



SCHOOL BOARD ACTION REPORT

DATE: September 6, 2018
FROM: Denise Juneau, Superintendent
LEAD STAFF: Dr. Lester Herndon, Associate Superintendent, Facilities and Operations
206-252-0644, lherndon@seattleschools.org

For Introduction: September 18, 2018
For Action: October 3, 2018

1. TITLE

BEX IV: Resolution 2018/19-1: Acceptance of the Building Commissioning Report for the Arbor Heights Elementary School Replacement project

2. PURPOSE

This resolution accepts the building commissioning report for the Arbor Heights Elementary School Replacement project, in accordance with [WAC 392-344-165](#), as required to complete the Office of Superintendent of Public Instruction (OSPI) Form D-11 Application to Release Retainage.

3. RECOMMENDED MOTION

This motion was discussed at the Operations Committee meeting on September 6, 2018. The Committee reviewed the item and moved forward to the full board for approval.

4. BACKGROUND INFORMATION

a. Background

Arbor Heights Elementary School is located at 3701 SW 104th Street, Seattle, Washington 98146.

Commissioning is a systematic process of documentation and verification to demonstrate that the building mechanical systems have been installed and function properly and efficiently and can be maintained to operate and satisfy the engineer's design intent and district's operational requirements. The commissioning consultant, Keithly Barber Associates, has satisfactorily completed the commissioning process.

The district's Capital Project Mechanical Coordinator, Mike Kennedy, has been involved throughout the commissioning process on the Arbor Heights Elementary School Replacement project. Mr. Kennedy recommends the acceptance of this effort.

The Office of Superintendent of Public Instruction (OSPI), through the School Construction Assistance Program (SCAP), provides funding assistance to school districts that are undertaking a major new construction or modernization project. The primary

documents that form the basis of any agreement between OSPI and the district are the “D-form” documents. These documents, when properly completed and signed by all parties, form the official notices of agreement and intent on behalf of the district and OSPI.

As noted above, the acceptance of the commissioning report is required for the D-11 form for the release of construction retainage. Approval of this motion meets the requirements of OSPI to receive state funding assistance.

b. Alternatives

Not accepting this motion could put the district in a position subject to litigation and if state funding requirements are not met, the district will not receive state funding assistance that is available for this project. Therefore, this alternative is not recommended.

c. Research

- Office of Superintendent of Public Instruction, Form D-11 Application to Release Retainage
- Arbor Heights Elementary School Commissioning Report, Keithly Barber Associates

5. FISCAL IMPACT/REVENUE SOURCE

Action helps to secure approximately \$2.4 million dollars in state funding assistance. This motion does not represent a specific expenditure.

Expenditure: One-time Annual Multi-Year N/A

Revenue: One-time Annual Multi-Year N/A

6. COMMUNITY ENGAGEMENT

With guidance from the District’s Community Engagement tool, this action was determined to merit the following tier of community engagement:

Not applicable

Tier 1: Inform

Tier 2: Consult/Involve

Tier 3: Collaborate

The \$694.9 million Building Excellence IV (BEX IV) Capital levy was approved by more than 72 percent of Seattle voters in February 2013. It supports the district’s long-range plans to upgrade and renovate aging school facilities and address enrollment growth. The process included countless hours of planning, coordinating efforts throughout the district, community

engagement and feedback, extensive Seattle School Board guidance and input that lead to a unanimous Seattle School Board vote in November 2012 that approved the BEX IV projects list.

7. EQUITY ANALYSIS

This motion was not put through the process of an equity analysis. The selection of projects in the BEX IV program was designed to provide equitable access to safe school facilities across the city.

8. STUDENT BENEFIT

This project helps ensure a safe, secure learning environment for every student.

9. WHY BOARD ACTION IS NECESSARY

- Amount of contract initial value or contract amendment exceeds \$250,000 (Policy No. 6220)
- Amount of grant exceeds \$250,000 in a single fiscal year (Policy No. 6114)
- Adopting, amending, or repealing a Board policy
- Formally accepting the completion of a public works project and closing out the contract
- Legal requirement for the School Board to take action on this matter
- Board Policy No. _____, [TITLE], provides the Board shall approve this item
- Other: OSPI require Board acceptance of this report.

10. POLICY IMPLICATION

School Board approval of the commissioning report is consistent with Board Policy No. 6100, Revenues from Local, State and Federal Sources, which states “It is the policy of the Seattle School Board to pursue systematically those funding opportunities that are consistent with district priorities from federal, state and other governmental units, as well as from private and foundation sources,” and “The Board agrees to comply with all federal and state requirements that may be a condition for the receipt of federal or state funds...”.

11. BOARD COMMITTEE RECOMMENDATION

This motion was discussed at the Operations Committee meeting on September 6, 2018. The Committee reviewed the motion and moved forward to the full board for approval.

12. TIMELINE FOR IMPLEMENTATION

Upon approval of this motion, the D-11 Application to Release Retainage will be completed and submitted to OSPI

13. ATTACHMENTS

- Commissioning Report dated September 2017 (Executive Summary attached, the full report is available in the Board Office for reference)
- Resolution 2018/19-1 (for approval)

Introduction

Keithly Barber Associates (KBA) was hired by Seattle Public Schools to serve as the Commissioning Authority for the Arbor Heights Elementary School Project.

New building commissioning is a quality-assurance process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meet the owner’s documented objectives and criteria. The design team, contractor, and subcontractors provide the quality control for design, and the installation and startup of the building systems. Commissioning provides review and quantitative functional testing to provide assurance that the quality control efforts of the designers and contractors are carried out.

Conclusion

Commissioning identified 228 issues pertaining to the functional performance of the building systems. The Commissioning Authority confirmed that all 228 of these were resolved through the commissioning process.

Principal | Senior Project Manager: Jeremy Fugere, CCP – September 2017

Managing Principal: Kent Barber, PE, CCP – September 2017

Commissioning Process Synopsis

Commissioning Standards: The commissioning process for this project was designed, documented and performed in accordance with the following commissioning guidelines and requirements: The Building Commissioning Associations (BCA) Essential Attributes of Building Commissioning (version 4/14/99) and ASHRAE Commissioning Guidelines 0 and 1.

Overview: The process used for commissioning is documented in the Commissioning Process Plan, which appears in the “*Commissioning Process Description*” section of this report. In addition to describing the process, the Commissioning Process Plan lists the equipment & systems that were commissioned, identifies the Commissioning Team that performed the commissioning process, and describes the roles & responsibilities of the commissioning team members. The Commissioning Team, which was lead by the Commissioning Authority (CxA), consisted of representatives of the owner, the design team, the contractors, and the major equipment suppliers. The commissioning of this project began during the design documents phase and concluded with functional performance testing at the end of the construction phase. The process is summarized in the following paragraphs. Commissioning Record Appendix to this report contain the documentation of the process. Limitations of Commissioning are described in a separate section of this report.

Design Phase Commissioning: The design phase commissioning process included recording the owner’s project requirements, documenting the basis of design, and reviewing the design submittals. Commissioning design submittal reviews focused on identifying issues related to long-term systems performance and maintainability, facilitation of the commissioning process, and compliance with WSSP requirements. All design submittals were reviewed for compliance with the documented owner’s project requirements and the basis of design. Construction coordination issues pertaining to commissioning was also coordinated with the owner and AE. Issues raised during design phase commissioning were logged and tracked using design submittal review forms.

Construction Phase Commissioning: During the construction phase of the project, the CxA performed regular on-site reviews to identify commissioning related issues before further construction progress made them more difficult to resolve. The contractors, however, were ultimately responsible for providing systems that functioned in accordance with the functional testing acceptance criteria and the project documents. The “Systems Readiness and Pre-Functional Test Preparation” portion of the Commissioning Process Plan documents the procedures and checklists used by the Contractors and the CxA to verify that the systems were placed into operation and made ready to comply with the functional testing acceptance criteria in accordance with the project documents. This included documenting systems installation, startup and testing adjusting and balancing (TAB) were completed in accordance with the specified project requirements. After systems readiness and pre-functional test preparation was complete “Functional Performance Test” procedures were performed to document how the systems performed relative to the commissioning acceptance criteria.

Issues discovered during construction phase commissioning were logged in an issue tracking database. The commissioning issues list was regularly updated and distributed to the Commissioning Team. Issues were assigned to responsible parties for resolution. Resolution of the issues were reported to the commissioning team in writing, and subsequently verified by the CxA. The complete list of commissioning related issues is presented in the “*Issues List (Unresolved, Resolved / Unverified and Resolved)*” section of this report.

Post occupancy Commissioning: After owner acceptance of the project the commissioning process included a post-occupancy review. The post-occupancy review occurred in accordance with the contract

requirements, approximately 10 to 12 months after the building was initially occupied. The CxA interviews facility staff and reviews system operation. Acting as the district technical resource, CxA assists the facility staff in addressing any performance or warranty issues. If there are still any outstanding issues, the district addresses them with the contractors or design team.

How Commissioning Benefited This Project

Commissioning has contributed to the safety, reliability, efficiency and comfort of the Arbor Heights Elementary School project due to the discovery of 228 issues, with 226 of them being resolved. Examples of some of the benefits resulting from resolving these issues are as follows:

1. **Safety - Issue #6 (AHU-3):** AHU-3 was wet inside the blower section. Dry up unit and clean. Check and dry other AHU's.
Resolution: Fans were placed and ran inside the air handling units to dry them out.
Benefit: Now that the air handling units are dry and no mold is present, safe indoor air quality in the occupied spaces can be maintained.
2. **Reliability - Issue #89 (Pumps CP-1S and 2S):** With one pump running, the other pump was spinning backwards.
Resolution: Check valves were installed on both pumps.
Benefit: Now that check valves have been installed at the pumps, premature bearing failure will be avoided.
3. **Efficiency - Issue #110 (CEF-7):** CEF-7 remains on when commanded off at the BAS front end.
Resolution: Wiring was corrected.
Benefit: A significant amount of energy will be saved by turning all the fan in the unoccupied hours.
4. **Occupant comfort - Issue #108 (FC-1, 2 & 47):** These fan coil units have their controls set to the wrong classrooms. Refer to ALT 2 contract drawings and reverify point-2-point. (FC-1 = Rm 121; FC-2 = Rm 112; FC-47 = Rm 122).
Resolution: Wiring and/or programming was corrected.
Benefit: Now that these fan coil units are being controlled as specified, the occupied space heating and cooling setpoints can now be maintained.



**Seattle School District #1
Board Resolution**

Resolution No. 2018/19-1

A RESOLUTION of the Board of Directors of Seattle School District No. 1, King County, Seattle, Washington accepting the building commissioning report by Keithly Barber Associates for the Arbor Heights Elementary School Replacement project; and

WHEREAS, The Seattle School District Board of Directors has received the building commissioning report from Keithly Barber Associates regarding the Arbor Heights Elementary School Replacement project; and

WHEREAS, it has been determined that the building commissioning report is complete and the building is operating as the commissioning report states;

THEREFORE, BE IT ACCEPTED AND RESOLVED, by the Seattle School Board of Directors, that the building commissioning report by Keithly Barber Associates for the Arbor Heights Elementary School Replacement project is hereby approved.

ADOPTED this ___ day of ____, 2018.

Leslie Harris, President

Rick Burke, Vice-President

Jill Geary, Member-at-large

Zachary DeWolf, Member

Eden Mack, Member

Betty Patu, Member

Scott Pinkham, Member

ATTEST: _____
Denise Juneau, Superintendent
Secretary, Board of Directors
Seattle School District No. 1
King County, WA