



Shelby Patton
Biographical Sketch
“The Future of Existing Buildings”



Shelby Patton is a Building Scientist at Chelsea Group, Ltd., a leading firm in building science consulting. Ms. Patton currently lends her efforts on the Chelsea Group design team.

As part of this team, Ms. Patton’s role is in The Queen’s Medical Center (QMC) supply air modernization and chiller plant and cooling tower renovation, with her primary duties involving the design of the air handling systems. She prepares calculations of proper ventilation rates for compliance with codes and standards, develops accurate CAD documentation of existing conditions, and executes design concepts of the team leader.

Ms. Patton also is currently working on “living assessments” at QMC. This process takes the original assessment done in 2014 of each of the QMC supply air systems and updates each to present day conditions as construction is completed on the modernization of the unit. Ms. Patton integrates the results of the commissioning report on each unit so that current performance is documented. As a result of her work, QMC maintains an up-to-date profile of each air handling system in its patient wings, useful in both regulatory compliance and capital planning.

Ms. Patton is involved with Chelsea Group’s Central Plant Energy Optimization (CPeO) program, through which clients receive ongoing feedback on the performance of their large chiller plants. Data is extracted from over a dozen of the largest central plants in Hawaii and analyzed for key performance indicators. The data forms the basis of a quarterly report, which is useful to the owners of these central plants in evaluating efficiency and in determining the need for equipment upgrades. Each report requires insight and analytical skill in “big data,” since tens of thousands of data points constitute their basis.

Recently, Ms. Patton has also been working on LEED projects, particularly focused on energy studies, which involve analyzing buildings in order to assess the feasibility of energy saving projects and to provide the basis of third party certification programs. This practice includes tasks such as taking CO₂ readings, testing for humidity and lighting levels, and evaluating indoor environmental quality of spaces for ENERGY STAR and LEED accreditation.



CHELSEA GROUP LIMITED

Prior to joining Chelsea Group full-time as a Building Scientist, Ms. Patton was a student intern with the corporation during her final year at the University of Hawaii Manoa, where she received her Bachelor of Science in the discipline of Mechanical Engineering.