曲流地形之道路受莫拉克風災重建案例探討

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摘　要

位於高雄市茂林區的高132線係沿濁口溪向上游興建的道路，因濁口溪蜿蜒度高使曲流地形顯著，風景優美，一直是高雄市著名的地理景觀觀光勝地。民國98年遭受莫拉克颱風強降雨侵襲道路的上、下邊坡因而柔腸寸斷；經詳細調查作業後，探討其破壞原因與機制，再依其特性予以分段設計，以避免重覆致災。就地工角度探討，重建工程主要區分為野溪沖刷、順向坡及板岩潛移破壞等三大類，採不同的修復工法。其中部份路段受限於重建經費或困難度過高，無法以甲類修復者，則採簡易修復方式辦理。

山區道路常在同一地點發生重覆致災現象，本重建工程於設計階段即注意此一現象，在部份路段規劃設置了監測儀器，以瞭解完工後道路受降雨或地震等的影響，同時當中央氣象局發佈豪大雨特報時，監測數據尚可提供公部門做為管制道路之參考。全線重建修復迄今已超過三年，道路狀況良好，期間曾遭遇民國101年6月12日強降雨，雖部份路段有發生較大的變位，但無道路中斷的狀況。採簡易修復搭配監測系統的理念，可作為山區道路新建或重建之參考。

關鍵字：莫拉克、曲流地形、蜿蜒度。

A Case Study of Meandering Road Rebuilt after Typhoon Morakot

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Abstract

Kao-132 line in Maolin, Kaohsiung city was constructed along the upstream of Jhoukou River. The landscape is eminent because of its meandering form and has been a well-known tourist resort. In 2009, the typhoon Morakot severely damaged the road. After detailed forensic investigation and reconnaissance study, the future disaster-induced damage can be minimized by using various design methods. From the geotechnical point of view, the rebuilt can be categorized with different causes of failure, including trench erosion, dip slope and slate creep. For roads that are restricted by available funding and construction feasibility, simple repair is recommended.

Since the disasters usually happen repeatedly in the same areas, monitoring devices were installed in sections of road in order to study the rainfall and seismic effects to the road after construction. When sever rainstorm warning is issued from the Central Weather Bureau, the monitoring data can provide agencies reference information for traffic control. The rebuilt has been completed for more than 3 years and the road has been maintained in good condition. The sever rainstorm on June 12, 2013 did not cause much damage except a few large displacement. From this case study, the concept of simple repair with monitoring system is a viable option for new construction and rebuilt of mountain roads.

Key Words：MORAKOT , meander form ,sinuosity.