

Case Studies Series

Underpinning & Structural Lifting for the NHBC

Project Type: Structural Lifting and Underpinning
Client: NHBC
Location: Ballynahinch
Project Duration:



Bullivant Taranto has successfully completed the underpinning and Structural lifting of a domestic dwelling in Co Down for the National House Building Council (NHBC).

The works were undertaken to a modern house constructed in poor ground condition which had subsequently suffered from subsidence. Over time, whilst the house remained structurally intact, the structure had tilted and was some 400mm out of level.

The NHBC maintains a long standing relationship with Bullivant Taranto and inquired whether it was feasible to underpin and re-level the property. Following a full survey of the ground investigation, architectural details and on-site condition Bullivant Taranto provided a design scheme for the internal underpinning the structural lifting of the property.

The works comprised installing over 70 220mm dia. bottom driven Mini piles to depth up to 10.0m. Due to the existing filled ground and the presence of obstructions the pile position required pre-drilling to depths of up to 4.0m.

Following the piling works the structure was temporally supported on the new piles while the existing faulty foundations were isolated from the Super-structure. A reinforced concrete piled raft complete with needle beams was constructed and following an accelerated curing progress this became the base from which the structural lifting commenced.

Using over 60No jacking position and 45No. 30 tonne hydraulic jacks Bullivant Taranto raised the Superstructure back to level before locking the jacking process and transferring the load from the Superstructure fully on to the newly constructed piled raft foundation.

The Bullivant Taranto scheme was specifically designed that all the piling works were carried out within the building, thereby minimising the site preparation works and protecting the Home owners gardens and drive way throughout the major engineering works.

The Structural lifting element of the works was completed over a 72 hour period after which Bullivant Taranto had re-level the property to an accuracy of plus or minus 3.5mm. The Works are now covered by an insurance back guarantee for a 12 year period through Bullivant Taranto's membership of ASUC (Association of Specialist Underpinning Contractors)



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