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Application of wrap-around reinforced structure at hilly road repair case in Thailand & Taiwan

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Abstract

Transport infrastructure could be one of the major factors to speed up the urban development.Back to the earlier stage in Taiwan, in order to shorten the traveling time which means to save transportation costs simultaneously, intricate highway systems across the whole island were drawn up to connect cities and cities. Cities are over used and the traffic is congested. The tourism industry sees the advantage to get resort land plans in the hilly areas; the high significance of hilly road projects is well seen recently. As a result of lying in the circum-Pacific seismic zone and the marine tropical zone, Taiwan comes with fragmental geology and succumbs to attacks of server tropical storms. Slope failure, erosion, collapse or road damage happened frequently after torrential rain. The reconstruction is required. In light of the economic concerns such as easy construction, short construction duration as well as simple construction crew, warp-around reinforced construction method is strongly recommended. Providing difficulty of obtaining or delivering backfill material is observed and the quality of the in-site soil is up to the standard as backfill material, it is worthy to consider and accept the wrap-around reinforced construction method. The construction cost is wisely reduced otherwise. In this paper, several road projects which successfully applied wrap-around reinforced construction method with Geogrid, in Thailand and Taiwan will be briefly introduced.

Keywords: circum-pacific seismic zone, torrential rain, hilly road, wrap-around