



Bond Street Station Capacity Upgrade London Underground

Location: London, United Kingdom

Date: 2011 – 2014

Structure: Several Underground Station Tunnels, Buildings and Utility Mains (SCL Tunnels at Connection, Non SCL Squareworks, Escalator Barrels, Lift Shafts, Connection Chambers and Enlargement Areas)

Length: Tunnels and Shafts: Approximately 1,540 feet (470 meters)

Cross-Section: Varies

Geology: London Clay, Lambeth Group, Groundwater Above London Clay

Cost: US \$800 Million

Client: Halcrow - Atkins JV

Owner: London Underground Ltd. (LUL)



Figure 1. Preparation for new pile foundations for new over-site-development.



Figure 2. Demolition of one building above station to gain access to construction.

LUL's Upgrade of Bond Street Station Independent Design (Cat III) Check Services:

Bond Street Station is one of the busiest underground stations on the network of London Underground. It serves the Central Line and Jubilee Line. With the aging station and increasing ridership, a large-scale upgrade program is being carried out by LUL. Apart from above-ground developments, the station upgrade works include the construction of new access shafts, lift shafts, passenger interchange, and circulation tunnels, new cross passages connecting the new tunnels to the existing station tunnels, and escalator tunnels.

The majority of the tunneling work takes place at several different elevations in London Clay, an over-consolidated stiff to hard, fissured clay below the groundwater table. In the deepest tunnel sections, sediments of the Lambeth Group will be excavated. Construction of the new tunnels utilizes various methods including Sprayed Concrete Lined / Sequential Excavation Method (SCL / SEM) with shotcrete support, and traditional hand mining with square works and timber headings for openings within confined space.

Gall Zeidler Consultants (GZ) performed an independent Category III check of the design for all new underground structures and the independent check of the assessments of the impact on the surface structures, utility main and existing LUL assets.