

Gnss vs total station) base for deformation monitoring of bridge

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**ASSIGN
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Dissertation Proposal SHEET Wahdat First Sapand number: 0609597 Sem A
Sem B Programme: Civil Engineering Surveying

Date: 19/10/2012

Working Title “ GNSS vs. Total station Deformation Monitoring Bridge” /

Question / Aim

GNSS (Global Navigation Satellite System)VS total station – The base and its relationship to the deformation monitoring of the bridge quite streamlined due to its efficient features. However, there are also some disadvantages along with these advantages. GNSS is limited by not having clear line of sight access to the satellite that provides relative position information. GNSS need to set up so that it has a clear view of the satellite transmission without any impediments. In this dissertation I will present the effective Deformation monitoring of a Bridge by the use of GNSS

According to my research I have found that GNSS is faster and more accurate then the use of Total Station Deformation Monitoring.

Aim:

To investigate the relationship between the surveying instruments GNSS and Total station and the difference in the effect of the deformation monitoring measurement of the dynamic Bridge. Additionally the aim is also to identify which instrument is more accurate and as it relate to deformation monitoring of the bridge

Objectives:

To analyse the result of total station monitoring and compare it to GPS data. Outlined in this dissertation are the results from the total station trial, including the bridge trial.

To discuss the advantages and disadvantages of the each instrument as it relates to monitoring the bridge deformation.

Methodology: (How do you propose to do this? - key methods)

Do a comparison of resultant data from both the GNSS and Total station as compared to GPS data and check for accuracy. To this end the dissertation will be divided into two parts. The first is a review of the importance of monitoring bridges for deformation, the problems that can occur with bridges over time, as well as the different categories of bridge contraction. This will set the background for the second part: comparing the use of GPS through GNSS and the use of total station monitoring for bridge deformation. While I was unable to meet with neither surveyors nor GPS operators, I will use other resources, such as online information, to compare these two instruments and present the results in an easy to understand format.

Subject: RE: u0609597 dissertation proposal