Nattapon Sereephaowong 2013: The Appropriate Size and Construction Joint Studies of Precast Concrete Slab for Concrete Pavement in Thailand. Master of Engineering (Civil Engineering), Major Field: Civil Engineering, Department of Civil Engineering. Thesis Advisor: Associate Professor Wichai Kijawatworawet, Ph.D. 264 pages.

Study appropriate size of precast concrete for repaired concrete pavement by using mathematical modeling with the program LINGO. From factor related to various factors such as transportation, repairing, etc. The size of precast concrete in the appropriate dimensions, Width x Length x Thickness, is 2x3x0.2 meters.

The Design of a concrete joints appropriate of precast concrete for repaired concrete pavement. The Design of a concrete joints can be designed the possibility of repairing and load transfer it has a total of 13 type. For selection joints that for most appropriate to use. Comparison of the model and the appropriateness to repair concrete roads by Analysis Hierarchy Process, AHP. The results from AHP process for single joint is type 6 and continuous joints is type 3.

Experimental design and repair of concrete pavement with precast concrete that can repair of damaged concrete pavement within one day. The cost for the overall is 2878 bath/sq.m. The joint of tested slabs are in good condition joints. The Load Transfer Efficiency more than 70% of all joints on the road driving assessment by the international roughness index is in the good range. The conclusion of this research to repairs concrete pavement in one day should be used 5 precast concrete slabs (30 sq.m.)

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