

Piling Equipment Specialists

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From September 2018 to January 2019 ABI Equipment Ltd were asked to supply their TM 14/17 Mobilram VSL rig with MRZV 20VV vibrator, for work being carried out by VolkerGround Engineering Ltd (VGE) in Strood, Kent.

Medway Council are implementing a scheme to raise ground levels and improve flood defences at a number of vulnerable sites along the tidal estuary of the River Medway. Having secured a £3.5m government grant for this, they are co-ordinating the work with a wider urban regeneration plan for the area. These improvement works will help to transform several riverside sites into prime residential and mixed-use locations.

The low-lying land around the estuary is permanently at high risk of tidal river and surface water flooding; a situation that clearly has to be remedied before any investment in the redevelopment can take place. Steel sheet piling has been installed in various locations to form a new flood barrier, behind which the 'dry' side will be back-filled with thousands of tonnes of soil and material, raising the ground level above the most frequently affected flood levels. Once completed the overall ground level will have been raised to 6.1m – providing sufficient protection for up to 1-in-200 year events.

VGE have been working in two locations on the banks of the Medway in Strood: the Riverside Tavern site to the east of the Rochester Bridge, and the former Civic Centre site just to the west of it. ABI's fleet TM 14/17 VSL was used at the Riverside Tavern location, where it installed 9800m² of

Strood Flood Defences, Kent

Our client:

VolkerGround Engineering Ltd

Equipment used:

ABI Mobilram TM 14/17 VSL

MRZV 20VV Vibro

Application: Piling with Vibration



sheet piling in a combination of 13.7m AZ26-700 piles and 6.7m AZ18-700 piles. The Civic Centre site was being worked at the same time, with VGE using their own fleet ABI Mobilram TM 16/20 B and a further 741m² of piles were installed.

The ground conditions in this area are saturated loam and clay alluvial deposits overlying chalk, and unsurprisingly the natural water levels are high. The actual installation of the piles in these kinds of soil conditions do not tend to be problematic – but care needs

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to be taken that the method used does not compromise the integrity of the soft ground. At these sites in Strood the piles were installed to such a depth that they were anchored in the firmer chalk bed below the flood deposits. The TM 14/17 VSL rig was paired with an MRZV 20VV vibrator which, with its patented variable static moment / variable frequency technology, allowed for greater control over the piling process – thus minimising ground disturbance, noise and vibration.

Delays to the project start meant that the piling ended up taking place over the winter months, never an ideal scenario for this type of job – and this coupled with the flat, low-lying environment meant that seasonal winds made the work a little more challenging, in addition to the cold and rain.

The Civic Centre site has been previously developed, and although cleared prior to the start

of this work, there remained a fair amount of substructure and detritus within the ground. For this reason the heavier and more powerful TM 16/20 B rig was chosen for this piece of land, to work through any underlying obstructions.

Tim Davidson, Contracts Manager, VGE:

“Our working relationship with the ABI brand goes back 30 years, we have long been fans of the ABI range of piling rigs, and have a number in our own groundwork fleet. Their power and strength in relation to their size, and their adaptability, make them ideal choices for many piling projects. To be able to hire compatible equipment from the UK subsidiary [ABI Equipment Ltd] gives us the security, reliability and peace of mind knowing that we will be getting the best machinery, operated by a highly skilled and experienced team.”