

Terrestrial Laser Scanning in Cadastral Surveying: The ACT Experiment

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ABSTRACT

Remote sensing in cadastral surveying is in its infancy in the ACT as in other jurisdictions. There is an increasing need to measure stratum subdivisions (and in 3D more generally), and it is likely that Unit Titles (Strata) will follow suit soon. Recognising this development, the former ACT Surveyor-General, Jeff Brown, in an agreement with the NSW Board of Surveying & Spatial Information (BOSSI) Land and Mining Surveyor Committee, gave dispensation for a pilot stratum cadastral survey to be completed using Terrestrial Laser Scanning (TLS) techniques. The lucky registered land surveyor who undertook the task was Matt Stevenson from Loneragan Surveying. The objective of this presentation is to investigate the TLS technique and its applicability in cadastral surveying. It outlines the NSW standards that were applied in the pilot project and the learnings in relation to using TLS and what changes may be needed in future guidelines or regulations. The BOSSI guideline 'Terrestrial Laser Scanning (TLS) for Cadastral Surveys' was the framework adopted for conducting the survey. The ACT Office of the Surveyor-General and Land Information worked with registered surveyor Matt Stevenson in adapting the guideline for use with the ACT Surveyors Practice Directions at the time. The survey was for a stratum subdivision of a parcel of land. TLS was applied as a measuring technique to both the external and internal structures in relation to the existing and proposed boundaries. There were critical learnings from the pilot project in relation to the application of accepted TLS methods, survey validation, best practice guidelines and managing errors. The result of the survey was a successfully examined and then registered Deposited Plan. As a technique, TLS offers considerable promise but, like any measurement method, there are limitations. While the pilot project was a success, additional work needs to be done to refine standards, techniques and related guidelines for the future.

KEYWORDS: *Terrestrial Laser Scanning, cadastral surveys, standards.*