

Board of Education Study Session
Monday, October 14, 2019 5:30 PM

School District Office 410 South St., Seward,
NE
410 South St
Seward, NE 68434

Agenda

1. Preliminary Procedures
 1. Call meeting to order & announce Open Meetings Act is Posted
 2. Public Notice as publicized per board policy
 3. Roll Call
 1. Action to excuse board members if necessary
2. Possible Discussion Items
 1. HVAC Discussion
 2. Study Abroad Trip
3. Adjournment

Please publish the following legal notice in the October 9, 2019 edition of the Seward County Independent. Thank you.

NOTICE OF SCHOOL BOARD MEETING

The board of education of the School District of Seward will meet in regular session on Monday, October 14, 2019 at 5:30 p.m. for a board study session to be followed by the 7:00 p.m. regular business meeting. The meeting will be held at the Administrative Offices located at 410 South St., Seward, Nebraska. An agenda for the meeting which shall be kept continually current is readily available for public inspection at the Superintendent's Office during normal business hours.

To view the agenda go to <http://SewardPublicSchools.org/> and find the eMeeting link.

Energy Financing Contract for Facility Improvement Solutions

Executive Summary



It's Hard To Stop A Trane.®



Executive Summary

Similar to all living creatures, the mechanical and electrical equipment in the Seward Elementary School has an inevitable lifespan. School Districts who recognize this fact and establish a replacement plan for these systems can avoid emergency capital expenditures before these systems fail.

Trane has been assisting Nebraska School Districts for decades in identifying energy saving projects and replacing HVAC systems that have reached the end of their useful life. With this knowledge, Trane has itemized a Building Improvement Project that addresses the HVAC needs for Seward Elementary Public School.

In previous years, Trane has completed a district wide audit of the HVAC systems in the Seward Public Schools and we have implemented two phases of energy savings projects at the High School. These projects were completed using the Energy Services Company (ESCO) contracting process. The benefits of the ESCO process are numerous including flexible funding options, greater control of the subcontracting process, no change orders, and guaranteed maximum price.

We have focused on the HVAC systems serving Seward Elementary School. As with most heat pump projects installed in the '90's, The Seward Elementary School experiences uncomfortable conditions due to excessive indoor humidity levels. Since the original 1991 heat pumps have exceeded their expected 20-year lifespan by almost 10 years, it is a good time to consider a replacement project in this building.

The original HVAC design introduces un-conditioned fresh air into the building, causing comfort issues based on the temperature and humidity of the outside air. Trane has re-designed numerous heat pump buildings of this era using equipment that conditions the fresh air entering the building. Our designs significantly reduce temperature fluctuations and humidity levels inside these buildings. In addition, we propose modifying the duct work and piping within the building to eliminate ongoing maintenance headaches.

To date we have developed project scopes of work and initial designs for budgeting and discussion. These initial designs feature heat pumps that incorporate dehumidification cycles and Energy Recovery Ventilators to condition the fresh air efficiently as possible. The projects scopes of work are listed below.





Phase 3 Base Project

- **Replace (31) Water Source Heat Pumps in the original 1991 Elementary School**
 - New heat pumps will incorporate dehumidification cycle
 - Includes new humidistats for each heat pump
 - Add ceiling mounted air filter grills for improved air filter maintenance
 - Replace all dielectric unions on loop piping to eliminate water leaks
 - Replace condensate piping to prevent clogging and leaks.
- **Install (8) new Energy Recovery Ventilators in the Elementary School**
 - Improve energy efficiency by replacing the existing system of outdoor air intake and relief air hoods with (8) energy recovery ventilators
 - New ERV units will be roof mounted

The design of this Scope of Work, in conjunction with past building modifications, will allow this facility to serve the patrons of Seward Public Schools for the next 25 years.

Estimated Guaranteed Maximum Price (GMP) for the above base project is \$850,000

The above project costs includes all engineering, project development, equipment, labor, project management, company overhead, risk/contingency and profit.

Next Steps

October Board Meeting – Project Review/Direction (Final Design, Invitations to Bid and GMP)

November Board Meeting – Contract Approval (Authorize Superintendent to sign Contract)

December Board Meeting – Financial Resolution (if necessary)

January 2020 – Project Begins (Order Material and/or Equipment and Secure Subcontractors)

August 2020 – Project Complete





Specific Phase 3 Project Questions

1. How was the Scope of Work determined?

In 2015 a list of Potential Projects was developed, and in the 3rd Phase it was decided between SPS Staff and Trane to address needs at the Elementary School. These needs were then reduced to the present Scope.

2. What is the Timeline for the Project?

The Scope of the Project defined in October, Contract Approval in November, Start Project in January and complete in August.

3. How was the Equipment Useful Life determined?

We used the ASHRAE Equipment Life Expectancy Chart.

4. How Is the Guaranteed Maximum Price determined?

Trane used its design team and preferred Contractors to develop the estimated cost of the Project.

5. Can there be changes to the Scope of Work?

Yes, one of the benefits of the ESCO Process is the flexibility to modify the Scope up until the time that the contract is signed. Examples of this, is the desire to look at combining existing multiple units into a single unit.

6. What are the Financial Parameters for the Project?

Another benefit of the ESCO Process is the funding options.

7. What is the recommended next Phase?

At this time the next phase is centered around heat pump replacement at the High School. It has not been determined whether this replacement will be combined or separated into two Projects.





8. Why should the Energy Recovery Ventilators be part of the Phase 3 Project?

ERVs are designed to provide energy savings in mechanical ventilation systems. They recycle energy from the building's exhaust air to pretreat the outside air/ventilation air. This preconditioning of outside air reduces the load the HVAC system must handle, and hence reduces the required capacity of the mechanical equipment. ERVs also improve comfort by tempering the incoming fresh air and diminishing hot and cold drafts .

9. How was Energy and Operational Savings determined?

We used a computer model to compare the present system vs. the new system to generate the energy savings of the Project. The Operational savings from maintenance and repair is estimated to equal the energy savings, annually.

10. What are the Guarantees and Warranties for the Project?

The entire Project has a Performance and Maximum Price Guarantee (no change orders) and an one year warrantee. The equipment has a two year parts and labor guarantee and any additional equipment specific warranties.

11. Does the Project include Trane Equipment?

We use Trane equipment and controls when possible to reduce project costs. As an equipment manufacturer, we are able to pass our wholesale equipment costs directly to owners without additional markups. If an owner prefers to use other brands of equipment or controls we are happy to oblige. In example there was no Trane equipment or controls used in the previous two phases of work at the High School.

12. What is the traditional Spec/Bid Process?

The School hires, and pays, an engineer and architect to develop a design and specifications for the Project. These specifications are then used by contractors to bid the Project.

13. What is the ESCO Process?

State statutes allow a governmental unit, such as a public schools district, to enter into an Energy Financing Contract. Seward Public Schools used a Qualifications Based analysis to select Trane as it's ESCO Partner. Trane has incurred all the cost of developing this Phase 3 Project. The flexibility and time savings of this process allows SPS to secure this Project at a fair price.





14. What Building Automation System is included in the Project?

Seward Public Schools has a relationship with their existing Controls Company, as with our previous Projects, Trane will coordinate the integration of this Project into the existing Building Automation System.

15. What are some of your Customers and References?

