While noise, dust and other inconveniences are inevitable during construction, LTA will work closely with the contractor to keep them to a minimum.

03. Excavation & Installation of Steel Strut
The soil is excavated to the next strut level and the second level strut is installed. This continues till the excavation reaches the final depth or formation level. This process progresses upwards till the roof slab is constructed.

04. Construction of Underground Structure
At formation level, the reinforced concrete slab or base slab is constructed, followed by the removal of the lowest level strut and the side walls are constructed.

05. Construction of Underground Structure
The next level of slab is constructed, followed by the removal of the strut near that slab level. This process progresses upwards till the roof slab is completed.

06. Backfilling & Reinstatement
After the roof slab is completed, the soil is backfilled to the next strut level before the next level strut is removed. This process progresses upwards till the excavation reaches the final depth or formation level.

01. Installation of Retaining Wall
The underground retaining wall is installed before excavation commences. The retaining wall can be a concrete diaphragm wall, a concrete bored pile wall or a steel sheet pile wall depending on the site conditions, soil type and the excavation depth.

02. Excavation & Installation of Steel Strut
The soil is excavated to the first strut level. The first level strut is installed before the excavation proceeds further.
CONSTRUCTION OF SECANT PILE WALL

This pictorial guide illustrates the construction sequence of a Secant Pile Wall. This type of retaining wall was used for the construction of Chinatown Station on the North East Line (NEL).

Safety Measures
The Land Transport Authority (LTA) accords top priority to safety. Professional Engineers (PE) and Qualified Persons (QP) are engaged to carry out stringent checks on the temporary structures to ensure that they are installed correctly and safely before the excavation can proceed from one level to the next level. In addition, our engineers monitor the various stress and strain gauges installed on the temporary structures on a regular basis so as to be sure that the stresses fall within acceptable limits set by the design engineers. Likewise, instruments are extensively installed in the vicinity of the construction site to monitor vibrations, ground movements etc. This is so that the engineers are always in the know of the impact of the construction on the surrounding buildings and structures, thereby ensuring that they are safe.

Inconveniences
Noise and vibrations are generated when the casing is driven in and extracted from the ground by the vibro-hammer. Noise is also generated during the augering process. We will therefore try our best to schedule the work such that it creates minimal disruption to the public.