

**PROJECT:**

# Pelican View Estates



**Leading the way with sustainable solutions**

## LOCATION

**Scambler Township,  
Minnesota**

## PROJECT TYPE

**Residential Water and  
Wastewater**

## COMPLETION DATE

**2008**

## WATER DESIGN

**Two 170 gpm wells, two  
hydropneumatic water  
tanks, water distribution  
system**

## WASTEWATER DESIGN

**Conventional gravity  
collection system, septic  
tanks, 1 horizontal flow  
wetland, infiltration bed  
system**

## NEED

A Forty condominiums development in Scambler Township in Otter Tail County of Minnesota needed a reliable potable water source, a community water distribution system, and wastewater collection, treatment and disposal system. A Water Appropriations Permit had to be obtained from the Minnesota Department of Natural Resources (DNR). A wastewater treatment and disposal system permit had to be obtained from the Minnesota Pollution Control Agency (MPCA).

## WATER SOLUTION

A peak daily demand of 12,800 gallons per day was needed for the development. Two 8-inch diameter drinking water wells were drilled approximately 300 feet into the Red River aquifer, a local Otter Tail County aquifer as the source of water. Each well is equipped with a 15 horsepower well pump controlled by a variable frequency drive. Two-527 gallon hydropneumatic water storage tanks store the water for distribution into the community. The community is served by a 6-inch water distribution system with pressure-rated pipe and individual home connections.

## WASTEWATER SOLUTION

A wastewater treatment system to manage an average wastewater flow of 12,000 gallons per day was provided. A conventional gravity collection system transfers the wastewater from the condominiums to the treatment and disposal area. The treatment system consists of the following: 24,000 gallons of septic tanks and one horizontal flow wetland cell with a surface area of 8,330 ft<sup>2</sup>. The disposal system includes 10 infiltration beds with a total infiltration area of 22,575 ft<sup>2</sup>.

## BENEFIT

Jacques Whitford NAWE was able to bring multiple disciplines together to create a comprehensive design solution for water and wastewater for this project. Disciplines including hydrology, soil science, engineering design and permitting expertise were utilized. The client benefited from the efficiency of having a "one-stop shop" consulting engineering firm for all aspects of the potable water system and wastewater treatment system designs.



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