



Oak Park Elementary School District 97

260 W. Madison ▪ Oak Park ▪ Illinois ▪ 60302 ▪ ph: 708.524.3000 ▪ fax: 708.524.3019 ▪ www.op97.org

TO: Dr. Carol Kelley, Superintendent of Schools
Board of Education

FROM: Jeanne Keane, Senior Director of Buildings & Grounds

SUBJECT: Hatch Boiler Replacement

DATE: September 10, 2019

Summary

The existing two steam boilers located at Hatch Elementary were installed in early 2000's. Each are cast iron boilers manufactured by Smith. A lifespan of 15 years is typical for a boiler, which can be extended years longer with proper maintenance. The boilers should be replaced as soon as possible in order to reduce the potential for an emergency situation where heat is not available to the facility and the school is shut down with potential loss of instruction.

Current Conditions

- These boilers are made up of several sections. There have been multiple leaks at the sealing rings between sections causing corrosion between these sections and allowing water loss. An intermediate section was replaced last winter and we now have additional leaks in other sections.
- The burner head refractory is cracked and damaged.
- All 32 cleanouts are corroded and loaded with scale.
- Sediment is coming out of the boiler at the 4" drain line.
- An over accumulation of soot is sitting in the bottom on the fire side of the boiler.
- All piping is corroded and now full of sediment which does not allow the water to flow and this causes over heating of the boiler due to incorrect water levels.
- Controls are defective due to the pressure relief valves being plugged with scale and/or corroded. If the boiler exceeded its pressure level these valves would not be able to open to release the extra pressure.
- Excessive scale has accumulated on the lower portions of the boiler interfering with circulation and causing overheating.

Reason for Current Conditions

- It has been determined there has been minimal maintenance and no repairs between installation and 2017.
- The water in the system has never been treated with chemicals to avoid corrosion and scale build-up.
- There has been excessive burner cycling.

- The previous maintenance contractor (over the past 15 years), has acknowledged that their service was visual inspection of the outside of the boilers only and that boilers have not been opened to check for actual conditions and for internal maintenance since installation.

Operational Impact

Given the physical condition of the boilers themselves, as well as the boiler feed piping, controls, and pumps, the boilers when placed into operation could pose an unsafe condition. The boilers should be replaced as soon as possible in order to reduce the potential for an emergency situation where heat is not available to the facility and the school shut down.

Two fire tube boilers are recommended as a replacements. If the tubes fail, they can be replaced on an individual basis. New boiler feed piping, controls, replacement of vacuum condensate pump,(2) ejector pumps and backflow preventer from the main are required in order to provide a functioning system for heating. Additionally, it will be necessary to create an opening in the parking/play lot above the basement of the school in order to get the boilers into the basement boiler room.

A boiler maintenance agreement was negotiated earlier this year to service all boilers in the district. This will include treating other existing conditions similar to Hatch but not as detrimental, as well as providing normal routine maintenance. A chemical service agreement was negotiated with Earthwise to remove hardness impurities that lead to scale buildup.

RFP for the project was placed in the Wednesday Journal on 7/24/19. Nine proposals for the above-captioned project were received at the Administrative Center, 260 W Madison Street, Oak Park IL 60302, on August 7, 2019 by 12:30 p.m. The proposals were opened shortly after 12:30 p.m. I have enclosed a copy of the Bid Tabulation Sheet summarizing the proposals received.

Bid Recommendation

Mechanical Concepts of Illinois, Inc. is the low-bidder at \$725,000.00. CS2, our MEP consultant, performed due-diligence to check references, as well as verified the scope in their bid to be consistent with the contract documents.

Mechanical Concepts of Illinois, Inc.
 333 S. O'Hare Drive
 Romeoville, IL 60446

Base Bid:\$646,000.00

Alternate Bid #1: New backflow preventer and booster pump on the existing water service \$79,000.00

Total Recommendation \$725,000.00
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Administration will be seeking a motion that the Board of Education of Oak Park District 97 approve the Hatch Boiler Replacement Project at the September 24th, 2019 meeting.