

Department of General Administration  
Division of Engineering and Architectural Services  
Facilities Engineering Section

**Building Commissioning Case Study**



Facility: **Park Lodge Elementary School, Clover Park School District**

Project Description: Park Lodge Elementary School construction was completed in 1996 and was never commissioned. The occupants complained about the building temperature and being uncomfortable since the district moved into the building. In the spring of 2002 the district decided to retro-commission the building and contacted GA for assistance. Clover Park School District and GA jointly selected a commissioning firm. The scope of the project was to thoroughly test the existing systems, review equipment condition and operational sequences, and correct major issues found during the retro-commissioning process. Some of the major findings were: VAV zone return fans were non-functional; the control loops were not properly tuned; the existing CO<sub>2</sub> sensors were not appropriate for the application and did not function as intended; the gym exhaust fan was installed backwards; and zone temperature sensors were located in the wrong place.

Project Summary:

Project Completed:	November 2002
Building Size:	45,210 square feet
Commissioning Cost:	\$21,720
Commissioning Cost per Square Foot:	\$0.48
First-Year Cost Benefit:	\$8,410
Annual Energy Savings:	\$6,460

Project Benefits: The retro-commissioning process improved the learning environment for the students, improved the working conditions for the school staff, and reduced the number of service calls for the maintenance staff. CO<sub>2</sub> sensors were added to all single zone air handling equipment to improve the indoor air quality. Vic Espinosa said “Retro-commissioning succeeded in taming the wild heating and ventilating system” and that “the energy savings were a pleasant but unexpected surprise”.

Commissioning Firm: Keithly Welsh Associates Inc. (KWA)

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