

Southsea Timber Groyne

Client: Boskalis Westminster

Value: Circa £180,000

Duration: 3 weeks

Project Detail

Suttle Projects were approached by Boskalis Westminster to construct a new timber groyne off Clarence Esplanade between the beach replenishment area and the hovercraft terminal as part of the Southsea Coastal Scheme.

The new timber groyne was designed to create a physical barrier between beach users and the busy hovercraft bay. Our experienced team played a pivotal role in delivering the project on time and within budget, successfully managing the complex logistical challenges of working within a larger, multi-stakeholder coastal scheme.

The works involved the installation of a temporary sheet pile retaining wall, followed by the construction of a thirteen-pile, angled timber groyne.

Project Detail:

The full scope of works were as follows:

- Excavation of the existing hovercraft bay foundation to facilitate the permanent works design.
- Installation of a temporary sheet pile retaining wall to aid planking works.
- Pre-auger pile locations with our 50T Komatsu excavator and MOVAX MPL attachment.
- Install thirteen number 9.3m long green heart oak piles with our 30T Volvo excavator and adapted MOVAX SG65v.
- Excavate beach material and install Ekki timber planks using our pneumatic wood-boring drills.

The works made extensive use of our 50T and 30T excavators with Movax attachments. Specifically our Movax SG65v and our proprietary MPL auger. The use of the MPL proved particularly advantageous, offering enhanced manoeuvrability and flexibility compared to conventional leader rigs. This allowed for more efficient pre-drilling operations within the variable beach conditions.

A key benefit of the MPL system compared to conventional CFA rigs is its ability to be able to pre-drill directly north/south of pile positions to ensure that the groyne alignment can be maintained, which is paramount for ensuring the final quality of the works.

Our 50T excavator, equipped with our MPL auger attachment was able to predrill pile locations to allow for easier installation of the timber piles with the 30T equipped with our MOVAX SG65v attachment. Due to the nature of these works, special adaptations must be made to the jaws of the hammers to

prevent damage to the fragile timber piles, our team of in-house fitters were able to make these alterations on site, saving time and improving works efficiency, ensuring no delays.

The planking work on this project extended to depths of 2.5m below beach level, our experienced planking team have prior experience working in this environment and were able to work effectively and efficiently to deliver the works within a narrow spring tide window.

Challenges and How We Overcame Them

During the exploration works, we discovered that the foundations of the hovercraft base slab extended much further than had been anticipated, this meant we had to make a change to the permanent works design position and angle of the groyne. Working with the clients design team we were able to provide survey information and suggestions as to how to overcome this setback. We worked timely and collaboratively to ensure that programme objectives could still be maintained.

Special Conditions

The works took place while the hovercraft bay was still operational, special care and attention was paid by the site team to ensure we accounted for the movements of the hovercraft. Our site management team met with the team at the hovercraft terminal to agree a works process that would benefit all parties, during landing and take-off the mechanical works would cease, with plant rotated to face away from the spray of the hovercraft. This interface was well managed.

Environmental

Effective use of programme and close attention paid to spring tides meant that we were able to complete these works within standard working hours. Due to working adjacent to the marine environment all plant was fitted with bio-hydraulic oil and stringent spill plans and procedures were adopted. Refuelling was positioned at least 10m away from the watercourse in the car park, and on hard standing ground.

Plant and Machinery Used

Volvo EC300Ei
Movax SG 65V
Komatsu pc490lc
Movax MPL-300CFA (auger)

Genie P483 cherry picker

All works were completed on time, within budget and without incident.

Photographs:

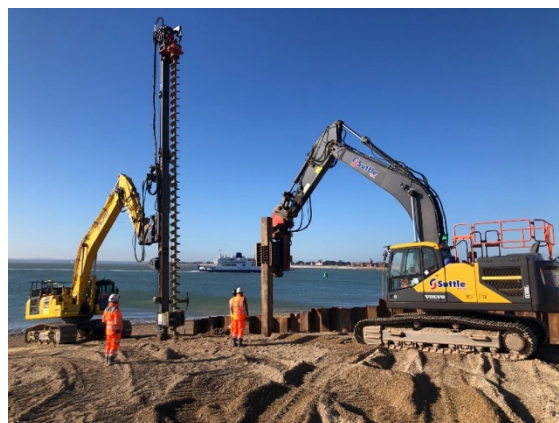


Figure 1&2: Pile installation & Auger Works



Figure 3&4: Planking



Figure 5&6: The finished works