

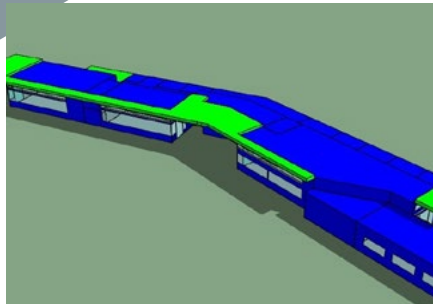


# Achieve Zero Energy Building Design with IESVE

Case Studies using IES Software

IES Virtual Environment (IESVE) software can help you to meet your Zero Energy Buildings targets through:

- Energy efficient design.
- Building performance optimization.
- Detailed simulation of deep energy saving strategies and high-performance systems.



## Cyclone Energy Group: Walgreens Chicago, United States

- Cyclone Energy Group used IES software to help Walgreens build the first U.S. Zero Energy Buildings retail store.
- IESVE was used as an energy modeling and commissioning tool throughout.
- The commissioning team incorporated energy modeling as a tool to validate the design of the project from pre-design through construction and ultimately in operation.
- The software has allowed Walgreens to see where the team could alter designs to meet net-zero usage.
- Certifications: Zero Energy Buildings Certification by U.S. DOE standards, and LEED Platinum, Living Building and Green Chill Platinum certifications.
- Estimated to use 200,000 kilowatt hours per year of electricity while generating 220,000 kilowatt hours per year.
- Using the powerful building operation analytics tool, IES-SCAN, Cyclone Energy Group overseen the start-up of all systems and worked to calibrate systems to match energy model performance characteristics.
- The store is continually being monitored to ensure it is running at net-zero.

## Alameda Creek Watershed Center Sunol, California

- Newcomb Anderson McCormick, Inc. (a Willdan Company) used IESVE to perform a whole building energy simulation of this 9,685 ft<sup>2</sup> building for LEED Energy compliance.
- The team were contracted to promote energy efficient design and optimize building performance in terms of sustainability, cost effectiveness, and occupant health and safety.
- Using IESVE, the consultants set out to determine the energy and cost savings of the proposed design, using the design documents to develop a baseline model of the building in accordance to ASHRAE 90.1 – 2007 Appendix G.
- Zero GBCI reviewer comments returned on model results submitted for LEED.
- Estimated Annual Energy Use - 100,507 kWh/yr.
- Annual savings - 43.65% predicted Energy Usage Intensity (pEUI) and 43.16% costs.
- Net Positive - Renewable generation exceeds Zero Energy Buildings.

## Rocky Mountain Institute – PAE Engineers Colorado, United States

- PAE Engineers were the Mechanical Engineers, Electrical Engineers and Building Energy Modelers for this Zero Energy Buildings, 16,000 square feet commercial office building.
- The building operates without cooling systems and very little heating to maintain comfort.
- Certifications: Living Building, Passive House, Zero Energy Buildings and LEED Platinum.
- PAE Engineers used IESVE software for comfort, airflow, shading and energy modeling, which all helped to inform the architectural design; resulting in the first cold-climate Net Positive Energy building.

PLEASE CONTACT

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