



OLIVER O'CONNELL & SON

SAVILL COURT HOTEL

Wellpoint dewatering strategy
ensured that the excavation could
proceed safely and effectively by
maintaining soil stability

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Stuart Wells Limited

Temporary vacuum wellpoint dewatering system with 20 passive pressure relief wells

To enable bulk excavation to the B2 basement level (including additional lift pits), an internal perimeter vacuum wellpoint system was installed.

3no electric piston dewatering pumps (7.5 kW, 415V) were used, with a vacuum header main located behind the sheet piles. The discharge water flowed through a v-notch settlement tank placed on an earth bund, allowing for gravity drainage to a pond.

In addition 9no x 20m deep passive pressure relief wells were installed using cable percussive drilling methods in a grid across the site.



Objective

Stuart Wells was contracted to develop a dewatering strategy to manage groundwater during the construction of a large two-level basement under the entire footprint of the Savill Court Hotel. The site consisted of River Terrace Deposits overlaying Bagshot Beds and Claygate Beds which required careful consideration in the design process.



Solution

The design assessment identified that groundwater pressure in the lower confined aquifer posed a risk to the stability of the excavation base when digging to the B2 level. To mitigate the risk of basal heave from the sub-artesian groundwater head in the lower confined aquifer, 9no internal passive pressure relief wells were installed.

Services	<u>Wellpoint Dewatering</u>
Location	Englefield, Surrey
Industry	Construction