

St. Ansgar Wastewater Lagoon

By David Fox, P.E., BCEE

In 2002, the City of St. Ansgar converted their controlled discharge wastewater lagoon to an aerated lagoon in order to solve problems with high wet weather flows and growing community needs. The City retained an engineer to prepare a Facility Plan for the project as well as plans and specifications for the conversion.

Prior to initiation of the project, the City hired a separate contractor to remove the sludge from the bottom of the two lagoon cells that had been in operation for nearly twenty years. After the sludge was removed, the low bidder on the lagoon aeration conversion completed the project and the aerated lagoon system was placed in operation in 2003.

At this point the City began to experience problems. Since operation of the aerated lagoons began in 2003, no treated wastewater has discharged from the system. During the sludge cleaning and/or project construction something happened to disturb the seal in the lagoon bottom or sides that has caused the lagoons to leak at a rate exceeding the rate that flow is coming into the cells.



The City has attempted to get the project engineer, sludge removal contractor, project contractor and contract operator to assist in solving the problem. To date none of the parties has made any progress in helping the City solve the problem. The IDNR has insisted that the City solve the problem to reduce the leakage below the permitted amounts.

In 2005, St. Ansgar retained a new engineering consultant to help them fix the leaking lagoons. This engineer prepared bidding documents and secured a construction permit from IDNR for a repair project that involved sealing the lagoons with bentonite (clay) or a membrane liner. The specifications required that the bidding contractor assume responsibility for the satisfactory results of the project. When bids were received, only one contractor bid and that bid was for over 1.3 million dollars. This was well in excess of the \$500,000 that was thought to be the appropriate budget for the project. The City did not know where to turn at this point.

A friend of some of the Council members who had prior experience working with FOX suggested that the City retain FOX to evaluate and develop a solution for the problem. FOX contracted with the City in the fall of 2005 and developed a report detailing a similar solution to the last engineer, based upon soil tests done on samples of the lagoon bottom soil. The FOX approach, however, identified a procedure for the repair and a separate procedure for testing the results prior to acceptance. If the established procedure was not adequate to solve the problem, the contractor would not be liable and additional work would be approved, if required.

FOX got this process approved by IDNR and re-bid the project early in 2006. This time there were six bidders, including the contractor that bid the earlier 2005 version. The low bidder for the FOX project was \$372,000 instead of 1.3 million with a completion date of October 2006 to comply with the IDNR mandated schedule. An update to this story will be offered when construction is complete and a report on success is available.