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India's deepest Metro station comes up 30m below Howrah railway station

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HOWRAH: India's deepest Metro station is now structurally complete. The base slab of the Howrah Metro station, 30m — equivalent to a 10-storey building — below platforms 14 and 17 of the rail station, was cast over the weekend, marking a milestone for the East-West Metro project.

The 16km Metro will link Howrah Maidan with Sector V, passing under the Hooghly. "Constructing the multi-level Metro hub below an active railway yard — the country's busiest railway terminus — was quite a challenge, especially when we have to ensure train services are not interrupted," said an official of Afcons, the construction major contracted to build the Metro station between two active railway platforms. "It runs so deep because it had to be aligned with the two East-West tunnels running 26m below the

Hooghly riverbed," he said.



The base slab, which was completed over the weekend

While in the eastern part of Kolkata, services along a 5km elevated stretch from Sector V to Salt Lake stadium of East-West Metro, the city's most ambitious infrastructure bet so far, is about start, on the west, at Howrah, workers of Afcons had good reason to celebrate on Saturday. They had managed to finish structural work of the country's deepest Metro hub in a record 17

months' time.



A view from 30m under ground

“Like any underground station, the Howrah Metro station was also built topside down. The station has five slabs and four levels. It was a momentous occasion to complete the fifth and the last slab on Saturday,” said an official.

It took them 13 months to excavate below platforms 14 and 17 of the Howrah station's new complex from February 2016 to create space for the 34m deep Metro station. The digging generated 2,65,000 cubic metre soil. "We had to dig till we reached 34m because the width of the base slab was supposed to be around 4m. The station's ground level would start at 30m or 105ft, where the tracks would be laid," explained an engineer.



The staircase to the underground station

While the base of the station is at a depth of 105ft, the platforms are 100ft below the surface. The station has five levels — upper concourse, mechanical level, lower concourse and base or platform level — spread across 40,000sqm. The multi-level sprawl will have interconnected facilities spread over five lakh square feet of interior space.

Walking 143 steps into the Metro station, opposite the divisional railway manager (DRM's) office, one finds quite a bit of the civil construction, including the platforms, is now complete. There are three platforms, so that doors of the trains can open on both sides. The roof is waterproof and the premises greener and more energy-friendly.

East-West's Esplanade Metro station is the next deepest — at 29m. Delhi's Hauz Khas Metro station is also 29m below the surface. "It's not so difficult building the Esplanade station because it's coming up at a greenfield site because the Esplanade tram depot next to Curzon Park has been shifted out. East-West's Sealdah Metro station is also easy compared to construction of the Howrah Metro station, where the railway platform are barely 5m away from the station box, that too at such depth. At Sealdah, the East-West Metro station is not all that near the railway station complex or the platforms," said an official.

Initially, there were four platforms above the Howrah Metro station. Now, platform number 16, which was only used for goods trains, has been abandoned. And platform number 15 has been shifted.