



## Downtown Line: Cashew and Hillview

ECAS was appointed the QPS for the design and construction of stations and tunnels at Hillview and Cashew. The Downtown Line Stage 2 was composed of a 16.6km fully underground rail transit system with 12 stations along the Bukit Timah Road corridor and a depot located at Jalan Gali Batu at the northern end of the Downtown Line Stage 2.

Contract 913 comprised of the design, construction and completion of architectural, civil, structural, electrical and mechanical works for the stations at Hillview and Cashew, the connecting bored tunnels between these two stations, the bored tunnels at contract boundary of Contract 912 and Contract 913, and the TBM retrieval shaft for Contract 915.

The works also included the design, construction and completion of a vehicular flyover and road widening works along Upper Bukit Timah Road, provision or foundation for future flyover and additional tunnel and surface structure at Hillview Station.

**Client:** Land Transport Authority  
**Project Value:** S\$910M  
**ECAS' Role:** Qualified Person Supervision  
**Completion Date:** 2015

**ECAS**



## Thomson Line: Woodlands North to Mount Pleasant



Contract 2102 covers the stations of Woodlands North, Woodlands, and Woodlands South. Woodlands North is an open cut 13-15m depth slope excavation consisting of drains to allow water drawdown. Woodlands station is a Civil Defence and interchange station connecting to the North-South Line. Woodlands South Station is constructed with a top-down method and needs 20-25m excavation supported by SBP walls, slab, struts king posts and waler beams. Contracts 2103 consists of 8 stations with a total of 14.5km from Springleaf Station to Mount Pleasant Station. All ERSS system is checked for toe stability and base heave check.

**Client:** Land Transport Authority  
**Project Value:** S\$1.5B  
**ECAS' Role:** Accredited Checking  
**Completion Date:** 2015

## Downtown Line: Bukit Panjang Station and Tunnels



Contract 912 comprises of the design and construction of a civil defence station at Bukit Panjang (BKP) and its connecting tunnels between boundary C911 and C913 under Downtown Line Stage 2. The main station, entrances, and tunnel structures are proposed to be constructed by cut and cover method in a bottom-up sequence. Temporary works consist of secant pile walls, continuous bored pile walls, and diaphragm walls. Different types of foundation are recommended as a consideration of site constraints and soil conditions encountered for both station and tunnel structures.

**Client:** Land Transport Authority  
**Project Value:** S\$220M  
**ECAS' Role:** Accredited Checking  
**Completion Date:** 2013

## Downtown Line: Bedok Town Park and Ubi



Contract 928 comprised of the construction and completion of civil defence Bedok Town Park station including cut and cover tunnels and EPBM receiving and launching shafts at both the eastern and western ends of the station, and connecting bored tunnels between Bedok Town Park station and Kakit Bukit station. Contract 929A comprises of the construction of twin bored tunnels between Ubi and Kakit Bukit stations, a single bored tunnel between Ubi station and Tai Seng Facility Building, and a single bored tunnel between Tai Seng Facility Building and Bedok Town Park station.

This site was the recipient of the QSP Safety Award in 2014 and 2015.

**Client:** Land Transport Authority  
**Project Value:** S\$490M  
**ECAS' Role:** Qualified Person Supervision  
**Completion Date:** 2016