



PROJECT:

Willinger's Development

Leading the way with sustainable solutions

LOCATION

Northfield, Minnesota

PROJECT TYPE

Residential Water and Wastewater

COMPLETION DATE

2008

WATER DESIGN

Two 150 gpm wells, two hydropneumatic water tanks, water distribution system

WASTEWATER DESIGN

S.T.E.P. collection system, septic tanks, 2 horizontal flow wetlands, 10,000 gallon denitrification reactor, infiltration bed system

NEED

Thirty-two luxury homes adjacent to a top echelon 18-hole golf course located west of Northfield, Minnesota needed a reliable potable water source, a community water distribution system, and wastewater collection, treatment and disposal system to serve the development. 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 wastewater treatment system to manage an average wastewater flow of 22,000 gallons per day was provided. A septic tank effluent pump (S.T.E.P) pressurized collection system transfers the wastewater from each individual home to the treatment and disposal area. The treatment system consists of the following: two horizontal flow wetland cells (each with a surface area of 8,098 ft²), and a 10,000 gallon denitrification reactor. The disposal system includes 3 equally sized infiltration beds with a total infiltration area of 54,900 ft².

WASTEWATER SOLUTION

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BENEFIT

Jacques Whitford NAWE brought multiple disciplines together to create a comprehensive design solution for water and wastewater on this project. Disciplines including hydrology, soil science, engineering design and permitting expertise have been 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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