

Juneau Aquatic Ctr. Ground Source Heat Pump

Grantees	City and Borough of Juneau (Local Government)
Technology Type	HEAT PUMPS
Region	Southeast
AEDG Project Code	10106

REF Grants Received

Round	App	Grant Title	Grant #	AEA Project #	Phase	Start Date	End Date	Status
1	111	Juneau Ground Source Heat Pump Constr	2195393	406009	Construction	8/20/08	3/31/12	Closed

Grant 2195393: Juneau Ground Source Heat Pump Constr

Project Scope: The City & Borough of Juneau designed (Phase III) and constructed (Phase IV) a hybrid ground source heat pump system to serve the heating needs at the Dimond Park Aquatic Center. The Center is a new competition, recreation, and education swimming facility in Juneau. Construction began on the facility in the spring of 2009 and completed in the fall of 2010. The system consists of a ground source heat pump that will meet 81% of the facility's heating needs and supplemental electric heat system to make up the difference during periods when the facility's heat loads exceed the capacity of the ground source heat pump system.

The facility primarily serves Juneau residents and visitors from nearby southeast Alaska communities. The City & Borough of Juneau Engineering and Parks and Recreation Departments were directly involved with the design and construction of the facility, as was the Juneau School District.

Project Status: The Ground Source Heat Pump (GSHP) system has been in nearly continuous operation since the spring of 2011 providing heating water to the building, ventilation system, domestic water pre-heating system, and pool water heating systems.

The system's capacity is so great that City-Borough has had some issues with insufficient load - in the summer months the system was operating at or just below minimums and needed more load in order to operate efficiently.

Despite being in operation since 2011, data was not successfully logged until November of 2012. The data that is available indicates that the system has performed with a Coefficient of Performance above 3.0 when more heavily loaded but the efficiency appears to decrease significantly when more lightly loaded in the summer months.

As of Nov. 30, 2013	Budget	Expenditures
Renewable Energy Funding	\$1,450,000.00	\$1,450,000.00
Other State Funding	\$0.00	\$0.00
Total State	\$1,450,000.00	\$1,450,000.00
Required Local Match	\$500,000.00	\$500,000.00
Federal Grant Funding	\$0.00	\$0.00
Total Project Costs	\$1,950,000.00	\$1,950,000.00