

NORTH LRT EXTENSION, EDMONTON

Technical assistance during tunnel excavation (NATM engineer)

Country: Canada

Client: Flatiron Constructors Canada Ltd.

Year: 2013

PROJECT DESCRIPTION:

The 3.3 km long extension of a light rail in the north part of the city connects Churchill LRT Station with the Northern Alberta Institute of Technology (NAIT). There were constructed two single-track NATM tunnels connected by a narrow pillar with the overburden varying from 2 to 18 m. The length of the tunnels is 380 m and the area of excavation is 2 times 37 m². The tunnels were excavated under a high-rise building in a glacial till with inter-bedded sand lenses.



PROJECT CONTRIBUTION:

3G Consulting Engineers provided a technical assistance for contractor during tunnel excavation – services associated with NATM engineer position.

SERVICES PROVIDED:

- Permanent supervision on site, face mapping and recommendation of measures for excavation
- Daily meetings with representatives of supervisor, contractor and designer
- Geotechnical monitoring supervision, evaluation and interpretation
- Quality control
- Records of exploratory boreholes in front of the face
- Direct work control in critical moments – liquefaction of water saturated sand, face slide
- Responsibility for safety on site with respect to mining standards and measuring explosive and toxic gases.

