



## Case study

### Peterborough

**Project:** Structural lift

#### The Problem

Optera were instructed by Insurers to structurally lift a chalet bungalow in Peterborough that had suffered long term progressive downward movement of the foundations over a ten year period. Despite numerous attempts at mitigation including drainage repairs and vegetation removal, the right hand side of the property continued to drop. A conservatory to the rear of the property had also rotated way from the bungalow. Ground conditions indicated a shallow band of peat over a clay soil.

#### The Optera Solution

We designed a scheme of bottom driven steel case piles driven across the front, right hand and rear elevations with needles under the existing footings. Using 500kN rated hydraulic lifting equipment, we jacked the right hand side of the bungalow back into level. In doing this, we effectively closed cracks on the front and rear elevations as well as rectifying the visual distortion on the front elevation to the roof line. The front lounge window was so distorted that the welds had broken and there was no lintel

above the external frame. We took the decision to deglaze the window but retain the frame during lifting. The building is now straight. Given the length of time that this claim had been ongoing, Insurers were considering demolition and rebuilding the right hand side of the bungalow at a cost of £300,000.00 with additional alternative accommodation costs on top of this.

By opting to lift the building Insurers have saved 75% of their projected spend as well as minimising the inconvenience to the policyholder. Optera are experts in building re-alignment and provide advice and guidance on proposed schemes.

Not every situation is suitable but Optera review existing information and can make an honest assessment of the likely success. In this case, the bungalow had been constructed on an un-reinforced raft which had split down the middle of the building. The shallow nature of the footing made lifting easier. Using laser operated monitoring equipment, we were able to lift the building without creating additional distortions and the result has been a success.

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