

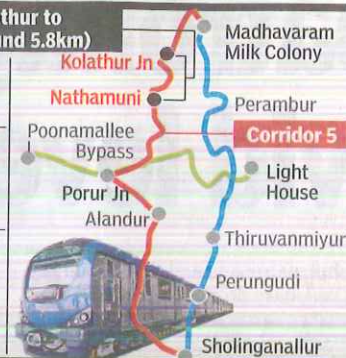
Metro floats tender for tough tunnelling

Stretch From Kolathur To Nathamuni Is Hard Rock

TIMES NEWS NETWORK

PROJECT IN BRIEF

TO BE BUILT	WHY A TOUGH TASK?	Stretch Kolathur to Nathamuni (around 5.8km)
<ul style="list-style-type: none"> > Twin tunnels at 15m to 21m depth > Stretch to be linked by five under ground stations 	<ul style="list-style-type: none"> > Stretch has hard rocks like black granite or a mix of quartz or charnockite > Engineers may have to slow down speed of tunnel boring machines (TBM) to keep the vibration, which 	<ul style="list-style-type: none"> may affect the buildings above, to a minimum > TBM blades may have to be replaced frequently > Cutting a station box or the diaphragm of the station will also be tough
TENDER FLOATED <ul style="list-style-type: none"> > For twin tunnels and five stations 		
Deadline 1,395 days or around four years		



phase is expected to begin by mid-2021 with CMRL likely to start building the elevated line between Porur and Poonamallee bypass. The phase is expected to be ready by 2026.

The firm that bags the contract will have to build twin tunnels for the upline and downline and connect them with five underground stations across at least two major localities — Kolathur and Villivak-

kam. The stations will come up at Kolathur, Srinivasa Nagar, Villivakkam suburban station, Villivakkam bus-terminus and Nathamuni. The contractor will build entry-exit points of the stations, ventilation shafts, architectural finishes and more. The deadline for the work is around four years.

CMRL identified the line from Kolathur to Nathamuni as one of the two toughest

stretches in phase-2 due to its soil conditions which are primarily hard rocks like black granite or a mix of quartz or charnockite. The condition could pose an engineering challenge as the tunnel boring machines will have to be operated at an appropriate speed - even as slow as below 8m a day - to keep vibrations it may cause to a minimum because it may otherwise affect the buildings

above. Tunnels in this stretch will be at a depth of 15m to 21m.

Before the tunnelling begins, station boxes or diaphragm walls of the stations must be built where soil would be cut as deep as the tunnel.

In phase-1, rock soil conditions slowed down the project. While a contractor abandoned work on the Anna Salai stretch claiming they hit rocky soil which they did not anticipate, it took nearly six months for engineers to drill a 500m rocky stretch near Central station. This also required engineers to frequently replace the cutters or blades.

CMRL has devised a few strategies for faster construction of phase-2 including launching and retrieving TBMs between two consecutive stations, instead of tunnelling long stretches, to prevent delay in one stretch affecting other lines.