



Boiler Replacement Strategy: High School & Middle School

Board briefing: why high-efficiency condensing boilers are recommended now

Positioning the district for future heat-pump and geothermal technology

ST. LOUIS PARK PUBLIC SCHOOLS

Administration



Immediate Need: We must replace aging boiler plants and address critical ventilation and air-handling needs.



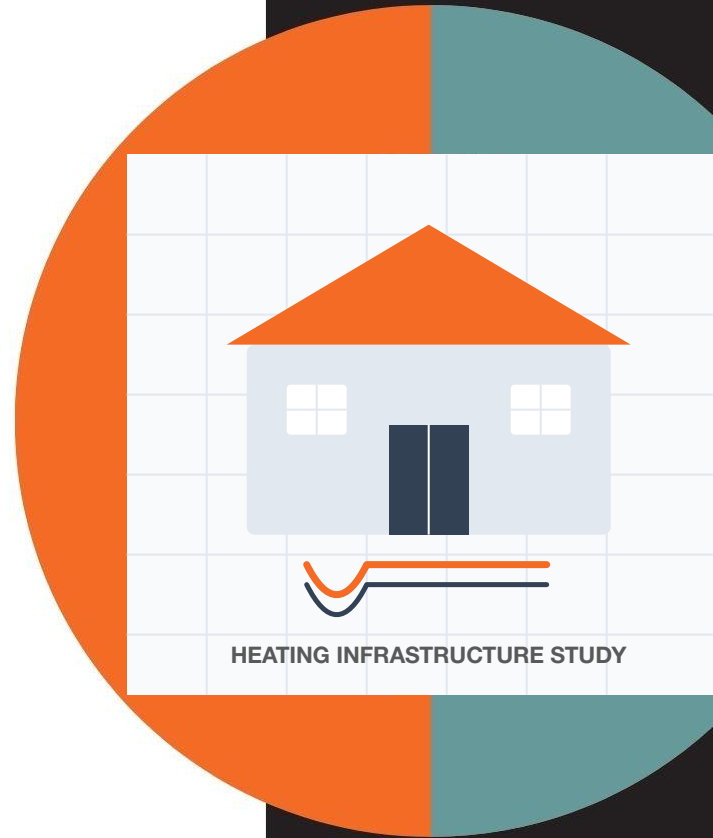
Evaluation: The Administration evaluated fully geothermal system, hybrid geothermal system vs high-efficiency condensing boilers.



Recommendation: Proceed with high-efficiency condensing boilers while intentionally designing for future heat-pump/geothermal conversion.



Key Takeaway: This is a sequencing decision to solve current infrastructure issues, not a rejection of geothermal technology.



Why Fully Geothermal Is Not the Right Fit Right Now

- ✓ **Financial Scope:** Preliminary analysis identifies approximately \$27.6M of financing associated with the fully geothermal option.
- ✓ **Project Alignment:** Geothermal is most effective when heating and cooling are addressed together; this project is primarily driven by boiler replacement.
- ✓ **Uncertainty:** Extensive drilling and underground infrastructure introduce site-condition and cost-overflow uncertainty.
- ✓ **Risk:** Additional construction complexity could increase schedule and operational risk.
- ✓ **Incentive Timing:** Potential incentives are not guaranteed and may not be received until approximately 2033.



Financial & Project Risk Analysis

\$11.04M Combined Net Additional Cost

\$3.02M at the Middle School & \$8.02M at the High School

+ Expanded Scope

Wells, piping, pumps, controls, soil remediation, electrical upgrades, structural work & modified coils.

⬆ Financial Exposure

Additional borrowing creates interest expense and greater exposure to construction overruns.

\$ Funding Reality

Potential rebates and tax credits should be treated as opportunities, not guaranteed funding.

🚧 Estimate Status

Current engineering estimates are high-level first-pass estimates requiring further design.



What We Can Do Now to Preserve the Future

- ✓ **System Design:** Design new heating distribution systems around lower-temperature heating water.
- ✓ **Efficiency:** Improve condensing-boiler efficiency while increasing compatibility with future heat-pump technology.
- ✓ **Flexibility:** Maintain flexibility in piping, equipment, and controls for future conversion.
- ✓ **Future Planning:** Evaluate a comprehensive heating-and-cooling geothermal project when chiller plants reach the end of their useful lives.
- ✓ **Monitoring:** Continue monitoring federal, state, and utility incentives and changing technology economics.



Conclusion

- ✓ Proceed with high-efficiency condensing boilers at the High School and Middle School.
- ✓ Keep the current capital program focused on known, immediate infrastructure needs.
- ✓ Design the systems today for lower-temperature operation and future heat-pump compatibility.
- ✓ Revisit geothermal when heating and cooling can be addressed together and economics are more favorable.
- ✓ Address today's needs responsibly while preserving tomorrow's options.

