



## CASE STUDY

### Gillette Corner, Isleworth, London

#### THE PROJECT

Redevelopment of key gateway site on the A40 approach to west London

#### THE PROBLEM

The 3800mm diameter Brent Valley Sewer passes under the proposed building requiring an engineering assessment of the impacts of the new build.

#### THE SOLUTION

A numerical 3-D ground movement assessment considering the basement excavation, rigid-inclusion ground improvement and new building loads.

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## Services & Ground Movement Assessment

To open up development of this landmark site which comprised the construction of 900 sq. metres of office space and 11,000 sq. meters of self-storage space, the scheme promoter was required to obtain a Build-over Agreement with Thames Water covering the Brent Valley Main Sewer which passed under the site. At this location the Brent Valley Sewer is a major asset comprising at 3800mm OD concrete segmental tunnel with a brick lining.

The development required excavation of a 3.5m deep sub-basement, before installation of Rigid Inclusions (RI's) extending down a further 3.5m to improve the bearing capacity of the underlying Made Ground. This resulted in a 6m clearance between the toe of the RI's and the top of the sewer.

The challenge was how to model the load distribution from the foundation slab, pads and RI's into the ground to assess the impact on the sewer. This is when Harmonix Construction approached Remedy for help.

With Remedy's knowledge of the Thames Water sewer impact assessment requirements linked to their geotechnical expertise they were quickly able to show that the proposed foundation and ground improvement proposals would work.

Remedy undertook a 3D ground modelling analysis to determine the impact of the sub-basement excavation and new building loading on the longitudinal profile, curvature and diametrical distortion of the sewer, and the effect of these changes on the sewer lining. As a result of this analysis Remedy was able to demonstrate that the proposed development would not adversely impact the Thames Water asset, enabling the developer to obtain the required Build-over Agreement and releasing to site for construction.

**Contact Remedy Geotechnics** - we'll give you an answer every time.

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