

Software Streamlines Airport Design

Civil Engineering

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When the Calgary Airport Authority decided to expand the Calgary Airport, in Calgary, Alberta, it hired EBA Engineering Consultants, also of Calgary, to provide design and management services on the \$12.5-million project. The Taxi Juliett Development project added 67,400 m² of new taxiway and 24,600 m² of new cargo apron to the airport.

EBA used AutoTURN design software, developed by Transoft Solutions of Richmond, British Columbia, to evaluate various taxiway designs and determine the minimum space needed for wingspans in parking areas and taxiways. Most other computer-aided design programs require these wingtip clearances to be worked out manually, says Richard Kohler, project director of EBA's airport division. Another reason the company chose AutoTURN for this project was the software's ability to track an aircraft around a turn, he says.

AutoTURN was also a key component in the design of a new taxiway that enters a runway at the end, rather than from the side, as is usually the case. The new design takes the 60m that would normally be used on the taxiway turn and adds it to the runway, which gives heavy planes more time to gain speed and improve lift. This is important because at certain times, especially in the summer, the air gets "thin" and larger aircraft need more lift to take off. In the past, airlines would reduce the amount of cargo and the number of passengers to get the extra lift.

AutoTURN was also instrumental in providing several options for a five-way intersection at the airport. AutoTURN was used to create scenarios of various types of aircraft approaching and holding at the intersection. These scenarios were then adjusted until the intersection was approved.