

## Blackpool sea defences backed up by soil stabilisation



*Rolling out the temporary blacktop over the stabilised bulk fill*

### Introduction

Birse Coastal was awarded a £66m project by Blackpool Council, part of an overall £174 million contract funded by NWDA, DEFRA, ERDF and the Arts Council to build 3.5 km of new coastal defence wall and promenade enhancements. The project includes the creation of six new headlands and the reconstruction of the existing promenade and tram tracks.

The work is scheduled to be completed in 2009 and is currently three years into the five-year project with the primary focus being the construction of the coastal defence. The promenade design had yet to be finalised and there was a concern that construction of the permanent pavement at this time could result in extensive reinstatement or sacrificial works once the development details are finalised.

Areas of the promenade also had to be reopened to the public during the summer months of 2007, so a decision was made to install a temporary surface in the affected areas to mitigate the effects above. Proposals for the temporary surfacing needed to accommodate a loading of 220 standard axles/day with a maximum vehicle weight of 25 tonnes. Design life was set at around two years and the surface would be subject to an amount of tidal effects when

the sea defences are overtopped. Costs of the temporary surface were also to be kept to a minimum, so a decision was taken to incorporate any temporary works into the permanent works.

### Design

The new sea defences are constructed seaward of the sea wall, with six headlands projecting 50 metres out to sea, creating large areas of new promenade. The new headland areas were to be founded on approximately 4 m of fill material overlaid with an import of 150 mm CBGM class A with a bearing capacity of 150 kN/m<sup>2</sup>. This import was subsequently avoided by the replacement of the CBGM layer with 250 mm of cement stabilisation of the existing fill material to a CBM 2, which would then be overlaid with a flexible surface of minimal thickness to provide the temporary surface required.

The temporary surface was to be constructed to the underside of the permanent concrete pavement level in order to allow the concrete to be cast at a future date directly onto the temporary surface. Birse Coastal therefore contracted Britpave members, CON-FORM, a specialist ground engineering company, to carry out the stabilisation and temporary surfacing works.

