

From GeoDesign to Landscape Design

Landscape Architects are not surveying professionals, but understanding how to apply different surveying methods, as well as the workflow and effort necessary to create the data they use for their design concepts, is essential. In June 2013, the Leica Geosystems team in Nanjing, China provided instruments, know-how and manpower for the workshop "From GeoDesign to Landscape Design", taught by Prof. Dr. Li Pang and Prof. Peter Petschek, to educate future Landscape Architects on different surveying methods.

by Dr. Li Pang and Prof. Peter Petschek

In the past years, the role of Landscape Architecture in China has completely changed. The Chinese government now considers it equal in importance to Architecture and Planning. This is also reflected in the university system. Landscape Architecture is an established university degree equal to other disciplines in the planning and construction area. At South East University (SEU) in Nanjing, one of the top universities in this field, the subject is taught at Bachelor, Master and PhD levels.

GNSS and laser scanning are new buzzwords in Landscape Architecture. But which surveying technology is best suited for which project, how much time does it take, what are the measurement principles of these instruments and how do you collect landscape information and build landscape models? The instructors of the "From GeoDesign to Landscape Design" workshop teamed up with Leica Geosystems to teach students at SEU how to solve these and other surveying related questions.

During the first part of the workshop, the students learned to use the Leica Geosystems laser scanning technology on site in an area covered with abundant trees and bushes and with a pond in the middle. The advantages of measuring millions of points within a very short time quickly became clear. But the students also realized that laser scanning is not the answer to every task in landscape architecture - for even more precise landscape design/planning and stake-out in the field the students were introduced to the Leica Builder total station.

In the second part of the workshop the students were taught how to create Digital Terrain Models



(DTM) from the data observed with the Leica Builder. AutoCAD Civil 3D with its many possibilities to analyze and manipulate the terrain was used for this purpose. The DTM know-how was then applied to a design project. Prof. Dr. Li Pang gave the students guidance on how to achieve a design in Landscape Architecture based on existing topography.

By understanding the entire process involved from survey to final data delivery Landscape Architects can communicate more efficiently with Surveyors,

making the development of landscape design solutions in China easier. ■

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3D Survey Data for Landscape Architecture

Land Survey Data is the basis for every Landscape Architecture project. With an increased demand for 3D landscape visualizations and the need for scientific decision-making processes in contemporary landscape architecture design/planning, precise land-

scape data is becoming ever more essential. Existing topography, vegetation, buildings and infrastructure have to be precisely located in digital plan format in order to develop design concepts for urban green spaces, plazas, parks and gardens.