TYPE OF WORK: NET ZERO + GEOSTORAGE

PAST PROJECT

RCMP Detachment

GOVERNMENT OF ALBERTA JASPER ALBERTA

PROJECT INSIGHT: Early thermal testing of pilot boreholes proved essential not only for refining system sizing, but also for building confidence among stakeholders unfamiliar with seasonal storage technologies. Transparent validation of performance assumptions helped align expectations and streamline regulatory and funding approvals.

Year built	**2023**
Client	**Government of Alberta**
Building size	**13,000 SQ. FT.**
Contract size	**$50,000 CAD**
Project size	**$364,000 CAD**
System size	**11,000 SQ. FT.**

ThermaStor engineers provided engineering support (with previous firm) for the integration of a Geostorage (BTES) system at a confidential new-build RCMP detachment located in Jasper, Alberta. The facility, targeting Net Zero performance, required a resilient and low-emission energy system that could withstand extreme mountain climate conditions while minimizing lifecycle operating costs.

Working closely with the design team, our engineers contributed to a high-performance mechanical strategy incorporating a Geostorage system optimized to deliver long duration thermal storage, leveraging renewable energy sources for both heating and cooling throughout the year. With supporting PVT (photovoltaic-thermal) panels, and hybrid air- and water-source heat pumps. A pair of thermal response tests were conducted on pilot boreholes to validate in-situ thermal conductivity and inform the final system sizing.

This project demonstrates the effectiveness of combining multiple energy technologies to achieve deep decarbonization goals, even in remote and climatically challenging locations.