

ELMENDORF AFB, AK UTILITY SYSTEM DESCRIPTIONS

General: Elmendorf AFB is located in Anchorage, AK. Also included is the electrical, gas (propane), potable water, and wastewater utility systems at the Seward Recreation Camp, Seward, Alaska.

SYSTEM DESCRIPTIONS: The following information provided is only an estimate and is subject to change.

Elmendorf AFB:

Electrical: Power for Elmendorf AFB is received at 34.5 kV from Municipal Light and Power (ML&P) at the Central Heating and Power Plant (CH/PP). The distribution system on base is a 12.47 kV, 3 ϕ , 4 wire system, with 34.5 kV express feeds from the CH/PP to two outlying substations. The base also has a 12.47 backup tie to ML&P for the new hospital. The distribution system is made up of approximately 1,868,627 lineal feet of overhead and underground distribution circuits, distribution transformers, switches and street lighting fixtures. The annual electric energy usage for this facility is roughly 120,411,175 kWh with a peak demand of approximately 20 MW occurring during the winter months.

Natural Gas: The natural gas distribution system at Elmendorf AFB receives gas from Enstar Natural Gas Company through four metering points. One gate station with two meters provides gas to the central heating and power plant and a section of the gas distribution system. Two other metering points provide gas at 60 psig or 30 psig for distribution throughout the balance of the gas distribution system. There are no district pressure regulating stations in the system. The system has approximately 30,000 feet of steel pipe and 75,000 feet of PE pipe. The steel pipe sizes range from 6-inches to 2-inches in diameter. The PE pipe sizes range from 6-inches to 1-inch in diameter. Annual consumption is approximately 3,000,000 MCF (thousand cubic feet) of which 90 percent is used at the central heat and power plant. The primary use of the remaining gas is for heating purposes.

Potable Water: Most water supplied to the Base is supplied by Fort Richardson's water treatment plant through four metered main feed connections to the Base water distribution system. The Base water distribution system includes approximately 472,000 feet of distribution main piping that ranges up to 14-inches in diameter. The pipe materials include cast iron, ductile iron, transite, and high density polyethylene pipe that was installed from the 1950s to the present. In addition to the Fort Richardson water supply, onsite wells provide backup water supply and/or sole source water supply to specific facilities. Two wells, 850 gpm and 337 gpm, are standby wells that can served facilities or can be connected to the distribution system. Twelve facilities are each served by a dedicated single water supply well that has capacities ranging between 8 gpm to 85 gpm. Water use averages about 3.5 million gallons per day.

Sanitary Wastewater: Wastewater is collected on-base in a gravity collection system and is discharged to the Anchorage Water and Wastewater Utility (AWWU) sewer system at two metered locations and is treated by AWWU's treatment plant. The sewer collection system includes approximately 375,000 feet of sewer collection mains that range in size up to 20-inch and 733 manholes. Nine facilities on-base are served by wastewater lift stations that are included in the

collection system. Piping materials include high density polyethylene, asbestos cement, transity, cast iron, ductile iron, and vitrified clay that date from the 1950s to the present. Wastewater flow averages between 3-4 million gallons per day.

Seward Recreation Camp

The Seward Recreation Camp includes 12 cabins, 35 RV/trailer sites, 47 camper/tent spaces, main lodge, and several other camp service buildings that cover the 11.5 acre site.

Electrical: Power for Seward Recreation Camp is received from the City of Seward at 12.47 kV near the Main Building. Primary power is then distributed throughout the site to eight pad mounted single and three phase distribution transformers ranging in size 25 to 112.5 kV. The distribution circuits consist of approximately 570 feet of underground distribution circuits. The annual electric energy usage for this facility is roughly 395,820 kWh with a peak demand of approximately 209 kW occurring during the summer months.

Water and Sanitary Wastewater: The City of Seward provides wastewater disposal and water supply services to the Seward Recreation Camp. Much of the water and wastewater systems were replaced in the 1990s. Sewer lines range in size from 4-inch to 12-inch and water lines range in size from 1-inch to 3-inch.

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