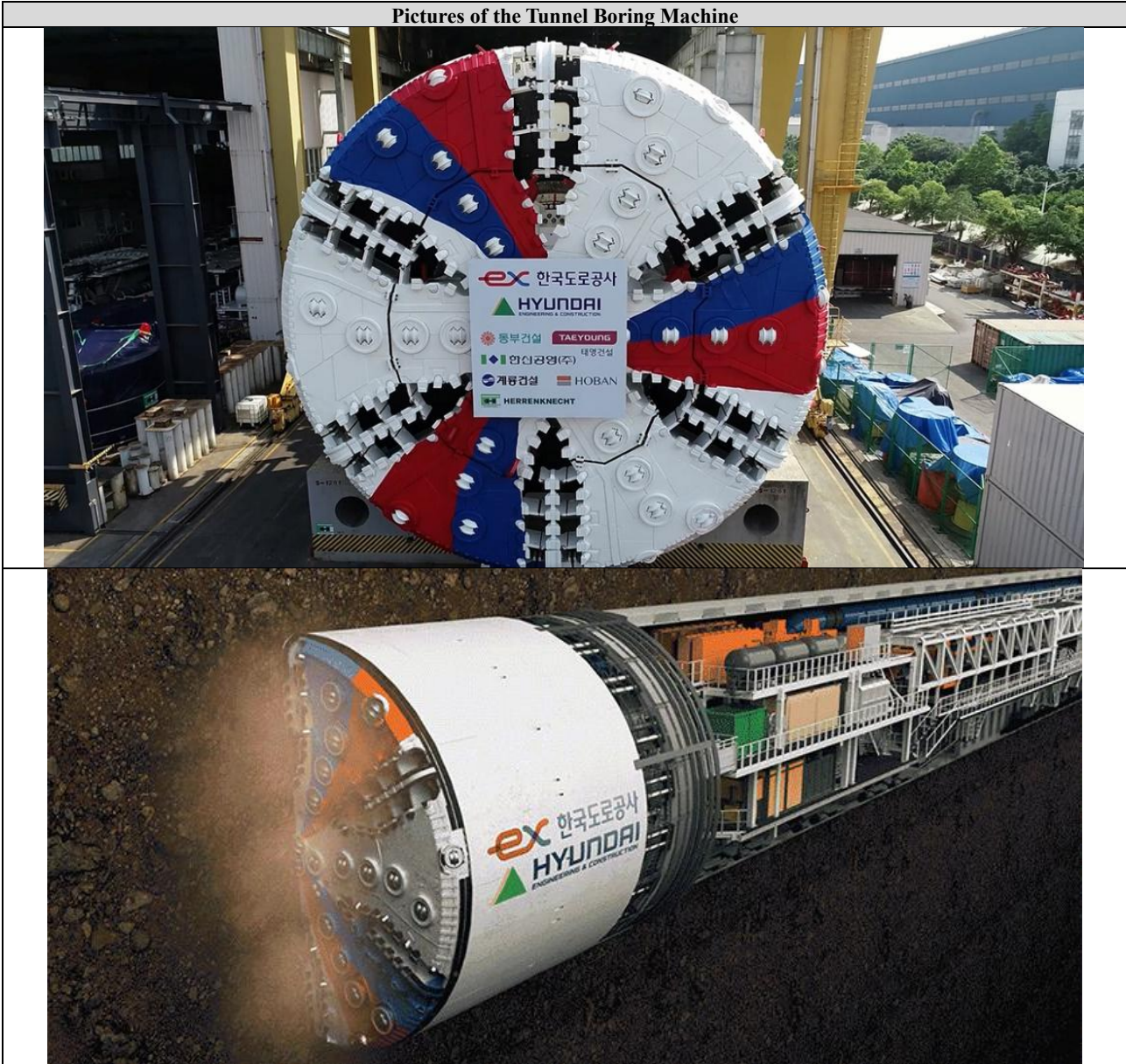
The TBM is equipped with a cutter head, the most powerful component of the machine. The cutter head features 71 disc cutters mounted on its front, which rotate in concentric circles to grind through bedrock. Since worn-out cutters lose grip and fail to distribute force evenly, they must be replaced once they are worn down.

To manage this process, Hyundai E&C has adopted cutting-edge technologies such as:

- **Accessible Cutter Head System:** This system allows workers to access and replace disc cutters at atmospheric pressure, through a specially designed chamber behind the cutter head—eliminating the need to enter high-pressure zones.
- **Disc Cutter Rotation Monitoring System:** This monitors the rotation speed and temperature of each disc cutter in real-time to determine optimal replacement timing and detect abnormal wear.

Traditionally, replacing worn disc cutters required entry into a high-pressure chamber located behind the cutter head, posing safety risks. However, the slurry-type TBM used at this site enables external access under normal atmospheric pressure, ensuring greater safety and convenience.

Pictures of the Tunnel Boring Machine



Source: Korea Road Association(<https://www.kroad.or.kr>); Hyundai E&C(<https://www.hdec.kr>)

### 3. Lunch Information

The lunch will be served at Apeti, located in the Nine Tree Premier Rokaus Hotel Seoul Yongsan. We have selected a buffet-style restaurant to ensure that the diverse culinary cultures of each country are well reflected and respected.