

New Madrid Co. R-I School District New Madrid, Missouri



Project Results

“The project was definitely a success. Through the conversion to a geothermal system the district has benefited in many ways: we now have: 1) an HVAC system that is new and reliable, 2) greater flexibility in controlling the temperature within the building (can have heating and cooling simultaneously in adjoining classrooms), 3) improved our indoor air quality, 4) a substantially improved automation system that manages/monitors the HVAC system, and 5) have dramatically lowered our energy costs in this section of the building. We have been very satisfied with our relationship with CTS. This project was completed with minimal disruption to classroom activities and in the time frame promised. The school board was extremely pleased with the outcome of the project and with the work of CTS.”

Paul Northington, Director of Business

Customer Concerns

The existing HVAC was passed its expected life at the older section at the High School. The school district constantly worried whether the chiller/boiler would operate when the appropriate season change occurred. The chiller had already been re-built once a few years prior. Also, the existing HVAC system did not allow the district to have heating and cooling simultaneously, which posed problems within the different areas of the building (i.e. the outer loop of classrooms would be cold while the inner loop would be hot). It also posed problems when non-seasonal temperatures occurred and the school was unable to switch from heating to cooling or vice versa.



Project Overview

CTS performed an in-depth evaluation of various HVAC system options and was able to show the district how the installation of a geothermal closed loop system would provide the lowest cost system in terms of ongoing energy and maintenance costs. The closed loop system captures energy from the earth as opposed to a chiller/boiler system that burns fossil fuels to produce heating and cooling. New heat pump units were installed above ceilings to conceal the units throughout the facility to deliver heating and cooling to all areas. The system allows for simultaneous heating and cooling of all spaces. The heat removed from one classroom is transferred to the other utilizing heat pump technology. The building automation will allow the system to be programmed and monitored to maximize energy efficiency. Ongoing service of both the HVAC and automation systems by CTS will ensure that the systems are functioning at optimum performance for continued efficiency and comfort.