

Energy Park Fife, Quay Wall Phase 2

Fife wall is quay to renewable energy growth

£4m

/ Project value

January 2012

/ The build commenced

September 2012

/ The build was completed

Supporting the creation of a world-leading renewable energy facility on the East Coast of Scotland, the £4m Energy Park Fife – Quay Wall 2 project involved the design and construction of 200m of new piled quay wall and concrete hard standings for loading and unloading barges.

Completed over an intensive 9-month programme, the scheme significantly upgraded the existing quay wall, which had been in place since the 1970s, and has vastly improved access for private companies to the offshore energy market in the North Sea and beyond.

The Brief

Joint venture partners Scottish Enterprise and Fife Council's mission is positioning Energy Park Fife as an influential engineering and research zone within the marine and offshore energy sector. A pivotal piece in achieving this aim was the swift design and construction of a new combi-pile quay wall with in-fill within an environmentally sensitive site.



“Energy Park Fife is a world-leading facility, supporting businesses to grow and develop in the energy sector. It is a centre of excellence,”

Invest In Fife

“Our investment in Energy Park Fife will help unlock the full potential of the Park and develop it into a world-class business location for companies in the renewable sector to invest and grow, creating new jobs and investment for Scotland,”

Paul Lewis
Managing Director of Operations, Sectors and Commercialisation
for Scottish Enterprise

The Challenges

Located in the Firth of Forth Special Protection Area (SPA), within a Ramsar wetlands zone and Site of Special Scientific Interest (SSSI), meant work had to be completed empathetically in consideration of this unique environment. Adhering to Appropriate Assessments, and in line with Scottish National Heritage guidance, we introduced measures such as scheduling noisy generating activities outside of winter periods to avoid the greatest disturbance to internationally important populations of wintering birds. A Surface Water Management Plan, incorporating bousers to manage concrete dust, was also in operation.

GRAHAM's added value solution

Fittingly for a “world-leading engineering and research zone”, our completion of the Quay Wall Phase 2 project demonstrated added-value engineering and creative problem-solving. Centred on the design and construction of 200m of new quay wall, the scheme also required us to anchor the new wall along with piling to support new concrete hard standings. Over 40 1067mm, 12m long piles were anchored into sandstone in addition to the use of 703 infill piles. 900mm x 30m wide heavy duty concrete stab piles were utilised throughout our programme, which was sequenced to provide a balanced flow of works for the main operations. The early identification of significant quantities of large buried concrete and sheet piled structures, through the implementation of trial pits during mobilisation, allowed us to maintain our pre-agreed timeframes. Innovatively, we reused the structures as the foundations to the new slabs and integrated them into our design.

Outputs & Benefits

- / **Facilitating Growth:** This project formed part of an overall infrastructure investment programme with the aim of creating a world leading facility
- / **Empathetic Engineering:** Introduced a Surface Water Management Plan and Noise Generation Reduction measures to avoid disruption to populations of wintering birds
- / **Safety First:** Over 42,000 ‘man-hours’ RIDDOR free
- / **Coping With The Elements:** Tide Charts were implemented to monitor the tide and plan works accordingly
- / **Staying On Track:** Maintained work programme despite identifying large quantities of buried concrete and sheet piled structures



For more information on how we're delivering lasting impact:

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