

History of Leveling Practice in Malaysia

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SUMMARY

Like most countries around the world, a nation-wide levelling network in Peninsular Malaysia was first established at the turn of the last century. The first precise levelling programme in Peninsular Malaysia was conducted in 1912 with the first line levelled between Port Kelang and Kuala Lumpur. The first national levelling datum for Peninsular Malaysia, known as the Land Survey Datum 1912 (LSD12) was established in 1912 by the British Admiralty. It was referred to the MSL, based on tidal observations carried out by the HMS Waterwitch between noon of September 1, 1911 and May 31, 1912, at Port Kelang. The FOLN67 contains a total of 2872 km of levelling distances with about 87 lines. It also comprises of 11 primary loops with a total of about 2532 bench marks. Due to the numerous weaknesses inherent in the FOLN67 network, DSMM began to initiate definitive steps in the early 1970's to prepare for a new vertical control for Peninsular Malaysia. The work on the First Order Levelling Network 1967 (FOLN67) started in 1912. However, this first levelling network had its numerous inadequacies, starting with its heterogeneous nature and going further to the fact the measurements were carried out over a long period of time. Due to these shortcomings, the Department of Survey and Mapping Malaysia (JUPEM) began to take definitive steps in 1987 to prepare for a new height control. The new Precise Levelling Network (PLN) was completed in 1999 with more than 5300 bench marks planted. Due to the inadequacies and weaknesses, JUPEM began to take definitive steps in the early 1970's to prepare for a new vertical control for Peninsular Malaysia using three leveling techniques: conventional, motorized and digital leveling. This paper will present a historical look at the various aspects involved in the realisation of the latest vertical control network using the three leveling techniques.