

**Maywood-Melrose Park-Broadview School District 89**  
**Heating, Ventilation, and Air Conditioning Proposals**  
**FREQUENTLY ASKED QUESTIONS**

**1. Why is the district considering heating and air conditioning proposals now?**

The district has been studying the heating and air conditioning needs of the schools for several years. While the need for air conditioning has always existed, the district has been focusing on required life safety projects such as much needed electrical upgrades as well as major security upgrades. Additionally, the district wanted to build a solid financial foundation.

In addition to air conditioning, the district's heating systems will need attention in the near future. Due to careful maintenance, the district has been able to extend the life of our aging boilers. Summarized in the chart below, all of the boilers are past their expected useful life, and some are nearly 60 years old. They will all need to be replaced at a cost of \$150,000 - \$450,000 per unit for a total minimum cost of 2.8 million dollars. Due to the age of the boilers they are inefficient to operate and cost nearly \$144,000 per year to maintain.

Building	Installed
Emerson	1964
Garfield	1964
Irving	1962
<i>Jane Addams</i>	<i>2006</i>
Lincoln	2005, 1993
Melrose Park	1965
Roosevelt	1965
<i>Stevenson</i>	<i>2006</i>
Washington	1963

Stevenson Middle School and Jane Addams Elementary School are air conditioned due to O'Hare noise abatement funds that were allocated to the district between 1999-2003. The boilers in both of these schools are also newer when compared to the other schools.

**2. What options are being considered by the district?**

After consulting with professionals in the field as well as with our architects, the following options are being considered:

- a. **Geothermal Systems** are an advanced technology and clean energy system that would air condition the buildings as well as replace all of the boilers in our schools without air conditioning. Schools that receive geothermal systems would be fully air conditioned and have an upgraded heating system. Individual classrooms could adjust and control their own temperature. As a result of the geothermal tubes that circulate water under the ground, these schools would also get new resurfacing of the asphalt where the drilling would be taking place. This system would be an estimated cost of \$18,400,000.
- b. **Window Units** are similar to window air conditioning units found in many homes. However, these units would need to meet specific requirements and would only be placed in classrooms. Common areas such as the cafeterias, gyms, and hallways would not be included, nor would the boilers be replaced. The cost of this proposal would be \$3,960,000. These units have a life expectancy of 5-7 years and would need to be replaced periodically. However, the cost of boiler replacements would be an additional \$2,800,000 which would bring the total cost to \$6,760,000.

- c. **Traditional Central Air Conditioning** is similar to the air conditioning units found in a home, but would need to meet specific requirements for a school. Common areas such as cafeterias, gyms and hallways would be air conditioned with this system. As with window units, the aging boilers would need to still be replaced. The cost of this proposal would be \$15,047,870 with an additional \$2,800,000 for boiler replacements. The total cost of a traditional central air conditioning system and boiler replacements would be \$17,847,870. The anticipated life cycle is 15 to 20 years for traditional air conditioning.

Costs for these options are estimates. The district is required by law to conduct a bidding process for obtaining actual costs for projects of this type and subsequently hiring the appropriate vendors for the project based upon the bidding process and documents. In other words, no contractor or vendor has yet to be hired for any of these options and the costs listed are estimates based on similar projects that have been completed throughout the state.

### 3. Why is the Geothermal System being recommended?

After two years of study and in consultation with experts in the field, the administration is recommending the geothermal system over window units and traditional central air conditioning because it provides many advantages that the other options do not provide, including:

- a. Geothermal is an environmentally-friendly long-term solution that will provide a suitable learning environment for our students. Over the long-term geothermal is the most economical system to provide upgraded heating and cooling to our schools.

	Geothermal System	Window Unit/Boiler System	Traditional Central Air Conditioning/Boiler System
10 Years	\$20,116,886	\$14,441,600	\$21,023,090
20 Years	\$22,096,886	\$22,123,200	\$25,081,510
30 Years	\$25,476,886	\$36,564,800	\$43,746,200

- b. Traditional central air conditioning and window units would drive up electrical costs to the district, and guarantee that these will need to be replaced in the future, so they will be on ongoing cost. Additionally, these options do not replace any of the existing aging boilers and will lead to increased energy costs.
- c. Window units would require the district to spend \$3,960,000 (using today's costs) every 5-7 years to replace. Window units guarantee ongoing replacement expenditures for future years.
- d. Window units do not cool any of the common areas such as the hallways, gymnasiums and the cafeterias.

### 4. Can we afford these options?

Yes, due to conservative budgeting and spending over the past several years, we will have built up an estimated operating fund surplus of 50 million dollars at the end of the 2019-20 school year. We currently have the highest financial rating with the state of Illinois and had our credit rating increased by 3 levels and are now rated as an A institution. We are recommending a mixed approach to funding geothermal as follows (since this is the costliest approach, the other options would be less expensive than this should the Board of Education choose a different option):

- a. Pay \$12,000,000 from the operating funds surplus.
- b. Issue \$6.4 million in debt certificates which are paid out of operating funds. The district would pay these debt certificates over 10-years with annual payments from our operating funds – the district would be debt-free by 2030.

The advantages to spreading the costs over these methods balances the following:

- a. The district will still maintain a very healthy fund balance in the event of interrupted state funding or emergency situations. The district would still have a fund balance of over \$30,000,000.
- b. The district is able to offset approximately half of the cost of debt certificates from the Operations and Maintenance fund through energy and maintenance savings.

**5. System Comparative Chart:**

<b>Pros</b>	<b>Window Units</b>	<b>Traditional Central Air Conditioning</b>	<b>Geothermal</b>
Air Conditioning Classroom space	x	x	x
Air Conditioning in Common Areas of Gym, Cafeteria and Hallways		x	x
Includes aging boiler replacement (2.8 million dollars)			x
New asphalt to replace playground			x
Individual classroom temperature control (year-round)		x	x
<b>Cons</b>			
Ongoing long-term replacement cost	x		
Counts against the district’s long-term debt		x	x
Does not include cost to replace boilers	x	x	
Increases electrical expenses	x	x	
Disruptive sound when operating	x		
<b>Other facts</b>			
Expected lifespan / replacement frequency	7 years	20 years	Equipment 30 years; Piping 50 years; Well field 50 years