

PORT ASKAIG REDEVELOPMENT, ISLE OF ISLAY	
Description:	Bulk rock excavation, construction of new road and outfall drainage
Form of Contract:	ICE 5 th Edition
Duration:	56 weeks
Contract Value:	£3,200,000
Client:	Argyll & Bute Council

This was the first phase of a three stage redevelopment of the ferry terminal at Port Askaig. Over a period of 56 weeks and at a cost in excess of £3 million, it rectified congestion at the terminal and greatly improved the access road to the interior of the island.

We were delighted when this scheme won a Project Commendation in the Saltire Society Awards for Civil Engineering 2005. The award certificate reads: 'This commendation is made in recognition of the skill and ingenuity shown in both the design and construction of the works with resulting benefits to the local community and the wider public'

The Problem

The existing parking and mustering areas were inadequate for the volume of ferry traffic. There were neither turning facilities nor effective segregation of pedestrians from vehicles. The access road to Port Askaig was extremely steep, narrow and had a poor horizontal alignment.

The design brief was to improve the access road and to provide sufficient mustering areas that did not require vehicles to reverse at any time and that were segregated from cars and pedestrians.

The Constraints

The port is located at the base of a steep hillside, rising over 60 metres at gradients from 1 in 4 to almost vertical. It is bounded by extensive mature woodlands. The site itself was further restricted by a hotel, some flats and the post office. Less static, but of equal concern, was the sheer volume of traffic that had to be accommodated throughout construction.

Planning conditions required the minimum land take and loss of trees. The design included landscaping refinements to mitigate the impact of such a large excavation and to maintain the cliffside appearance that had contributed to the listing of the existing pier buildings. Smooth faced blasting was not allowed, as the final slopes had to look natural with ledges to encourage growth of vegetation.

The Solution

Extensive and complex earthworks were required, with rock slopes 30 metres high. More than 140,000 cubic metres of rock were removed and taken for disposal to a redundant local quarry. The design of the final rock slopes had to take place iteratively, to ensure that the excavation could accommodate the varying strata bedding planes, while remaining within the extremely tight boundaries allowed. We also had to cope with a fault that was known to run through the excavation. Our approach was to initially assume the maximum possible slope, then to assign a geologist to continuously monitor the excavation and to adjust the slopes as required.



Final trimming had to be carried out as excavation progressed, because the height of the rock face precluded remedial work at a later stage. We were not allowed to blast within 4 metres of the final face and we had to achieve a natural finish on a wide range of slopes, bedding planes and rock types. We successfully developed innovative and flexible techniques that allowed us to complete the bulk excavation on programme, while successfully maintaining traffic flow and port operations.

There was close liaison with the public from the inception of the scheme until completion of construction. This included public exhibitions, a Public Inquiry and regular communication meetings during the construction phase.

