Illustration to explain the construction of basement using top-down method
Bore-pile as foundation for future building

Ground level (excavation not started yet)

Cut-off wall

Steel stanchion place onto bore pile as temporary support for basement construction

Future basement formation level

Bore-pile as foundation for future building
Steel casing (tube)

Steel stanchion (column)

Steel base

Bore pile

Connection between steel stanchion and bore pile

Steel base embedded into concrete for future connection of steel stanchion by welding
Steel stanchion (column) placed on top of the bore pile as support for top-down basement as well as permanent column for future structure.
Bore-pile

Ground level

First level of excavation to allow construction of the ground floor slab

Cut-off wall

Future basement formation level

Bore-pile
Ground floor slab being constructed and serve also as lateral support to the cut off wall.

First level of excavation to allow construction of the ground floor slab.

Cut-off wall

Future basement formation level
Completion of the ground floor slab and start to excavate downward for the first basement using the steel stanchions as support.
Completion of the ground floor slab and start to excavate downward for the first basement using the steel stanchions as support.
Superstructure can be constructed at the same time upon completion of the ground floor slab.

Ground floor slab being constructed and serve also as lateral support to the cut off wall.

Second level of excavation to allow construction of the first basement slab.

Future basement formation level.
Ground floor and first basement slab being constructed

Future basement formation level
Excavation repeated until the completion of the entire basement
Excavation and construction of the basement slab using double-bit arrangement
Other work reality in top-down basement – congested work environment, complicated layout, difficult phasing of work as part of the construction planning.
Cast the basement wall and encase the steel stanchion to become permanent columns, all using formwork and reinforced concrete.
Basement steel stanchion finally encased with reinforced concrete to become permanent column