

227 N. Fourth Street
Geneva, Illinois 60134
630/463-3000
630/463-3020
Fax: 630/463-3029



**Community Unit
School District 304**

Scott K. Ney
Director, Facility Operations

TO: Dr. Kent Mutchler

FROM: Scott Ney

RE: 2022-23 Johnson Controls, Inc. Direct Digital Control (DDC) Upgrade for
Geneva High School and Coultrap Educational Services Center

DATE: January 4, 2023

The Facilities Task Force is requesting project approval from Geneva CUSD #304 School Board to upgrade the existing outdated temperature control system (pneumatic control system) to the ASHRAE standard Metasys BACnet control. This would be consistent with the other district buildings.

I recommend moving forward with the Johnson Controls, Inc. Metasys BACnet Systems proposals for the following:

Geneva High School:	\$1,973,179.00
Coultrap Educational Services Center:	\$ 94,893.00
Project total:	\$2,068,072.00

I also recommend including a 5% contingency as recommended by CS2 Engineers. The contingency amount of \$103,403.60 brings the total project cost to \$2,171,475.60.



January 3, 2023

Mr. Scott Ney
Geneva CUSD 304
227 N 4th Street
Geneva, IL 60134

Re: Bid Analysis and Contractor Recommendation for:
Geneva High School Pneumatic Upgrade

CS2 Job No.: 819-A-19

Dear Mr. Ney:

CS2 Design Group has investigated the question of what limitations a third-party temperature control contractor would have regarding the school district's existing Johnson Controls Incorporated (JCI) Metasys Extended Architecture system.

Per your direction, CS2 has reviewed the project scope dated December 9, 2022 for the upgrade of the existing pneumatic control system in Geneva High School to Metasys building automation system. We have spoken to and reviewed the scope of work with Mr. Steve Green the district's Account Executive at Johnson Controls, Inc (JCI). Steve said he fully understands project requirements and is comfortable with their bid submission of \$1,973,179.00 to perform the temperature controls upgrade (see attached). Since this is work is an upgrade to the existing proprietary JCI system, the local branch of JCI is the only company that can provide all the proprietary software, software upgrades, patches, software tools, etc. for this system.

CS2 also has experience working with Steve and Johnson Controls and finds no reason not to award to them a contract for this work.

If you have any questions, please do not hesitate to contact me.

Sincerely,

CS2 Design Group, LLC

A handwritten signature in blue ink that reads "Steven J. Schafer".

Steven J. Schafer, P.E., LEED AP

SJS/eb

Encl. Johnson Controls Proposal

PROPOSAL

TO: Scott Ney
SD 304 Geneva

DATE: December 9, 2022

PROJECT: SD 304 Geneva
High School Pneumatic Upgrade

SCOPE OF WORK:

Johnson Controls proposes to upgrade the existing pneumatic control system in Geneva High School to Metasys building automation system. JCI will provide all required labor to install and wire new controllers. JCI will furnish all required hardware and technical labor for programming.

1. Demolition: JCI will provide demolition of exposed pneumatic air lines.
 - a. Cut/cap lines above ceilings and abandon in place.
 - b. Remove pneumatic panels in mechanical spaces
2. Furnish and install (2) system network engine controllers.
 - a. Furnish and install (4) BACnet routers to eliminate the (2) NAE4510-2 controllers. These controllers are still supported by JCI but cannot be upgraded past version 9.0. There are many features available that these engines cannot utilize, including FIPS level 1 compliance (security) and ADFS 2 factor authorization.
 - i. Existing communication trunk and controllers to be reused.
 - ii. Utilize remote field bus on new SNE controller being installed.
 - b. Replace the existing NAE4510 located in the penthouse with a new SNE 22002 controller.
 - i. Existing communication trunk and controllers to be reused.
 - ii. Utilize the secondary communication trunk for new controllers being installed.
 - c. Furnish and install (1) new SNE22002 in a panel for support of new controllers being installed.
 - d. Provide new graphics for the systems being upgraded.
3. Existing air handling units with electric controllers:
 - a. Quantity (13), tags: AHU-A,B,C,D,E,F,G,H,I,L,M,F-1,Library.
 - b. Furnish and install new electronic damper actuators.
 - c. Furnish and install a new heating valve.
 - d. Provide new conduit/wiring to existing controllers.
 - e. Existing sequence to remain, provide point to point checkout of new control device.
4. Existing air handling units with pneumatic controls:
 - a. Quantity (8), tags: AHU-A, N, E1-6.
 - b. Furnish and install a new control enclosure with a BACnet controller.
 - c. Furnish and install the following end devices:
 - i. Supply/return/mixed air temperature sensors
 - ii. Zone sensors (where applicable)
 - iii. Return air carbon dioxide
 - iv. Current sensing switch with relay
 - v. Filter differential pressure switch
 - vi. Low limit safety
 - vii. High static safety
 - viii. Low static safety
 - ix. Mixed air damper actuators
 - x. Heating valve
 - xi. Condensing unit relay (where applicable)

5. Provide and install BACnet VMA controls for (131) VAV boxes.
 - a. Replace discharge air sensors and room temperature sensors.
 - b. Replace existing hot water reheat valves
 - c. Reuse existing flow rings.
 - d. Wiremold where be used on block walls that do not have a concealed raceway.
6. Boiler Room:
 - a. Furnish and install a new control enclosure with a BACnet controller.
 - b. Furnish and install the following end devices:
 - i. Hydronic temperature sensors
 - ii. Current sensors with relays
 - iii. New valve actuators – re-use the existing valves
 - iv. Damper actuators
 - v. Zone temperature sensor
 - c. Replace the existing NCE in the boiler room with a new CGM controller and BACnet MS/TP to IP router. Map the router to a new SNE remote field bus.
7. Furnish and install temperature controls on the existing unit heaters, convectors, and suspended unit heaters. There are (52) controllers that need to be upgraded to control the equipment listed above.
 - a. Install a CGM controller with thermostat.
 - b. Furnish and install new heating valve.
8. Provide and install controls on the following miscellaneous equipment:
 - a. Mack Olsen gym fans (4)
 - b. East penthouse damper (2)
 - c. Unit ventilators (2)

Clarifications/Exclusions:

1. This proposal excludes all cutting, patching and painting.
2. This proposal is based upon straight time labor.
3. This proposal excludes new end devices unless stated above.
4. This proposal excludes installation, wiring, and terminating controllers/end devices
5. Any additional equipment found during installation not specified above will be an additional cost.
6. SD 304 to assist in generating space based relationships for graphics.
7. SD 304 to provide mechanical plans for JCI to provide proper network architecture layout.

PRICING

OUR PRICE FOR THE SCOPE OF WORK ABOVE: \$1,973,179.00

Sincerely,



Steve Green
Account Executive
Johnson Controls, Building Efficiency Group
(224)325-6210



January 3, 2023

Mr. Scott Ney
Geneva CUSD 304
227 N 4th Street
Geneva, IL 60134

Re: Bid Analysis and Contractor Recommendation for:
Administration Building Air Handling Unit Control Upgrade

CS2 Job No.: 819-K-1

Dear Mr. Ney:

CS2 Design Group has investigated the question of what limitations a third-party temperature control contractor would have regarding the school district's existing Johnson Controls Incorporated (JCI) Metasys Extended Architecture system.

Per your direction, CS2 has reviewed the project scope dated December 9, 2022 for the Upgrade of the temperature controls on the lower level air handling unit at the District Office. We have spoken to and reviewed the scope of work with Mr. Steve Green the district's Account Executive at Johnson Controls, Inc (JCI). Steve said he fully understands project requirements and is comfortable with their bid submission of \$94,893.00 to perform the temperature controls upgrade (see attached). Since this is work is an upgrade to the existing proprietary JCI system, the local branch of JCI is the only company that can provide all the proprietary software, software upgrades, patches, software tools, etc. for this system.

CS2 also has experience working with Steve and Johnson Controls and finds no reason not to award to them a contract for this work.

If you have any questions, please do not hesitate to contact me.

Sincerely,

CS2 Design Group, LLC

A handwritten signature in blue ink that reads "Steven J. Schafer".

Steven J. Schafer, P.E., LEED AP

SJS/eb

Encl. Johnson Controls Proposal



Johnson Controls, Inc.
Controls Group
3007 Malmö Drive
Arlington Heights, Illinois 60005
Tel. 847-364-1500
FAX: 847-364-1536

PROPOSAL

TO: Scott Ney

DATE: December 9, 2022

PROJECT: SD 304 Geneva
4th Street Retrofit

BASE BID SCOPE OF WORK:

Furnish and install new direct digital controls for the AHU in the lower level of the Administration building. New controller will be an SNE for connection to the school district wide BAS. All new points will be mapped to the application and data server.

Furnish and install new electric actuators on the existing mixed air dampers. Remove all pneumatic tubing associated with the existing actuation. Provide start/stop/status for supply fan and staging of gas heat. Furnish and install a carbon monoxide sensor in the AHU room with an audio/visual alarm and an alarm on the BAS.

Retrofit the (13) zone dampers with new electric actuators. Furnish and install new zone thermostats for control of the zone dampers.

Clarifications/Exclusions:

1. This proposal excludes all cutting, patching and painting.
2. This proposal is based upon straight time labor.
3. This proposal excludes installation of valves.

PRICING

OUR PRICE FOR THE SCOPE OF WORK ABOVE: \$94,893.00

Sincerely,

Steve Green
Account Executive
Johnson Controls, Building Efficiency Group
(224)325-6210

CUSTOMER APPROVAL, NOTICE TO PROCEED

Name: _____

Signature: _____

Date: _____