DEPTH DETERMINATION OF UNDERGROUND PIPE IN DIFFERENT TYPE OF SOIL BY USING HIGH AND LOW FREQUENCY OF GROUND PENETRATING RADAR (GPR)

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

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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 my own 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 Undergraduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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Pipe detection is most crucial aspect that had to be taken in order to carry any activities on the ground. It is an important role to choose the best, correct type of instrument used in detecting the location, position and depth of the underground pipe for further work based on the type of the soil where the pipe was buried. Other than that, in order to investigate the pipes, a destructive technique is often used (Jones, 1982). So, the surveyed area was being damaged and destroyed. By using the GPR observation method, any destruction on the site can be prevented. In order to avoid from destroying the surrounding area, a precise digging planning can be obtained by using GPR device (Sepp, E. M., & Colonel, L., 2000). This study is done by comparison method where the depth of the underground pipe obtained from GPR observation for both frequencies will be compared with the depth obtained from leveling method. The depth comparison is applied for each of the type of the soil.
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