

PROPOSAL

COMMISSIONING SERVICES

2022 – 2023 Projects

Iowa City Community School District
Jeff Barnes, Director, Physical Plant



SystemWorksLLC
Commissioning Sustainable Buildings

Fee Proposal

By and Between:

SystemWorks LLC
409 5th St
West Des Moines, IA 50265

and

Project: 2023 Additions & Renovations

Iowa City Community School District
1137 South Riverside Drive
Iowa City, IA 52246

SystemWorks is pleased to provide this Professional Services proposal for review and consideration.

COMMISSIONING SERVICES

Project	Fee	Accepted
Northwest Junior High (Addition & Remodel)	\$ 36,530	Yes No
North Central Junior High (New Addition)	\$ 34,970	Yes No
SEJH (New Addition)	\$ 29,510	Yes No
Horn (New Addition)	\$ 15,860	Yes No
West High Phase 3	\$ 35,490	Yes No
City High Phase 3	\$ 32,760	Yes No

ADDITIONAL SERVICES

SystemWorks will not perform additional work beyond that which is outlined in this proposal, without prior approval of the contract holder. For work that is requested beyond the proposed Scope of Work, SystemWorks will provide additional labor at \$130/hour, per person, plus material and expenses. Reimbursable expenses are included.

This proposal, dated May 13, 2022, is effective through July 1, 2022

We appreciate your consideration of this proposal and hope to have the opportunity to work with you on these projects. Please contact us if you have any questions or concerns.

SystemWorks LLC



Andrew Bennett, PE, CCP

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Iowa City Community School District

DocuSigned by:

Shawn Eyestone

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Approved By

Shawn Eyestone, Board President

Title

May 25, 2022

Date



Scope of Work

DESIGN PHASE SCOPE

- Perform a Commissioning Design Review of the 50% CD documents. This review will focus on constructability, maintainability, and clarity of the specifications. The documents will also be reviewed for alignment with practices and requirements standard to ICCSD. Participation in a design team meeting to review the comments, as well as a back-check of the final bid documents, is also included.
- Develop the Commissioning Specification 01 91 13
- Develop a Commissioning Plan
 - A Commissioning Plan is a narrative description of the activities that will be accomplished during each phase of Commissioning. A listing of the equipment and functions to be tested, and conditions under which the test is performed will be included.
- Develop Pre-Functional “Construction Checklist” forms. These forms will be submitted to the GC/CM, completed by the appropriate installing contractor and reviewed by SystemWorks.

CONSTRUCTION PHASE SCOPE

- Lead and document a Commissioning Kickoff Meeting with the contractors.
 - Review the commissioning requirements
 - Distribute and review the Commissioning Plan
- Review and provide written comments on major equipment submittals pertaining to the Systems to be Cx
- Coordinate a Building Automation System Review Meeting. This is one of the most beneficial meetings to insure the owner gets what they want. The purpose of this meeting is to review the sequence of operation of the building’s systems with the mechanical engineer, owner, control contractor and commissioning agent. This offers an opportunity for the team to discuss, resolve questions and ensure that the controls programming is written with the engineer’s intent and owner’s requirements in mind.
 - This is typically performed as part of the BAS submittal review process, however this may be held closer to controls installation and programming to better ensure the design intent is implemented.
- SystemWorks will visit the site during construction prior to function testing to review the mechanical systems installation. The number of site visits per project is listed in each project’s Systems to be Commissioned.
 - Emphasis will be placed on mechanical system installation details to identify potential issues during construction before installation is complete, systems are covered or filled.
 - These Cx site visits will be documented with a report sent to the owner, design and construction teams.
 - SystemWorks will witness Equipment Start-Ups at discretion during site visits.
 - Additional site visits may be recommended or requested as necessary.
- Commissioning Status Meeting – Prior to start of functional testing
- SystemWorks will provide documented meeting minutes for each commissioning meeting.



FIELD TESTING PHASE SCOPE

SystemWorks will verify that the building's energy related systems are installed, calibrated and perform according to the owner's requirements, basis of design (BOD), control sequences and construction documents. SystemWorks will perform functional tests based on the sequences of operation to verify functional performance of the systems outlined in the Commissioning Plan.

Major/critical systems will be tested 100%, while a sample of like terminal equipment will be tested. For the Geothermal Heat Pumps, VRF Fan Coils, cassettes, and electric heaters, we will utilize summaries from the building automation system to verify high-level functionality such as scheduling, maintaining set points, and heating/cooling. Based on the results of the summary testing, a sample of the terminal equipment will be fully commissioned. Our approach is to focus this sample on the units which were underperforming or displayed other operational concerns during the heating and cooling summaries.

SystemWorks will:

- Step through the controls programming to verify sequences of operation for the HVAC systems to be commissioned. Summaries and random sampling will be utilized for like-equipment.
 - Simulate alarm/failure conditions
 - Sample verify sensor calibration and point-to-point mapping
 - Utilize our own NIST certified test equipment as needed during testing
- Review system installation compared with plans and approved drawings
- Issue Log - Generate and utilize an Issue Log to track deficiencies and verify corrections are accomplished. Facility Grid online commissioning software may be used to maintain an on-going Issue Log accessible to all parties.

ACCEPTANCE PHASE SCOPE

- Final Commissioning Report Generation. One hard copy and one electronic copy to the owner.
 - Results of functional performance tests
 - Functional performance status including a disposition of deficiencies found during testing, including details of corrective measures used and/or proposed

OPPOSITE SEASON TESTING AND 10-MONTH REVIEW

Prior to the end of the equipment's first year under warranty, SystemWorks will return to the site to perform additional testing. Many of the operating conditions are simulated during the initial tests, and this provides an opportunity to verify performance under actual conditions. Additionally, SystemWorks will use random sampling and trend data reviews to re-verify systems are functioning as expected.



Systems to be Commissioned

SYSTEMS TO BE COMMISSIONED – ALL SCHOOLS

- Verification of BAS Control System Features (Graphics, Trending, Alarming, Operations, etc.)
- Lighting & Daylighting Controls (sampling)
- Domestic Hot Water
- Miscellaneous Electric Heat

SYSTEMS TO BE COMMISSIONED – NORTHWEST JUNIOR HIGH

Approximately 45,000 SF addition and remodel, primarily classroom space and art rooms. Current art room will be in-filled for Special Education, and the existing kitchen will be expanded. Four Site Observations will be performed during construction.

- Water-cooled VRF condensing units, Fan Coils and Cassettes
- Energy Recovery Units
- Exhaust Fans
- Expansion or modification of current geothermal system

SYSTEMS TO BE COMMISSIONED – NORTH CENTRAL JUNIOR HIGH

Approximately 45,000 SF addition and remodel, primarily classroom space, offices, and the existing kitchen will be expanded. Four Site Observations will be performed during construction.

- Energy Recovery RTUs
- Water-to-air Heat Pumps
- Expansion of current geothermal system, new geothermal loop pumps
- Exhaust Fans

SYSTEMS TO BE COMMISSIONED – SOUTHEAST JUNIOR HIGH

Approximately 30,000 SF addition and remodel, primarily classroom space, a music addition and fitness room. The existing music area will be remodeled for CTE spaces. Four Site Observations will be performed during construction.

- Energy Recovery RTUs
- Water-cooled VRF Fan Coils and Cassettes
- Expansion of current geothermal system (or wells), new geothermal loop pumps
- Exhaust Fans

SYSTEMS TO BE COMMISSIONED – HORN ELEMENTARY

Small classroom and secured entry remodel. One Site Observation will be performed during construction.

- Water-sourced terminal equipment
- Ventilation unit with energy recovery



SYSTEMS TO BE COMMISSIONED – WEST HIGH PHASE 3

Renovation of existing spaces and replacement of existing equipment with geothermal-sourced HVAC systems. Four Site Observations will be performed during construction.

- Large Heat Pumps to replace the existing Auditorium AHUs
- Heat Pumps or VRF system to replace the Choir/Orchestra AHUs
- Water-cooled VRF and Ventilation Heat Pump serving the Office area
- Office area conversion to Commons
- 6 in-fill classrooms above the Media Center, new heat pumps and reuse of existing
- West restrooms and associated exhaust
- Review geothermal loop pump system operation with new loads

Alternates (included, will be removed if not pursued)

- Reconfiguration of the music practice rooms and offices, reuse existing or new heat pumps
- Exhaust fan replacement

SYSTEMS TO BE COMMISSIONED – CITY HIGH

Renovation of existing spaces and replacement of existing equipment with geothermal-sourced HVAC systems. Four Site Observations will be performed during construction.

- Area B renovation, with heat pumps or a water-cooled VRF system and associated rooftop ventilation unit
- Ventilation Heat Pump Unit with Energy Recovery serving the Auditorium
- Water-to-water heat pump system providing chilled and heating water to existing AHUs serving the Media Center
- New supply well and new injection well to expand the existing geothermal system

COMMISSIONING CLARIFICATIONS

- Design responsibility remains with the engineer of record.
- Subcontractor Coordination – SystemWorks will coordinate commissioning activities with the construction manager. SystemWorks will not be responsible for providing direction to subcontractors.
- SystemWorks has not included time to participate in weekly construction meetings.
- Geothermal field grout testing or installation verification has not been included.
- Reasonable time has been included for re-testing. If issues require multiple retests or back-checks after being stated complete by the responsible contractor, time required will be considered additional services.
- SystemWorks will require assistance from the control contractor's technician testing complex sequences as needed.
- Systems not included in SystemWorks' scope at this time: fire alarm and fire/smoke damper testing, electrical, telecom or security systems. If you are interested in these services, we can provide them.

