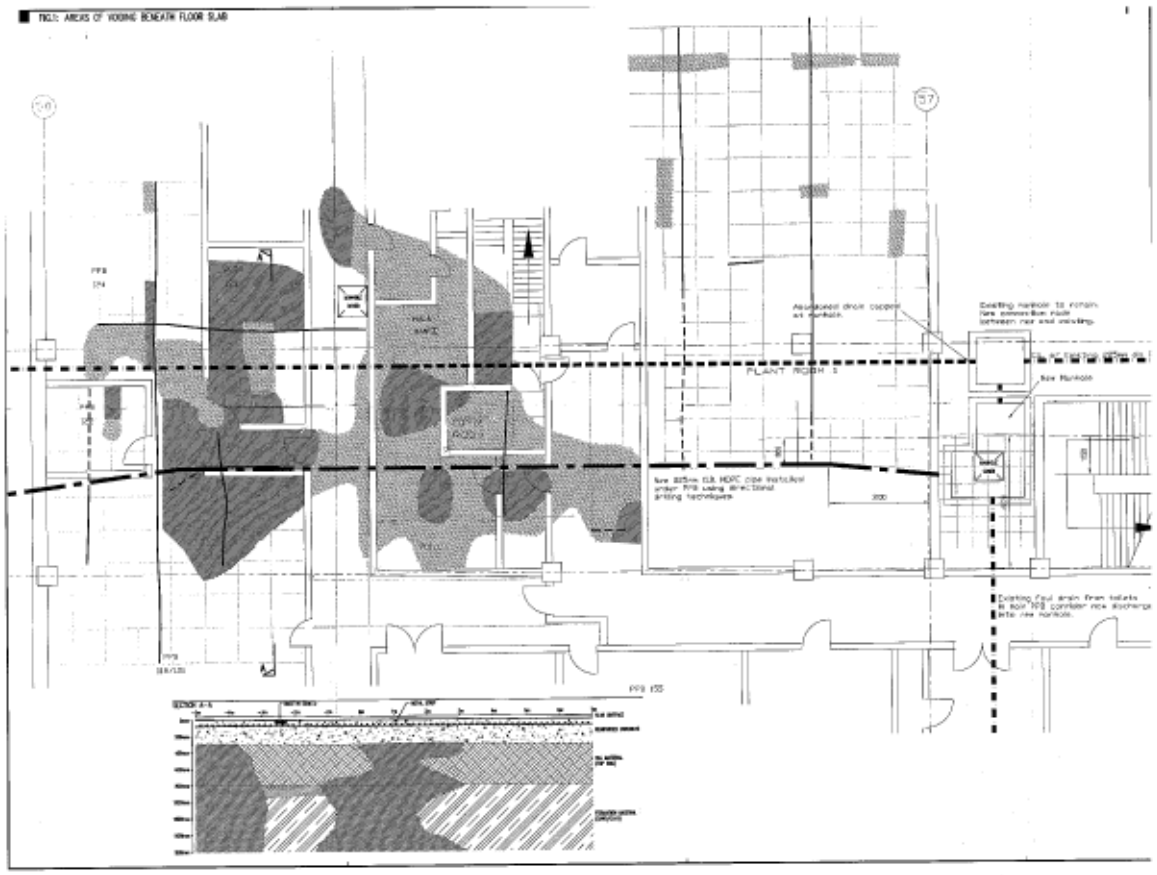
Collapsed Drain/Ground Stabilisation.

The south end of an existing building was to be refurbished into a new dining area. Prior to commencement of this work remedial work to an existing collapsed foul drain that runs below the ground slab was carried out.



Ground Stabilisation

Surveys of both the drain and the underlying ground were carried out using Radio detection and impulse radar. The results of the surveys indicated voiding in the supporting ground and that the existing drain had settled. The survey highlighted an area of voiding of approximately 600m^2 within the supporting ground. The depth of voiding was limited to 1.6m below slab level (i.e. the max range of the Impulse radar equipment).

The unsound ground was stabilized by drilling a series of small diameter holes and injecting, to a depth of up to 2.5m, a specialist expanding foamed concrete. The stabilization was carried out extremely quickly in only 4 days. There was no disruption to surrounding areas still in production occurred.

Collapsed Drain

With regard to the remedial work to the drain itself, a pumping chamber was located in the North courtyard of the building and the effluent pumped down a new smaller diameter MDPE pipe installed through the existing recently installed failed pipe. This solution was considered most practical especially from a safety viewpoint as it had the following advantages over a traditional gravity fed installation.

- Ease and speed of installation
- Less disruption to the Business
- No breaking out of slab required -Noise/vibration/smell
- Excavation limited to package pump station only
- No contaminated ground to work in or dispose of
- No demolition of walls to PMF change required
- Safer to construct – No falls into excavations/confined space working etc
- No deep excavations on potentially contaminated ground

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