

# ELFSTROM ENGINEERING PROFESSIONAL CORPORATION

*healthy buildings for your changing energy future*

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## Summary of Services

### Corporate Objective

Reduce energy use and lower environmental impact of residential and small commercial buildings while improving occupant comfort and health through material selection, high performance building envelopes and well-designed mechanical systems.

### Green and Sustainable Building Design

- Energy audit reports for both homes and small/medium commercial buildings
- Consulting and design for participants in LEED® rating system
- Off-grid system and self-sufficient building design
- Assist clients with balancing all the trade-offs between different eco-friendly design options
- Work with contractors, architects, structural engineers, municipal building departments as a representative of a building owner/purchaser for alternative/green initiatives
- Integrated design process
- Sustainable ecological principles of design (permaculture) applied to building systems and human interaction with built environment

### Building Envelope Design and Modeling

- Team-based approach with architecture firms, structural engineering firms, and builders
- Building envelope design for conventional and natural building systems, with a specialty in straw bale and light straw-clay
- Energy performance computer modeling for conventional and alternative building envelope systems
- Active solar and passive solar design and modeling
- Building envelope upgrade consulting for renovations

### Heating, Ventilating, and Air Conditioning Design

- Heat gain/Heat loss calculations for traditional and alternative building envelopes
- Efficient duct design
- High-velocity air system design
- Hydronic/radiant system & boiler piping design
- HVAC system commissioning and inspecting
- Ventilation reports / Part 6 ducted HRV design
- Geoexchange ("Geothermal") system and loop design
- Solar hot air, solar hot water design and modeling
- Solar thermal seasonal storage
- Wood, pellet, and other solid-fuel heating systems design
- Integration of multiple technologies, "Right-sized" systems, not oversized

