MUMBAI METRO LINE 3:- PACKAGE 07

MUMBAI METRO LINE-3 (MML3)

(Colaba-Bandra-Seepz):Package-07

Mumbai Metro Line - 3 (MML - 3) is key projects to improve the transportation scenario in the financial capital of India (i.e. Mumbai). MML-3 project - a 33.5km. long corridor, with 27 underground station along Colaba-Bandra-SEEPZ, envisages to decongest the traffic situation in Greater Mumbai.

Scope

Design and consulting services for the contractor for Package 07 during the construction of Mumbai Metro Line 3. The overall length of the package07 is over 4.2 km. Twin tube single-track tunnels approx. 3.3km each to be excavated with EPB machine with inner diameter of 5.80m. The package 07 includes two launching shafts, 3 stations and small stretch of cut & cover tunnel and Ramp along the alignment.

Challenges

- Densely populated urban area
- Restricted working area
- Sensitivity for noise and pollution
- Site logistics

Amberg Services

- Geotechnical evaluation
- Detailed Design Consultancy for TBM tunnel, NATM tunnel, launching shafts, Cut & Cover Tunnel and Ramp.
- Engineering Services

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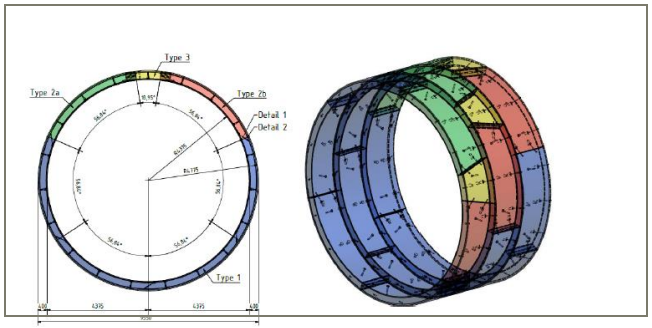

- Segment Lining

- Aerial photo of Launching shaft construction site

- Casting Yard

AMBERG FACTS

Contracted value Amberg

- Total, -17.708Cr

Project Duration

- Design works 2016 – 2018

Project Details

Tunnels

- 30m diameter TBM launching shaft
- 2 single track tunnel tubes total length approx. 3.3km
- Earth pressure shield TBM with diam. 6.68 m
- Segmental lining
- Two 235m long, 10m Multiarch NATM tunnels to accommodate platform in Marol Naka station

Metro stations

- Total 3 stations ,each 240m long
- 2 station with Cut & Cover excavation, 1 Cut and Cover station with platform inside NATM tunnels on either side of Station box

CLIENT FACTS

Overall costs

- Total cost - 2283 Cr

Overview Project

- Metro tunnel, length approx. 3.5km
- 2 single-track tunnel tubes
- 3 Underground Metro stations
- Cut and Cover Tunnel
- Ramp to depot

Geology

The geology is mainly composed of the following ground formations:

- Residual fill
- Basalt rock formation (weathered to strong)
- Breccia rock formation(weathered to strong)

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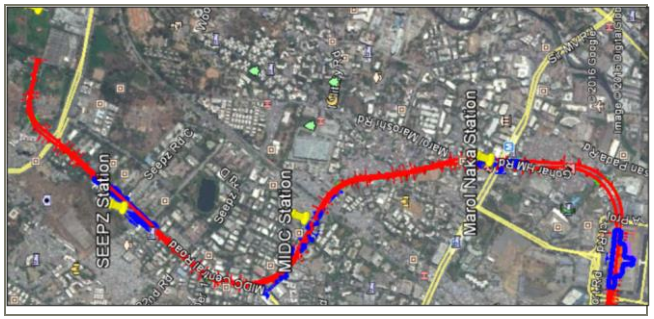
CHALLENGES

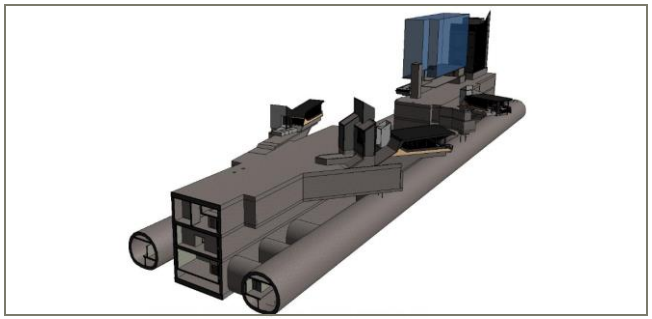


MML3- Package 07

Sensitive urban area

- Densely populated city area
- Sensitivity for noise and pollution
- Complex site logistics

ENGINEERING APPROACH

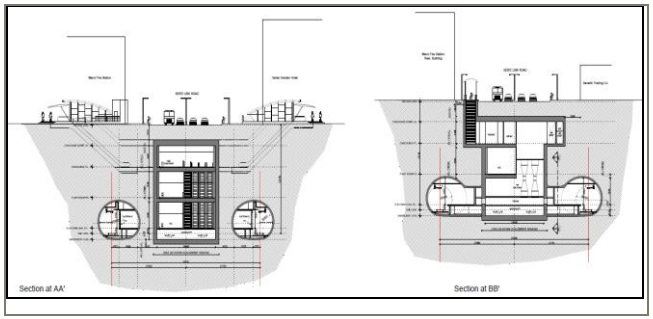


CONCEPTUAL VIEW-Station with NATM tunnels

Complex work phasing

- Urban construction
- Restricted working area
- Complex arrangement for site logistics
- Safety requirements extremely high

TECHNICAL SOLUTIONS



Typical Marol Naka Station Cross section

Work schedule

- Working simultaneously at different sites
- Tight schedule for project completion
- High standard of quality required

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