

SEWAGE SYSTEM LIFT STATION

POWER SOLUTIONS
CASE STUDY of the
**FLATHEAD COUNTY
WATER & SEWER
DISTRICT**

UNITS

- 1 - 250 kW Diesel
- 1 - 20 kW Diesel (Mobile)
- 4 - 20 kW Natural Gas
- 1 - 35 kW Natural Gas
- 12 - 15 kW Natural Gas

LOCATION

Flathead County, Montana



GOING WITH THE FLOW

Flathead County, Montana is a Rocky Mountain scenic wonderland, where year-round residences and vacation homes dot the timbered countryside around the city of Kalispell. This historic Old West town, now home to just over 14,000 residents, is within sight of the majestic peaks of Glacier National Park, only thirty-five miles away. In this rugged and beautiful country, environmental factors are always a concern, which makes the role of the Flathead County Water & Sewer District critically important in safeguarding the natural resources of this magnificent area.

The town of Evergreen is an unincorporated municipality outside of Kalispell that

encompasses a wide expanse of rural territory within the Flathead River Valley. In this area, the county's Water & Sewer District #1 is responsible for collecting sewage and wastewater from its customers and conveying it to the City of Kalispell's Wastewater Treatment Plant. Ultimately, the treated effluent

is discharged into Ashley Creek, which eventually flows into the Flathead River.

Evergreen has approximately 6,200 residents. Most of them are connected to the District #1 sanitary system, which serves over 1,700 residential locations and more than 300 commercial customers. "Our collection system is composed of approximately fifty miles of mains, ranging from six to twenty-one inches in diameter," says Roberta Struck, general manager of District #1. "The volumes do not fluctuate greatly, but we pump from eleven to thirteen million gallons a month."

The Evergreen system has twenty-four lift stations to move the water downstream at various locations. Eighteen of those sites are backed up by diesel or natural gas fueled standby generators from Generac

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Power Systems, installed when the system began service in 1994. The district also uses an additional mobile genset that can be dispatched as needed. “The typical vertical lift is five feet,” says Struck, “and the greatest distance is forty-five feet at our main lift station, where we pump the sewage five miles to Kalispell’s wastewater treatment facility. Our most common electric motor on a lift pump is a three horsepower, single phase, explosion-proof unit, and typical pump capacities range from 120 to 1,000 gallons per minute.”

Most of the gensets are fueled by natural gas and rated from 15 to 35 kilowatts of output. The largest generator is a 250 kW diesel unit at the main lift station. At that location, three pumps require backup power in the event of a utility outage, which is not an uncommon occurrence. “The power always seems to be blipping out for short periods,” Struck says, “and that’s when the generators are an important backup for us.”

Fortunately, major outages are relatively unusual. “In my twenty-one years here,” Struck says, “we’ve only had one lengthy power interruption, and that was approximately eight hours, in June of 1995. During that time, the standby generators kept the pumps operating and our wastewater flowing.”

The nineteen gensets were provided by TW Enterprises of Billings, the local Generac dealer. “TWE was involved before and during the installations,” Struck notes. “They also inspected the gensets after start-up and helped us throughout the process. Today we have a local firm on call for maintenance and emergency service simply because of our distance from Billings, which is about 500 miles from Kalispell.”

GENERAC®

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