

عنوان مقاله:

Application of Geosynthetics in Construction of Static Rubble Mound Breakwaters; Case Study Sadra Omid Chabahar Shipyard complex

محل انتشار:

نهمین همایش بین المللی مهندسی سواحل، بنادر و سازه های دریایی (سال: 1391)

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خلاصه مقاله:

Construction of embankment and impoundments over soft soils is one of the most important problems in coastal engineering. Geosynthetic materials are installed beneath or between soil layers to improve the mechanical properties of soil layers by absorbing the tensile forces and minimizing deformation. Chabahar is located in south area of Iran and beside Oman Sea on the northern shore of the Persian gulf with geographical coordinates equal to $600^{\circ} 37' E$ - $250^{\circ} 17' N$. In this place, a new breakwater should be constructed. According to the investigations about the soil type and strength parameters, the soil location is very soft. The calculations show the typical section of dike over this type of soil is not stable. In this research, effect of Geosynthetic materials as reinforcement in foundation of dike on strength and settlement of foundation soil is analyzed. The other purposes of the research are to consider practicability of construction steeper slope and application of Geosynthetic materials as filter layer. The design method for this application is fully covered by BS8006:1995. This British Standard contains guidelines and recommendations for the application of reinforcement technique to soils, as fill or in situ, and to other fills. For analyzing stability of the slope, RESSA® and Plaxis programs are implemented. The results of calculations show application a layer of Sequgrid® 400/40 as reinforcement offoundation will result in: 1) Increasing strength parameters of soft soil and sustainable breakwater; 2) Decreasing foundation settlement; 3) Practicability of steeper slope. Also for separation of embankment from the soft soil, a layer of Terrafix® R 813 should be installed under the Sequgrid®, and a layer of Terrafix® R 609 can also be used instead soil filter layer in the embankment body to reduce the material usage

کلمات کلیدی:

Breakwater, Geosynthetics, Geogrid, Geotextile, Secugrid, Terrafix, Settlement, Soft Soil

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