

The technical visit to Tseung Kwan O – Lam Tin Tunnel (TKO-LTT) was successfully held on 8<sup>th</sup> July 2023, where participants learnt about the TKO-LTT project and the how the project team overcome the technical and logistic challenges during construction. The TKO-LTT provides an additional link between the East Kowloon and TKO, which relieves the current traffic pressure and the anticipated traffic demand as a result of the development of TKO.

In the visit, the project team from Leighton first welcomed the participants to the Project Community Liaison Centre for the introduction of the TKO-LTT project. Mr Russell Lang, the Project Director from Leighton first described the extensive project scope of the 3.8 km long dual two-lane highway, comprising the 2.2 km long main tunnel of the TKO-LTT, slip roads, branch tunnel, viaducts, administration building, tunnel portal facilities and ventilation buildings. At the Kwun Tong side, the main tunnel is connected to the Trunk Road T2, the East Harbour Crossing (EHC) and Cha Kwo Ling Road at Kwun Tong through the Lam Tin Interchange.

Large scale site formation works were carried out at the works site for the Lam Tin Interchange and tunnel portal construction, which was previously the prefabrication yard of the immersed tube tunnel segments for EHC. To mitigate the risk of flooding due to the large elevation difference of more than 20 m between the lowest formation level and the adjacent ground level, a stormwater storage facility was installed for dewatering and pumping. The site formation works includes surface blasting and mechanical breaking of the rock slopes. Stabilization measures including rock dowel and shotcrete were applied to the rock face. Safety and environmental mitigation measures such as the vertical screens, protective cages and ground covers were implemented to minimize dust and avoid flyrocks for surface blasting. To further reduce nuisance to the nearby residents, mobile noise barrier and acoustic wools were installed during excavation. The excavation works were also carefully controlled not to affect the structural integrity and functioning of the adjacent EHC Toll Plaza and MTR ancillary building.



In the congested site, handling more than 4.5 million tonnes of construction and demolition materials from site formation and tunnel excavation was one of the challenges faced by the project team. To reduce waste, the excavated materials like rock fragments were processed and delivered to sites for reuse, for example, to the Tung Chung New Town Extension for reclamation. A temporary steel vehicular conveyor bridge was also constructed for transportation of the construction material without affecting the current traffic.

After the insightful sharing, the project team led the participants to the works site at Lam Tin Interchange to witness construction works on site, including the tunnel lining construction and rock slope cutting. At the portion of the Slip Road S2 of the Lam Tin Interchange which would be constructed in tunnel form, a temporary rock pillar supporting more than 35 m rock mass above was to be excavated. Proper construction sequence was critical to ensure stability. The project team therefore casted the reinforced concrete lining before the excavation of the rock pillars in alternate bays, such that the loading would entirely be transferred to the permanent lining instead of the rock pillars.