UNIVERSITI TEKNOLOGI MARA

IMPROVEMENT OF POWER TRANSMISSION LINE LOCATION AT TROPICAL FOREST AREA IN AVOIDING ENDANGERED TREE SPECIES

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Thesis submitted in fulfillment
of the requirements for the degree of
Bachelor of Surveying Science and Geomatics (Hons)

Faculty of Architecture, Planning and Survey

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of own my work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Under Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Due to social defiance, there was a controversial issue regarding the development of new High Voltage Overhead Power Lines (HVOPL) in electricity companies. In developing the infrastructure of new power infrastructure design, the psychological aspects of the country culture need to be considered and accept its advancement as part of important components in the physical environment of the community. Transmission line siting located in various areas such as urban, suburban, and forest. Forest exploration for transmission line industry causes the tree species extinction. Therefore, research was coming out to overcome the issues regarding transmission line siting avoided endangered tree species. This research was a new development and an initiative way to solve the problems. This study aimed to Improvement of Power Transmission Line Location at Tropical Forest Area in Avoiding Endangered Tree Species. There have three objectives were prepared to achieve the aim of study are: 1) to identify the parameter need to establish power transmission line routing optimization at tropical forest area, 2) to examine the site suitability for power transmission line based on the parameter and 3) to propose the power transmission line routing optimization at tropical forest area. This study area was carried out at Forest Research Institute Malaysia (FRIM) Kepong, Selangor, Malaysia. LiDAR, WorldView-2 Satellite imagery, Meteorology, and Orthophoto data involved in this research data processing. Data processing and data analysis were carried out using ArcGIS, ERDAS IMAGINE, Global Mapper, and eCognition software. This final out for this study is mapping suitable power transmission line siting development using geospatial data in avoided endangered tree species in tropical forest areas. The output will be a guideline and work as references for a utility company for further transmission line siting development at tropical forest area with concern about parameters required. Minimize impact on the environment by reducing forest degradation to protect endangered tree species.

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