



## Project Case Study

### Irving Center Apartments

220 S Spring Ave  
Sioux Falls, SD 57103



#### About the Project

Type: Multifamily apartment complex

Unit Size: 604-1068 square feet, 1-3 bedrooms

Performance: GREEN STAR certified and Hers index rating

Website: [Irving Center Apartments](#)

Location: Sioux Falls, SD

#### Apartment amenities

##### ❖ Amenities:

- Walkability score of 89
- ADA, wheelchair accessible
- Washer/dryer in unit

##### ❖ Community Amenities:

- Playground
- Recreation room
- Secure access
- On-site management and maintenance
- Recycling

**Developer:** Lloyd Companies

**Verifier:** Johnson Environmental

**Architect:** VanDeWalle Architects

**Structural Engineer:** Rise

Structural Associates INC.

**Mechanical Engineer:**

Innovative Engineering Solutions, LLC.

#### Overview

This three story apartment complex was previously an elementary school that they ended up using and repurposing some of their viable materials. This property being nearly in the middle of downtown Sioux Falls allows for many activities to take place since it is closely located by the YMCA, shops, restaurants, and a youth center. It is also less than 2 miles away from Augustana University. Since it is in the middle of Sioux Falls, the walkability was scored 89 and the bikeability was scored 70 making this location very walkable and bikeable.

## Energy Code Checklist

→Energy Certificate:

- ENERGY STAR certified
- ENERGY STAR certified appliances
- Hers rating index between 52-59

→Window value:

- U-value=0.26

→Thermostat:

- Programmable 7 day use thermostat
- Seasonal energy efficiency ratio (SEER) cooling system of 16
- Annual fuel utilization efficiency(AFUE) of 96%

→Lighting:

- LED lighting

→Tests:

- Blower door test
- Infiltration testing: Htg: 600 Clg: 600 CFM
- Total duct leakage: 80 CFM @ 25pa

→Water heating:

- Electric, .95 EF

→Green energy:

- 76 in-unit solar panels
  - 28 kw, .9 kw per unit.
  - Peak power, 21,470 watts
  - Annual production, 34,060 kWh
  - 80% efficiency
- Interconnect agreement: City will buy back unused power at \$.02/kWh of unused electricity

### Chart of energy cost and consumption

Annual Energy Costs	Annual Consumption kilowatts per hour (kWh)
Heating.....\$119	Heating..... 85 (kWh)
Cooling.....\$64	Cooling..... 581 (kWh)
Water heating.....\$270	Water heating..... 2671 (kWh)
Lights and appliances..... \$358	Lights and appliances..... 3537 (kWh)
Total annual energy cost per year..... \$811 per unit	Total energy consumption..... 6874 ((kWh)

\*Based on a three bedroom unit. Prices may vary depending on monthly usage.



## The verifiers voice

Johnson Environmental has many services that provide an array of options with specialties in consulting, building performance, testing and rating, modeling, and affordable construction. Lloyd Companies and Johnson Environmental are partnering together to get the correct testing and certifications needed by several green programs. Irving Center received a Hers score between 52-59 which is very energy efficient according to the ENERGY STAR standards. By doing this, the development was able to apply for different funding and certifications after receiving a Hers index score of 60 or below.

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### Sioux Falls, SD

The city contains many different shopping options as it has a city feel to it while still having that option of privacy. It is home to many affordable housing options as well as many more up and coming buildings. With Sioux Falls having a population of nearly 181,000 people, this is the perfect city in South Dakota if you're looking for a nice place to settle down or pass through for some time.

### SDHDA

SDHDA The South Dakota Housing Development Authority has several programs that apply to the many different needs and wants of the public. The programs act as incentives for housing developers in order to create energy efficient developments that allow them to be identified as low income housing in order to receive certain funding by the SDHDA. If this takes place, the owner will receive 30-70% of the qualified costs. Irving Center apartments are supported by the SDHDA through tax credits in order to make their building income qualified.

### Sioux Falls, SD

- Thickened edge sidewalk
- Offstreet parking
- Electricity calculated on a 30 kW basis
- Drought resistant components; live plant materials and technologies

