



## PROJECT:

# Jackson Meadow

## NEED

Jackson Meadow is a 64-home community designed as a village, located in the historic settlement of Marine on St. Croix in Washington County, Minnesota. The homes are clustered on 40 acres, which allows conservation of 300 acres of land that is dedicated to permanent open space. Jackson Meadow reflects the settlement process in Marine on St. Croix developed over the last 160 years, complete with Scandinavian-style homes, detached garages, alleyways, sidewalks, and footpaths. The greatest challenge was to provide onsite wastewater treatment for a small cluster development in an unsewered community without the pollution problems created by standard septic systems.

## SOLUTION

Jackson Meadow rejected the standard approach of a septic system on each lot in favor of two high-efficiency constructed wetlands for wastewater treatment. Two wetland treatment systems, divided by the natural topographical setting, were designed by NWC (formerly North American Wetland Engineering) to treat and recycle a total of 11,000 gallons per day (gpd) of domestic sewage from a total of 64 homes. In Phase I, a time-actuated lift station periodically doses effluent from the septic tanks into an 11,000 square foot (1,020 m<sup>2</sup>) wetland treatment cell. A dosing siphon then intermittently doses the treated water into a 7,600 square feet (706 m<sup>2</sup>) wetland infiltration cell for additional polishing, prior to releasing it to the subsurface soils. Phase II is a duplicate of the system selected to provide gravity flow from the homes to the community septic tanks.

## BENEFIT

In the environmental field, it is rare to have the opportunity to work on a project that has so many outstanding and nationally significant physical and social changes in the concept of community development. The model developed for Jackson Meadow suggests an alternative that offers hope for current problems surrounding rural, small community development. The wetland treatment system fits into a landscape that consists of restored prairie that mirrors the wetland potholes that once existed across the state. See [www.jacksonmeadow.com](http://www.jacksonmeadow.com) for more information.

## LOCATION

Marine on St. Croix,  
Minnesota

## PROJECT TYPE

Wastewater

## COMPLETION DATE

1998

## DESIGN FLOW

11,000 gpd  
42 m<sup>3</sup>/d

## TREATMENT

Horizontal Subsurface Flow  
Wetlands with Forced Bed  
Aeration™

## AWARDS

1999 American Institute of Architects  
National Honor Award

1999 Minnesota Environmental  
Initiative Award

2001 American Society of Landscape  
Architects National Award

2004 Wood Design Award, National

2005 American Institutes of Architects  
Urban Design Award, National

