

## GEA PROJECT FACTSHEET

**Project Name:** Drapers' Gardens

**Site Location:** City of London

**Overview:** Demolition of a landmark 28-storey tower on a three-storey podium, designed by Siefert and completed in 1967. The new structure is to occupy a larger footprint and will comprise five-storey and 15-storey elements. The investigation was designed, carried out and supervised by GEA.



### The Technical Challenges:

- Raft Foundation -** The tower is built on a central podium supported on a 3 m thick concrete piled raft. As far as possible, it was hoped that the new building could re-use this foundation.
- Pile Design -** New piles would be required outside the raft and consideration was to be given to the effects of the demolition on the existing piles.
- Groundwater -** The existing basement was to be lowered in part and careful consideration needed to be given to accurate assessment of ground water levels. Two tributaries of the former Wallbrook stream also crossed the site and profiling of Alluvium levels and the effect on local ground water flow were of particular concern.

### The Site Work Challenges

All of the site work was carried out within the existing building. In addition to the ground investigation GEA organised a range of geophysical and materials investigations to assess the capacity of the raft and the nature of the existing retaining walls. A range of exploratory techniques was adopted to obtain the optimum amount of geotechnical information, including opendrive sampling, cable percussion drilling using a dismantlable compressed air cable percussion rig, hand dug trial pitting and concrete coring.

### The Solution

We were able to provide clear advice on the level of ground water and the implications for the new basement of ground water inflows and were able to confirm the reported design of the existing piles. Analyses were carried out of likely heave movements resulting from demolition, which indicated that the general approach of re-using the raft should be an appropriate solution.

For further information regarding this or any other ground related issues contact:

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