

Fields of St. Croix Wastewater Management Update

Introduction to Your Wastewater System

The Fields of St. Croix and Tana Ridge Developments have a cluster wastewater treatment system. In 1996, the wastewater system serving Phase I of the Fields of St. Croix was permitted by the Minnesota Pollution Control Agency. Since then hundreds of similar wastewater systems have been installed throughout the State and across the United States.

The Fields of St. Croix (Phase I) have the following wastewater components: gravity sewer, septic tanks, a Constructed Wetland (explained below), infiltration beds to dispose of the water and an over flow pump to discharge water to the Phase II development and Tana Ridge, if needed.

The Fields of St. Croix Phase II and Tana Ridge also have a gravity sewer collection system. Water flows to a lift station where the water is lifted and pumped into a series of septic tanks. Following the septic tanks, water goes through a Vertical Flow Wetland (explained below) for treatment. The water is then pumped into a drainfield, which provides polishing treatment and recharges the groundwater.

What is a Constructed Wetland?

Serving the Fields of St. Croix Phase I

A constructed wetland differs from a standard septic system because the water is treated before it is applied to the soil for infiltration. The process starts with septic tanks. The septic tanks serving the Fields of St. Croix are much larger than a single family home system because the wastewater from all homes is treated in one location.

After settling out the solids, the water flows into one of two constructed wetlands for treatment. The wetlands consist of a plastic liner, gravel bed, and insulating mulch layer. Wetland plants and bacteria work together to clean the water as it slowly flows through the cell. The water level is kept below the top mulch layer so that no water is exposed during the treatment process. Water flows through the wetland once and receives treatment for 5-7 days before going on to the next stage of treatment. No pumps are used which minimizes the need for electricity.

After treatment in the constructed wetlands, water is infiltrated into the ground. The pretreated water undergoes additional treatment (polishing) as it percolates down through the soil.

What is a Vertical Flow Wetland?

Serving Tana Ridge and The Fields of St. Croix Phase II

This innovative wastewater system is used to treat and dispose of the sewage from all homes in the Fields of St. Croix Phase II and Tana Ridge.

After settling, the liquid flows into a filter tank and is then pumped to the top of the vertical flow wetland for treatment.

This wetland consists of a plastic liner, gravel bed, and insulating mulch layer. Wetland plants and bacteria together to clean the water as it flows vertically through the cell. No water is exposed during the treatment process. Water is pumped through the vertical flow wetland 5-7 times before it goes to the infiltration trenches. Because water is able to be sent through the treatment system several times, the system is smaller in size in compared to the constructed wetlands at the Fields of St. Croix Phase I.

After treatment in the vertical flow wetland, the water is discharged to a series of infiltration trenches that provide polishing of the water prior to being recycled to the groundwater.

The vertical flow wetland is planted with several wetland species which provide supplemental treatment and aesthetic benefits to the system. Plant species planted in the wetland include: swamp milkweed, cup plant, blue vervain, black eyed susan, prairie blazingstar and several other species.

What Everyone Should Know...

The two wastewater systems serving the development need to be professionally operated. Wastewater operators visit the sites several times a month to ensure the system is operating properly. To minimize service calls and to protect the users of the systems from potential back-ups, all users of the system need to know what can and cannot be discharged to the wastewater systems. Below are tips every user of the system should know:

- Chlorine-treated water from swimming pools and hot-tubs shall not be put into the system.
- Dispose of all solvents, paints, antifreeze, and chemicals through local recycling and hazardous waste channels.
- Minimize the amount of hair, grease and food materials that go down your drains.
- Use minimal amounts of mild cleaners and only use as often as needed.
- Garbage disposals should not be used with septic systems. Vegetable, meat, fat, oil, and other food products add large amounts of sludge. A result is more frequent tank cleaning. These materials are difficult for bacteria in the septic tank to break down. If you have a garbage disposal, use it cautiously.
- Hazardous waste products shall not be put into the system. This includes even small amounts of latex paint rinsed off rollers or brushes. Dispose of all solvents, paints and chemicals through local recycling and hazardous waste channels. Consult local solid waste officials for proper methods. These materials kill valuable bacteria in the system.
- Unwanted medications shall not be flushed down the toilet or poured down the drain. They will kill beneficial bacteria in the septic tank and drainfield.
- Do not flush facial tissue, paper towels, cigarette butts, disposable diapers or personal hygiene products.