



LET CUSTOMER SUCCESS STORY

CLIENT: Kiron Wastewater Treatment Plant
LOCATION: Kiron, Iowa
APPLICATION: BOD, TSS, Ammonia treatment
PRODUCT: LemTec™ Biological Treatment Process

BACKGROUND

The City of Kiron, a small, rural community in Crawford County, IA, was faced with the decision to upgrade or replace its mechanical treatment plant in order to meet more stringent effluent requirements. With farmland at a premium, the city had to balance the expense of upgrading a mechanical plant with the cost of purchasing additional land for a more passive type of treatment process.

LET SOLUTION

Lemna Technologies' unique LemTec™ Biological Treatment Process (LBTP) was chosen as a solution to the City's needs for a number of reasons. The LBTP is capable of delivering exceptional BOD, TSS and Ammonia treatment in a smaller footprint than a traditional lagoon at a lower cost than a traditional package plant. The LBTP installed at Kiron, utilizes two aerated lagoons operated in parallel



to handle a design flow of 0.098 MGD. Each lagoon is divided into three cells using Lemna's LemTec™ Reverse Miter Hydraulic Baffle, which is custom designed to minimize short-circuiting between each cell. The lagoons are covered with Lemna's LemTec™ Modular Insulated Cover rated at R10. The covers provide an integral component to the treatment system by maintaining warmer temperatures in the colder winter months, which enables nitrification to occur. The Lemna Polishing Reactor (LPR) follows the settling cells and provides additional BOD and Ammonia treatment.

RESULTS

The LBTP installed in Kiron is an effective, reliable, and affordable aerated lagoon based biological treatment process capable of achieving year-round effluent limits as low as 10 mg/l BOD, 10 mg/l TSS and



2 mg/l NH₃-N at a fraction of the cost of a mechanical system. With a reduced footprint, a process that is extremely reliable, and simple to operate, the LBTP is the highest performance pond-based package in the world and offers numerous advantages over other systems, including lower capital and operating costs, expandability and low maintenance. The City is now able to confidently discharge to the local stream, knowing that they will be able to meet their permit requirements while protecting their natural resources now and in the future.



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