

Proposal for Commissioning Services for

SOUTHERN PLAINS EDUCATION COOPERATIVE

RENOVATION AND ADDITION

FAIRMONT, MINNESOTA

April 26, 2019

Submitted by



**HALLBERG
ENGINEERING**

Mechanical / Electrical / Commissioning / Energy



April 26, 2019

John Pristash
Kraus-Anderson Construction Company
502 2nd Avenue SW
Rochester, MN 55902
john.pristash@krausanderson.com

Re: Proposal for Commissioning Services
Southern Plains Education Cooperative Renovation and Addition
Hallberg Project #P19-3539.000

Dear Mr. Pristash,

We appreciate the opportunity to submit this proposal for commissioning services for the Southern Plains Education Cooperative Renovation and Addition project. Hallberg Engineering has a long successful track record of professionally commissioning schools and commercial buildings in the State of Minnesota.

This proposal represents our entire understanding of the project based on the documents received. We look forward to working with you and assisting you with your project needs.

Sincerely,

HALLBERG ENGINEERING, INC.

AUTHORIZATION TO PROCEED

Rick Lucio, PE LEED® AP
CEO/Principal

Signed

Creative Director
Title

5-7-19
Date



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SCOPE OF WORK

1. Coordinate and direct the system inspection activities in a logical, sequential and efficient manner using consistent protocols and forms, centralized documentation, clear and regular communications and consultations with all necessary parties, frequently updated timelines and schedules and technical expertise.
2. Provide a commissioning plan including the following items:
 - a. A narrative description of the activities that will be accomplished during each phase of commissioning, including the personnel intended to accomplish each of the activities.
 - b. A listing of the specific equipment, appliances or systems to be tested and a description of the tests to be performed.
 - c. Functions to be tested, including, but not limited to calibrations and economizer controls.
 - d. Conditions under which the test will be performed. At a minimum, testing shall affirm winter and summer design conditions and full outside air conditions.
 - e. Measurable criteria for performance.
3. Request and review additional information required to perform inspection tasks, including O&M materials, contractor equipment start-up forms and equipment checkout procedures.
4. Observe HVAC installation and its compliance with the plans, specifications and ASHRAE 62-2004 (or most recent version). Attend selected planning and job-site meetings to obtain information on construction progress. Review construction meeting minutes for revisions/substitutions relating to the system inspection process. Assist in resolving any discrepancies.
5. Before startup, gather and review the current control sequences and interlocks and work with contractors and design engineers until sufficient clarity has been obtained, in writing, to be able to write detailed testing procedures.
6. Write the equipment sequence of operation verification tests sheets from design engineer approved control shop drawings.

7. Validate through witness testing and review of validated Test and Balance Reports that the specified minimum outdoor air volumes are being provided for all ventilation equipment that introduces outdoor air into the building, throughout the full operational range of the equipment and during all seasonal modes of control. Verification shall occur through a validated test and balance report and equipment sequence of operation verification tests.
8. Direct, witness and document the verification of the sequence of operation for all key pieces of HVAC equipment including the building automation system. Verification is performed by the contractor and witnessed by the System Inspector and shall be done for all operational and seasonal modes of control. Verification includes a visual determination that all components and systems respond as called for in the sequences and function in accordance with the design requirements. The System Inspector shall provide the contractors the necessary verification test sheets and procedures for these tests. The System Inspector shall personally witness these tests.
9. Provide to the project team written progress reports and test results with recommended actions.
10. Coordinate retesting as necessary until satisfactory performance is achieved.
11. Supervise any seasonal or deferred testing and deficiency corrections required by the specifications.
12. Provide a final system inspections report to include System Inspector Acceptance Letter, field observation reports, Contractor signed commissioning punchlists and Test and Balance report review comments.

COMMISSIONED SYSTEMS

Base Bid:

Equipment to be Commissioned	Number of Units	Percent to be Tested
Boilers	3	100%
Boiler Feed Pumps	3	100%
Cabinet Unit Heaters	6	100%
Fin Tube Radiation	87	100%
Heating Water Pumps	2	100%
Air Cooled Chillers	1	100%
Air Cooled Condensing Units	1	100%
Chilled Water Pumps	2	100%
Glycol Pumps	2	100%
Data Cooling Units	2	100%
Air Handling Units	1	100%
Exhaust Fans	17	100%
Fan Coil Units	1	100%
Intake Hoods	1	100%
Roof Top Units	6	100%
VAV Boxes with Reheat Coils	52	100%
Air Separators	2	100%
Expansion Tanks	2	100%
Side Stream Filter	2	100%
DDC Control System	1	100%

Add Alternate:

Lighting Systems and Lighting Controls	1	100%
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FEE PROPOSAL

The following is HEI's proposed fixed fee, for commissioning services for Southern Plains Education Cooperative Renovation and Addition project:

Base Bid Fee for Commissioning Services \$ 29,000.00

(Twenty nine thousand dollars)

Add Alternate Commissioning Services: Lighting Systems and Lighting Controls \$ 3,000.00

(Three thousand dollars)

REIMBURSABLE EXPENSES

Reimbursable fees are included in the total fee above. The following are types of reimbursable expenses:

- Expenses for special handling (delivery or express mail), postage, or reproduction of drawings, specifications, and other documents.
- Expenses for travel, including mileage and meals.

ADDITIONAL SERVICES

Any work required beyond that defined in the Scope of Work will be billed on an hourly basis. Additional services will not be performed without written approval of Owner. Examples of additional services include:

- Providing services required because of significant changes in the project.
- Providing services in connection with evaluating substitutions proposed by the contractor.
- Providing services made necessary by the default of the contractor.

ASSUMPTIONS

It is assumed that the A/E will provide adequate written design intent, basis of design and full sequences of operation for all equipment and systems for the O&M manuals and for the System Inspector to use in writing functional tests.

It is also assumed that the contractors will execute the functional testing of equipment, coordinated and documented by the System Inspector, using forms provide by the System Inspector.

HOURLY BILLING RATES

Principals	\$200
Sr. Project Manager.....	\$170
Project Manager.....	\$155
Sr. Engineer	\$144
Sr. Project Engineer/Sr. Designer/ Commissioning Agent	\$135
Energy Consultant	\$130
Project Engineer/Sr. Project Designer	\$120
Staff Engineer/Project Designer/ Commissioning Tech/ I.T. Tech	\$110
Engineer/Staff Designer/Project Admin/Program Consultant.....	\$95
Designer/Commissioning Associate	\$80
Engineering Intern/Design Intern	\$55
Clerical	\$75

FIRM OVERVIEW

Design

Mechanical
Electrical
Plumbing
Technology
LEED®

Established in 1979, Hallberg Engineering, Inc. (HEI) is a consulting engineering firm specializing in mechanical, electrical, and technology systems design, commissioning, building analysis, and energy services. Our versatile staff provides various mechanical and electrical services including pre-design studies, early schematic planning and budgeting with the client, timely design development of the project, thorough construction documents, and comprehensive construction administration with post-occupancy evaluation.

Commissioning

New Construction
Recommissioning
Existing Systems
Retro-Commissioning
LEED®

HEI has over 35 years of experience providing consulting engineering services and over 17 years of experience providing commissioning services to K-12 schools in Minnesota. HEI's Commissioning Group has commissioned more than 150 education facilities since the group's inception in 1998.

Our commissioning group verifies that a project was constructed per the design intent and the building performs per the owner's project requirements and the designer's basis of design. Our energy services department performs energy modeling, energy studies, or energy tax deduction analysis for your design or project assessment needs.

Building Analysis

Indoor Air Quality Solutions
Health & Safety Review
Heating Plant Analysis
Swimming Pool Evaluation
Facility Review
Power Distribution Review
Lighting Analysis
Fire Protection Analysis
ASTM Property Condition Assessments

HEI originated with a focus on providing mechanical services for K-12 education facilities. Throughout the years, we have expanded our engineering services, but our established reputation in the education sector has continued and has allowed us to have worked with over half of all Minnesota school districts. Our history has provided us with the knowledge and the relationships that are necessary to successfully execute the needs of our K-12 clients.

Energy Services

Energy Modeling
Energy Studies

HEI is a Small and Minority Business Enterprise (S/MBE) certified with the State of Minnesota, University of Minnesota, City of Minneapolis, Minnesota Department of Transportation, Metropolitan Airport Commission, Metropolitan Council, Hennepin County, Ramsey County, and City of St. Paul.

We have earned a reputation for listening and responsiveness, for honesty and professionalism, and for delivering proven, functional engineering solutions. With the combination of our firm expertise and our focus on exceptional customer service, it is our promise to provide every client with the utmost in integrity, commitment and quality of service.



COMMISSIONING

Commissioning Services

LEED® Construction
 Passive House (Passivhaus)
 Minnesota Sustainable Building
 Guidelines (MSBG)
 ASHRAE Commissioning
 Requirements
 Army National Guard Military
 Construction

Systems Typically Commissioned

HVAC Systems
 Building Automation Systems
 Laboratory Systems
 Humidification Systems
 Electrical Power and UPS
 Lighting Control Systems
 Emergency Power Systems
 Life Safety Systems
 Data Center Systems

Since its inception in 1998, the HEI Commissioning Group has commissioned mechanical and electrical systems for hundreds of buildings including those for K-12 schools, higher education, retail, government, and private industry facilities. The commissioning group has successfully completed recommissioning projects and custom efficiency studies funded by utility companies which included a team of energy experts comprised of HEI engineering staff, sub-consultants, and subcontractors.

Commissioning is a quality assurance procedure applied to building construction throughout the entire process of a project including planning, design, construction, and operation. It is a systematic, documented, and collaborative process including inspection, testing, and training. Commissioning ensures that building systems work as intended by the original design intent and provides for reduced operation and maintenance costs, energy savings, and improved indoor air quality.

The HEI Commissioning Group's goal is to provide the owner with smoother building turnover, improved building performance, reduced contractor callbacks, and a safe, healthy facility for all building occupants. Commissioning is not an exercise in "finger pointing" – we believe in a harmonious process to provide the desired results for all stakeholders. A project is successful only if each task of the commissioning plan was accomplished per the design intent and the owner received a building that performs per the owner's project requirements and designer's basis of design.

HEI is a member of the Building Commissioning Association (BCA) and the AABC Commissioning Group (ACG), and our HVAC commissioning agents are certified ACG Commissioning Authorities (CxA), which demonstrates the CxA's education, knowledge, and technical expertise in the commissioning process.

HEI is also a member of the U.S. Green Building Council and has several LEED® Accredited Professionals (AP) among its staff. Members of HEI's commissioning staff are also members of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE).



FEATURED PROJECT EXPERIENCE

ROCHESTER PUBLIC SCHOOLS, ISD 535

Hoover Elementary School Early Childhood Addition and Indoor Air Quality Improvements

Client: Rochester Public Schools, ISD 535

Square Feet: 35,000

Completed: In progress April 2019

Contact: Knutson Construction, Keane McWaters, kmcwaters@knutsonconstruction.com, (507) 206-2501



Project Description: This project is a new 35,000 square foot early childhood addition and an Indoor Air Quality renovation of the existing 35,653 square foot building, which includes architectural renovation, a preschool addition, HVAC and electrical improvements, and ADA upgrades. HEI is performing commissioning services during the construction, acceptance and building turnover phases of this project.

LITTLE FALLS COMMUNITY SCHOOLS, ISD 482

Commissioned Schools:

- Lindberg Elementary School
- Lincoln Elementary School
- Little Falls High School



Client: ISD 482 – Little Falls Community Schools

Completed: 2018

Contact: Contegritty Group, Larry Filippi, larry@contegrittygroup.com, (320) 639-1952

Project Description:

HEI provided the commissioning services for three school facilities, located in Byron, Minnesota. HEI performed commissioning services during the construction, acceptance and building turnover phases of this project.

BYRON PUBLIC SCHOOLS, ISD 531

New Elementary School

Client: ISD 531 - Byron Public Schools

Square Feet: 98,000

Completed: 2017

Contact: Knutson Construction, Keane McWaters, kmcwaters@knutsonconstruction.com, (507) 206-2501



Project Description:

HEI provided the commissioning services for this new elementary school facility, approximately 98,000 square feet, two story type building located in Byron, Minnesota. HEI performed commissioning services during the construction, acceptance and building turnover phases of this project.

PROJECT APPROACH

PROJECT UNDERSTANDING

HEI understands that the Southern Plains Education Cooperative is seeking the services of a qualified Commissioning firm for their Renovation and Addition Project in Fairmont, MN. We understand the goal is to ensure that all systems are complete and functioning properly upon occupancy, per the design intent and exceed current and applicable Minnesota statutes and standards.

TEAMWORK

Our philosophy is to work with all team members (Southern Plains Education Cooperative, Kraus-Anderson Construction, ISG Architects & Engineers, contractors and the equipment vendors) in a harmonious manner to facilitate the commissioning process. We understand the owner's intent, and we feel that close contact with all team members throughout the process is very important to the success of these projects. Commissioning is not an exercise in "finger pointing." HEI believes in a team effort to provide the desired results for Fairmont Area Schools.

TECHNOLOGY

HEI's commissioning agents are experienced with both the latest design concepts and operational methods and are familiar with the many different brands of building automation systems. Each agent is armed with state-of-the-art equipment and resources. The commissioning agents have laptops, software and investigative tools to achieve the commissioning tasks. To follow are some of the standalone tools the HEI Commissioning Group owns and uses:

- TSI Veloci-Calc Air Velocity Meter
- Data Loggers
- Fluke Thermometers
- Shortridge Air Velocity Hood
- Illuminance Meters
- TSI Indoor Air Quality Probe with CO
- Volt/Amp Meters
- Energy Calculator Tool
- Energy Modeling Software



PROPOSED PROJECT TEAM

Team members proposed for this project were selected because of their specific qualifications and experience in commissioning design projects and ability to work with the owner in providing a successful project.

MICHAEL JONES, CxA, LEED® AP

Commissioning Department Manager

Certified by AABC Commissioning Group (ACG)

Role: Project Manager Percent of Time: 5%

Qualifications: Certified Commissioning Agent, LEED® Accredited Professional

Experience: 13+ years of experience as a project manager/commissioning agent. 28 years of experience in design of commercial HVAC, plumbing, fire protection and control systems.

Relevant Project Experience:

- ISD 761 Owatonna Public Schools – New McKinley Elementary School (In progress 2019)
- ISD 347 Wilmar Public Schools -New Elementary School
- ISD 834 Stillwater Area Schools – New Elementary School
- ISD 531 Byron Public Schools - New Elementary School
- ISD 700 Hermantown Community Schools - Elementary School
- ISD 745 Albany Area Schools – Albany Elementary School Addition

NICK CIERZAN, CxA

Commissioning Agent

Certified by AABC Commissioning Group (ACG)

Role: Lead Commissioning Agent Percent of Time: 55%

Qualifications: Certified Commissioning Agent.

Experience: 3+ years as a Commissioning agent. Controls Technician and Project Manager for 9 years, specializing in control of HVAC systems and BAS integration.

Relevant Project Experience:

- ISD 347 Wilmar Public Schools - New Elementary School
- ISD 834 Stillwater Area Schools – New Elementary School
- ISD 531 Byron Public Schools - New Elementary School
- ISD 700 Hermantown Community Schools - Elementary School
- ISD 745 Albany Area Schools – Albany Elementary School Addition

TERRY OLSON

Commissioning Technician

Role: Commissioning Technician Percent of Time: 40%

Experience: 34+ years as a School District HVAC Technician/Project Coordinator.

Relevant Project Experience:

- ISD 761 Owatonna Public Schools (In progress 2019)
 - New Washington Elementary School
 - Wilson Elementary School
 - New McKinley Elementary School
- ISD 834 Stillwater Area Schools – New Elementary School

All individuals (including the Lead Commissioning Agent) will be committed to the project until its completion.



Professional Profile

Certifications

ACG Certified Commissioning Authority (CxA)

U.S. Green Building Council LEED® Accredited Professional

Professional Affiliations

AABC Commissioning Group (ACG)

American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE)

Building Commissioning Association (Corporate Membership)

U.S. Green Building Council- MN Chapter

International Facility Management Association

Education

Associates Degree in Architecture, North Hennepin Community College

Associates Degree in Mechanical HVAC, North Hennepin Community College

Michael Jones, CxA, LEED® AP



Commissioning Department Manager

Mr. Jones joined Hallberg Engineering (HEI) in 2002, bringing with him over 25 years of mechanical engineering experience in a variety of areas including K-12 schools, healthcare, office buildings, professional and collegiate sports facilities, government centers, and higher education facilities. Mr. Jones has extensive HVAC design knowledge of chilled water and heating water systems, VAV and constant volume air handling systems, heat recovery systems and laboratory air systems as well as good design knowledge of plumbing and fire protection systems. As part of his design and commissioning work, Mr. Jones has had extensive experience with design reviews, field observations, punch lists, deficiency reports, and verification testing. Mr. Jones also has experience with the operation and troubleshooting of a variety of HVAC systems and energy management systems.

K-12 EDUCATION PROJECT EXPERIENCE

- Alexandria Lincoln Elementary School – Alexandria, MN
- Alexandria Middle School – Alexandria, MN
- Faribault Public Schools
 - High School HVAC Upgrades/Chiller Upgrade
 - Middle School HVAC Upgrades
 - Lincoln Elementary School HVAC Upgrades/Boiler
 - Jefferson Elementary School HVAC Upgrades/Boiler
 - Roosevelt Elementary School Chiller Replacement
- Henry Sibley High School – West St. Paul, MN
- Skyview Middle School Recommissioning – Woodbury, MN
- Stillwater Early Childhood Family Center – Stillwater, MN (LEED®)

MINNESOTA SUSTAINABLE BUILDING GUIDELINES (MSBG-B3) EXPERIENCE

- DNR Lanesboro Fish Hatchery (current)
- DNR Glenwood Area Office Facility
- DNR New Area Offices at Rice Lake State Park (current)
- Fond Du Lac Tribal and Community College New Library and Cultural Center Addition – Cloquet, MN
- Hennepin County Brooklyn Park Library – Brooklyn Park, MN
- Hennepin County South Regional Service Center – Minneapolis, MN
- Hennepin County Northeast Library – Minneapolis, MN
- Hennepin County Walker Library – Minneapolis, MN
- Hennepin County Webber Park Library – Minneapolis, MN
- Hormel Institute Medical Research Facility – Austin, MN
- Krungthep Thai Restaurant (current)
- Lake Superior College Academic & Student Services Addition – Duluth, MN
- Metropolitan State University Science Education Center – St. Paul, MN
- Minnesota Army National Guard Armory – Owatonna, MN
- Minnesota Army National Guard Armory – Pine City, MN
- Minnesota Zoo - Heart of the Zoo Phase II (current)
- North Hennepin Community College Bioscience & Health Center
- St. Cloud State University – Eastman Hall (current)
- University of Minnesota Duluth Labovitz School of Business & Economics and Campus Utility Building – Duluth, MN
- University of Minnesota Duluth New Civil Engineering Building – Duluth, MN



Professional Profile

Certifications

ACG Certified Commissioning Authority (CxA)

Education

Bachelor of Science, Computer Network Engineering, St. Cloud State University 2002

Nick Cierzan, CxA

Commissioning Department



Mr. Cierzan joined Hallberg in 2015 and holds a Bachelor of Science in Computer Network Engineering. Prior to Hallberg, Mr. Cierzan was a controls Technician and Project Manager for 9 years, specializing in control of HVAC systems and BAS integration.

K-12 EDUCATION COMMISSIONING PROJECT EXPERIENCE

- Anoka-Hennepin County Schools – Minneapolis, MN
- Columbia Heights Public Schools – Columbia Heights, MN*
-Xcel Energy ReCx study for each of the 5 buildings in district*
- Eastern Carver County Schools ISD 112 – Chaska, MN
- Eden Prairie Schools ISD 272, Transportation Building Mechanical Upgrades – Eden Prairie, MN
- Buffalo-Hanover-Montrose Public Schools – Buffalo, MN
- Grand Meadow Public Schools – Grand Meadow, MN
- Mankato Public Schools, New East Middle School – Mankato, MN
- Minneapolis Public Schools – Minneapolis, MN
- Mound Westonka Public Schools – Mound Area, MN*
 - Shirley Hills Primary School – HVAC upgrades
 - Grandview Middle School - HVAC upgrades
 - Hilltop Primary School – HVAC upgrades
- Providence Academy, Addition and campus wide BAS upgrade – Plymouth, MN*
- Randolph Public School, Campus wide BAS Upgrade – Randolph, MN*
- Richfield Senior High School, ReCx Study – Richfield, MN*
- St. Cloud Public Schools – St. Cloud, MN*
 - Clearview Elementary - Addition and HVAC upgrades
 - North Junior High School - Addition and HVAC upgrades
 - Westwood Elementary - Addition and HVAC upgrades

HIGHER EDUCATION PROJECT EXPERIENCE

- Metropolitan State Science Center – Minneapolis, MN

GOVERNMENT COMMISSIONING PROJECT EXPERIENCE

- Hormel Institute/International Center of Research and Technology Expansion – Austin, MN – *In progress 2017*
- City of Lino Lakes New Fire Station – Lino Lakes, MN

HEALTHCARE COMMISSIONING PROJECT EXPERIENCE

- Children’s Hospital, Elliot Towner – Minneapolis, MN*
- St. James Hospital, New construction – St. James, MN*
- St. Joseph’s Hospital, New construction DePaul Tower – St. Paul, MN*

SPORTS ARENA COMMISSIONING PROJECT EXPERIENCE

- Bielenberg Ice Arena, HVAC upgrades and Geothermal Install – Woodbury, MN*
- St. Cloud MAC Ice Arena , HVAC upgrades and Geothermal install – St. Cloud, MN*
- American Swedish Institute, New Construction – Minneapolis, MN*

ENTERTAINMENT/HOSPITALITY COMMISSIONING PROJECT EXPERIENCE

- Running Aces Harness Park, New Construction – Columbus, MN*



Professional Profile

Professional Affiliations

MASMS – Minnesota Educational
Facility Management Professionals



Terry Olson

Commissioning Department Technician

Mr. Olson joined Hallberg in 2018 and has over 34 years as a School District HVAC Technician/Project Coordinator.

K-12 EDUCATION COMMISSIONING PROJECT EXPERIENCE

- ISD 13 Columbia Heights Public Schools
 - North Park Elementary School
 - ISD 192 Farmington Public Schools
 - Aikin Road Elementary School
 - Farmington Elementary School
 - Meadowview Elementary School
- ISD 194 Lakeville Area Public Schools
 - Lake Marion Elementary School
 - McGuire Middle School
- ISD 279 Osseo Area Schools
 - Garden City Elementary School
 - Park Brook Elementary School
 - Zanewood Community School
 - Oak View Elementary School
- ISD 531 Byron Public Schools
 - Middle School HVAC Improvements
 - Byron Intermediate School Chiller Replacement
- ISD 535 - Rochester Public Schools
 - Hoover Elementary Addition & Indoor Air Quality Improvements
- ISD 625 St. Paul Public Schools
 - Adams Spanish Immersion
 - Linwood Monroe Arts Plus Upper Campus Renovation
 - St. Anthony Park Elementary
 - Humboldt High School
 - Como Park High School
- ISD 761 Owatonna Public Schools
- New McKinley Elementary School
- Middle School
- Lincoln Elementary School
- New Washington Elementary School
- Wilson Elementary School
- ISD 834 - Stillwater Area Public Schools
 - Deferred Maintenance 2017
 - Brookview Elementary School

HIGHER EDUCATION PROJECT EXPERIENCE

- University of St. Thomas John Roach Center - Controls Replacement Study

GOVERNMENT/MUNICIPAL PROJECT EXPERIENCE

- Rochester Parking Ramp #6
- Sherburne County Government Center
- 428 Minnesota Street, St. Paul
- Mill City Clinic Landlord Design
- Hennepin County Audits for Non-Library & Transfer Station Facilities