

Preliminary Consultation

Kingsley Elementary School

Major Building System Renovation



DCSD Project Number: 363-035
SSOE|S&W Project Number: 021-01172-02

September 07, 2021

Prepared by:

 **SSOE**[®] | **STEVENS & WILKINSON**

**Dekalb County School District
Kingsley Elementary School – Major Building System Replacement**

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INTRODUCTION

Report Scope

This report will assess existing conditions at Kingsley Elementary School and recommend replacement options for major systems and related improvements.

Project Summary/Scope of Work

Dekalb County School System has defined a scope of work to replace major building systems at Kingsley Elementary School. The scope of work includes the following items from the original RFP #RFQu 21-752-032 for Kingsley Elementary School (363-35), dated 03.25.21:

- Replacement of HVAC components throughout the building
- Fire sprinkler installation

The above is not intended to be an all-inclusive list of the scope of work. At the pre-proposal meeting held on August 13, Brian Albanese reiterated the RFQ's intent for SSOE | Stevens & Wilkinson to make scope recommendations based on the existing conditions observed as part of our report. SSOE | Stevens & Wilkinson recommends the following items to be added to the scope, to be elaborated in the remaining sections of our report.

- Roof replacement
- Full HVAC system replacement
- Fire alarm replacement
- Intercom replacement
- Exterior building mounted security lighting and classroom lighting replacement
- Emergency generator upgrades to tie in more systems to the existing generator
- Ceiling replacement

Schedule Summary

The construction phase is tentatively scheduled to occur per the RFP from 07.01.22 through the 07.31.23. Design work is to be completed by mid-January 2022, with permitting and bidding scheduled for early 2022, allowing time for a contractor to begin procuring equipment prior to construction start.

Budget Summary

The construction budget for this project is **\$1,890,945**. The preliminary cost review included in this report is based on this narrative and will be used to reconcile the scope with the budget.

The preliminary cost review has a proposed construction budget of **\$6,871,052**. This initial cost analysis shows a 363% increase in the stated cost limitation defined by the original RFQ.

CONTEXT / EXISTING CONDITIONS

Kingsley Elementary School is a 60,478 square foot one-story elementary school building in the Dekalb County School System. The original building (building 2010) is 43,600 square feet and was constructed in 1971. A one-story 11,400 square foot addition (building 2011) was built in 1972, and a 5,478 square foot gym (building 2020) was built in 2003.



^ Kingsley Elementary School Aerial View

HVAC: The school is served by multiple types of HVAC systems, including DX split systems and DX rooftop units.

- There are 3 large split system DX AHU's and associated ductwork. Constant volume boxes with hot water reheat. In 2016 the AHUs were retrofitted with 5 split system DX refrigerant units. The 5 rooftop DX units were 25 tons and 40 tons paired with one wing (65 tons) and 40 tons and 40 tons paired with the second wing (80 tons) and 30 tons paired with the cafeteria.
- Existing Carnes constant volume boxes (terminal units) with hot water reheat coils are original, with replaced control valves that are still beyond their useful life and original piping. Corrosion is prevalent.
- Existing 1968 ductwork is not insulated properly in select locations around the building.
- Existing 20 ton DX rooftop with DX cooling and electric heat serving the media center was replaced in 2015. Hot gas reheat or other form of dehumidification is not provided.

- An Existing 5 ton DX rooftop with DX cooling and electric heat serving administration area was replaced in 2015. Hot gas reheat or other form of dehumidification is not provided.
- The kitchen and serving area has no cooling and relies on transferred air from cafeteria currently provided.
- The Gym has a 20 ton DX on-grade unit with exposed sidewall ductwork, DX cooling and gas heat was provided in 2017. Ductwork did not appear to be insulated on the exterior of building.
- Piping systems are insulated with asbestos laden material identified with warning language labeled on the insulation. Replacement will require hazardous materials remediation.

Fire Protection: The facility is not currently served by a fire sprinkler system.

Plumbing: Restroom fixtures, partitions, and accessories are in working order to the extent that deficiencies are warranted as maintenance/operations issues. Water heaters are circa 2012.

Electrical: Electrical systems for each building appear to date to the original construction for each building. Lighting has been replaced in the corridors, media center, and cafeteria with flat panel LED fixtures. Classrooms, administrative offices, and back-of-house spaces are provided with fluorescent fixtures.

Low Voltage: Fire alarm and sound system appear to date to the original construction for each building.

Design Criteria

SSOE | S&W will follow the Dekalb County School District Design Guidelines for Facility Construction, version 2018.04.04 and Dekalb County School District 2018.04.04 DCSD Design Guidelines.

SSOE | S&W has also reviewed the School Assessment Reports for the school dated May 19, 2016 and April 15, 2021. Based on our review of these reports, the scope of work and our recommendations for renovation / replacement will align with the recommendations of these reports.

Building Codes

State Minimum Standard Codes

- International Building Code (IBC), 2018 Edition w/ Georgia Amendments dated 2022
- International Fire Code (IFC), 2018 Edition as amended by OICFSC Rules and Regulations 120-3-3
- International Plumbing Code (IPC), 2018 Edition w/ Georgia Amendments dated 2022
- International Mechanical Code (IMC) 2018 Edition w/ Georgia Amendments dated 2020
- International Fuel Gas Code (IFGC) 2018 Edition w/ Georgia Amendments dated 2022
- National Electrical Code, 2020 Edition w/ Georgia Amendments dated 2022

- International Energy Conservation Code, 2015 Edition w/ Georgia Supplements and Amendments dated 2022.
- NFPA 101 Life Safety Code, 2018 Edition as amended by OICFSC Rules and Regulations 120-3-3
- Georgia Accessibility Code as adopted and amended by OICFSC Rules and Regulations 120-3-20
- ASHRAE 90.1
- ASHRAE 62.1

Life Safety Code 2018 - Chapter 43.4

The project scale per LSC Chapter 43 Building Rehabilitations definition for Renovation will apply for Kingsley Elementary School. New work shall comply with the requirements of Chapter 15 Existing Education and associated referenced sections. New interior finish materials will need to meet the requirements for new construction. The addition of sprinklers to Kingsley Elementary School may require the work to comply with Section 43.5 Modifications which requires the new work to comply with the requirements of new construction, Chapter 14 Education, and associated referenced sections.

Means of Egress occupancy load and exit capacity will be confirmed based on current Certificates of Occupancy or assumption of occupancy based on classroom occupants:

- Kingsley ES– Since no Certificate of Occupancy is available for this building, assume 40 occupants per classroom (29 classrooms = **1,120** occupants) + the cafeteria occupancy at 15 SF per occupant in **3,772** SF = **252** occupants for a total max occupancy of **1,372**, well within the calculated existing exit capacity of **2,560**, utilizing 8 double doors.

GA IBC 2020 Amendments – Section 3401

The Georgia Amendments to the 2018 IBC added Section 3401.7 'Existing System conformance' to clarify the extents of existing systems that will have to be modified to conform to the requirements of the State Minimum Standard Codes. Item #1 will require new work to be brought into conformance with the current codes if the new work is less than 50% of the replacement cost of the existing system. Item #2 will require the entire system to be made to conform to current codes if the new work is equal to or greater than 50% of the replacement cost of the existing system. Most of the proposed project scope will fall under item #2 requiring the entire system meet current code. Systems impacted will be existing mechanical, electrical, and life safety systems. Plumbing fixture replacement is not in scope.

STRATEGY

Kingsley Elementary School

HVAC Solutions

HVAC SYSTEMS DESCRIPTION:

Demolition:

- At building 2010 and 2011 remove and discard three existing 1968 split system DX units. Remove 5 associated DX condensing units on roof (due to age return to owner).
- Remove the existing HVAC 2 pipe HW terminal reheat units, and associated unit 2 pipe ventilators at entrances. Demolition will include removal of boilers, piping system, terminal units, hallway and mechanical room ductwork and associated controls.
- At Media Center in building 2010 the existing 2015 rooftop shall be reused. The Current rooftop ductwork shall be demolished and associated equipment location should be reworked to minimize horizontal rooftop ductwork.
- At Administration area in 2010 building the existing 2015 rooftop shall be reused. The current rooftop ductwork shall be demolished and replaced and associated equipment location should be reworked to minimize horizontal ductwork.
- At gym area in building 2010, the existing 2015 rooftop shall be reused. No demolition required but provide proper insulation on exterior ductwork.
- Remove existing MDF and IDF room cooling systems.

Proposed HVAC System:

- DCSD acceptable equipment manufacturers for select equipment:
 - Exhaust fans: Greenheck, Cook, Jennaire, Gaylord, Halton, CaptiveAire
 - Cooling Towers: Evapco
 - Water treatment: Superior Water Services, Inc.
 - Boilers: Ajax; Rite; Apac
 - Chillers (air cooled only): Carrier
 - Pumps: Bell & Gossett, Flo-Fab, Patterson, Taco, Inc. and Armstrong
 - Dehumidification Units: Munters
 - Heat Exchangers: Sondex Inc.
 - Flow Controls and Balancing Valves for Supply and Return Line Assemblies: Flow Design, Inc., Griswold, Bell & Gossett
 - Automated Temperature Controls and Energy Management System: Direct digital control system sole source is STAEFA TALON. Submit listing of control points for approval by DeKalb County School District.
 - Building automation system controls shall be Web Control by CCI only.

- BUILDING 2010, 2011

Description of Heating, Air Conditioning, and Ventilation Systems to be completely furnished and installed shall include, but not be limited to, the following:

- The heating and air conditioning of the new classrooms will be provided by water source heat pumps. This year-round system will consist of horizontal above-the-ceiling heat pumps sized to handle the individual zones served. The system shall tie

into a two-pipe closed water loop maintained throughout the year in a temperature range of between 60 deg. F and 100 deg F. The temperature range shall be maintained by supplemental heating being injected into the water loop, and cooling shall be maintained by the rate of heat rejection capability of the cooling tower. Heating is introduced by gas-fired boilers (or electric boilers, based on owner's preference) located in the mechanical equipment room. Boilers shall be sized to have two units at 60% load each and cooling is supplied by a cooling towers and plate and frame heat exchangers (type 304 Stainless Steel). One heat pump will serve each classroom and hallways shall have dedicated heat pump. Approximately 50 heat pumps

- Water in the loop is distributed throughout the building to the heat pumps by variable speed circulating pumps located in the mechanical room. Each pump system shall have a lead pump and standby pump.
- Cooling tower shall be approximately 150 tons
- The cooling tower fan and associated condenser water pumps shall be variable speed drive.
- Ventilation air shall be introduced into the classrooms by a constant volume, 100 percent outside air units with heat reclaim via an exhaust air heat exchanger. Air shall be supplied into the building via horizontal ducts in the ceiling cavity following treatment of air by an air to air energy recovery unit. Each wing shall be provided with its own energy recovery unit.
- The internal surfaces of air units, heat pumps, plenums, supply and return ductwork, etc. shall be protected during construction from dirt, dust and debris. These items shall be clean when the systems are turned over to the Owner.
- The new water source heat pumps shall be equipped with a quick opening/slow closing two-way solenoid water valve for variable speed pumping requirements. Water Source Heat Pumps shall be provided with hot-gas reheat for humidity control.
- Ionic generation by Global Plasma Solutions shall be used in the supply ductwork of the new heat pumps to improve air quality and help mitigate the proliferation of COVID-19. The whole building will have ionic generation.
- Provide the highest Minimum Efficiency Reporting Value (MERV) applicable for the HVAC units (WSHP and DOAS). MERV 13 is recommended minimum if equipment can accommodate pressure drop and MERV 14 is preferred.
- During a Pandemic event, the HVAC control system shall have the capability to disable any Demand Control Ventilation (DCV) and introduce the maximum possible OA flow 24/7 until the event expires.
- IDF rooms will be cooled utilizing a split system air conditioning unit with condensing unit mounted on roof.

- Electrical rooms will be cooled utilizing a split system air conditioning unit with condensing unit mounted on roof.
- Space air diffusers, registers and grilles shall be complimentary to the ceiling spaces utilized in the individual spaces.
 - New packaged HVAC systems will be used for: Cafeteria (30 tons), Stage Area (3 tons), Serving Area (3 tons), and Kitchen Area (5 tons).
 - Existing packaged DX HVAC systems will be reused for Administration Area, Media Area and Gymnasium: select exterior ductwork on rooftop/exterior to the building will be reworked to clean up existing mess.
 - Three New energy recovery units shall be provided to minimize horizontal ductwork . Each classroom shall receive 240-300 cfm
 - All ductwork systems will be galvanized steel constructed per the latest SMACNA Standards. Ductwork between the ENERGY RECOVERY UNIT will be constructed to 2" pressure requirements. Energy recovery units will supply
 - All ductwork will be insulated with a FSK faced blanket insulation that has an installed R-value of 4.2 or greater. For exposed ductwork less than 8' above the finished floor, provide rigid duct board insulation with aluminum jacketing. Provide with glass-fab tape and low-VOC vapor barrier mastic. Foil tape is not acceptable even for patching tears.
 - Split systems
 - Air-cooled split systems will be provided to cool IDF rooms to allow these spaces to be placed on backup power systems.
 - Wall mounted or ceiling cassette split system fan coil units with condensate pumps will be provided for each space. Wall mounted thermostats by the manufacturer will be provided.
 - Air-cooled outdoor units will be located on the roof or at grade.

Additional Requirements

- DDC Controls:
 - Direct digital control (DDC) controls will be utilized for all equipment. Individual microprocessor based digital equipment controllers with a standalone building management system that will report to a central local area network for building global communications from a central location. All major equipment controllers

will have standalone capability with respect to the specific equipment in each system that is served from a dedicated control panel.

- The DDC system for this facility will consist of a central building controller connected to lower-level application specific equipment controllers through a local area network cable system. The central building controller in this facility will include the interface necessary for internet-based access. However, the DDC controllers will have stand-alone operational capability, with the respective equipment related to each system served from a dedicated control panel. The central building controller will be equipped to connect to a laptop computer for local set point adjustment.
 - Individual room/zone temperature control will be provided through wall mounted temperature sensors with local timed override and user temperature set point adjustment within 2 degrees of building management system (BMS) set point at 1-degree intervals.
 - Each classroom, and other high occupancy areas will include a humidity sensor to provide input so that systems can be manipulated to maintain space humidity below the set point. Classrooms shall have occupancy sensors to control HVAC setback.
 - Each classroom will also include a CO₂ sensor to indicate occupancy. The CO₂ sensor will be used to modulate the outside air level to maintain space the CO₂ differential set point.
 - The BMS will be capable of displaying status, entering & leaving conditions, etc. for all equipment. This system will be capable of trending simultaneous control points. This system will also be capable of individual user IDs & passwords with multiple levels of access to the BMS. The BMS will be accessible to allow authorized users over through a secure internet interface.
- TESTING, ADJUSTING AND BALANCING (TAB):
- All airside equipment will require a comprehensive testing and balancing process by an AABC or NEBB certified firm.
 - The TAB contractor will be a third-party firm not a subcontractor of the mechanical and/or plumbing contractor.
 - All reports will be submitted on AABC or NEBB forms.

- COMMISSIONING:
 - The owner will be responsible for obtaining the services of a qualified commissioning agent capable of the level of commission (basic or enhanced commissioning).
 - The mechanical contractor, DDC contractor and all of their sub-contractors will provide all necessary support required to complete the commissioning process.

Kingsley Elementary School

Electrical Solutions

Demolition

- Existing lighting fixtures in Administrative Areas, Cafeteria and corridors are 2'x4' LED flat panel type and will remain in their current configuration.
- An existing natural gas generator, estimated at 150KW and Automatic Transfer Switches are mounted outdoors. The downstream panelboards and transformers for the apparent emergency and optional standby systems are located in the Main Mechanical Room. This equipment will need to be separated/moved from the mechanical equipment, and branch circuit modifications will be required. See architectural sketch.

Power Distribution

- Existing surface raceways and devices (receptacles, teacher station outlets, data, etc.) should be replaced with an aluminum dual compartment type surface raceway with new devices to match existing and DCSD guidelines.
- Provide GFCI type receptacle outlets at HACR equipment and in utility spaces.
- Replace existing service entrance switchboard rated at 1600A, 480Y/277V, 3ph, 4w.
- Provide new power distribution equipment to match existing equipment to include panel boards (480V and 208V), step down transformers and disconnect switches.
- Provide dedicated spaces for new power distribution equipment that will replace existing equipment currently located in Custodian Rooms and near water piping.
- Provide surge protective devices at Main Service, sources serving roof top mounted equipment and sensitive electronic loads.
- Provide a generator docking station for maintenance, 100A, 480Y/277V, 3ph, 4w.
- Provide fault current study, arc flash hazard study and coordination study. The emergency system shall be selectively coordinated.

Lighting Fixtures and Controls

- Gymnasium lighting consists of continuous rows of 2T8 fluorescent turret industrial lighting fixtures. Lighting fixtures should be replaced with high bay LED.
- Existing outdoor wall pack lighting fixtures are original retrofitted with LED and compact fluorescent screw in lamps. Outdoor lighting fixtures mounted on walls and underside of soffits and canopies shall be replaced with LED lighting fixtures.

- Replace existing lighting in classrooms, storage rooms and back of house spaces with new LED lighting fixtures.
- Provide new LED exit signs throughout.
- Provide occupancy and vacancy controls throughout. Corridors shall be time clock controlled.
- Lighting switches shall be lowered to ADA mounting heights.
- Provide elementary school level theatrical lighting batten and lighting instruments and dimming control console.

Low Voltage

- Remove abandoned equipment and low voltage cabling from above the ceilings and roof.
- Replace existing intercommunications and time clock system with new to include headend equipment, call stations, speakers, and cabling.

Fire Alarm

- Replace existing fire alarm control panel, power boosters, Digital Alarm Communicator Transmitter, initiation devices (smoke detectors, pull stations), notification appliances (strobes, strobe/horns, bells) and cabling with a new fully addressable and code compliant coverage throughout the facility. Provide voice evacuation control for assembly areas (cafeteria, gymnasium, Media Center).
- Provide testing for an Emergency Responders Radio Coverage System and include allowance for a new system.

Kingsley Elementary School Life Safety Solutions

- Provide complete wet system automatic sprinkler throughout the building in accordance with NFPA 13, & 24 latest edition, Georgia State Minimum Standard Fire Prevention Code (International Fire Code), 2018 Edition, State of Georgia Chapter 120-3-3 "Rules of Safety Fire Commissioner, Rules and Regulations. The system shall and consist of the following major elements:
- The building will have a post indicator valve, backflow preventer, and rough brass wall mounted fire department connection provided in accordance with NFPA 24, "Standard for the Installation of Private Fire Service Mains and their Appurtenances" as amended by 120-3-3.
- Provide fire department hose and test connections as and where required by the Fire Marshal.
- Provide pressure reducing stations as required if main water pressure fluctuates and exceeds fire protection system working pressure.
- Fire Sprinkler Heads:
 - Suspended Ceiling Types: Semi-recessed pendent type with matching push on two-piece escutcheon plate. Finish: Chrome. Escutcheon Plate Finish: Enamel, chrome.
 - Gypsum Board Ceiling Type: Concealed pendent type with cover plate. Sprinkler Finish: Brass. Cover Plate Finish: White.
 - Exposed Area Type: Standard upright type with guard when below 8'-0" AFF. Finish: Brass.
 - Sidewall Type: Standard horizontal sidewall type with matching push on two-piece escutcheon plate. Finish: Chrome. Escutcheon Plate Finish: Enamel, chrome.
- The fire protection design will include a minimum of 10 psi safety factor to allow for future losses in the water service pressure characteristics
- Automatic sprinkler system materials:
 - Buried piping: ductile iron pipe, ansi-21.51, 250 psi minimum working pressure with slip-on joints, ansi-a21.11.
 - Above Ground Piping: Black carbon steel pipe. 2-inch and Smaller: ASTM-A-135, Grade A, schedule 40 with 175 lb. black threaded cast iron fittings. 2-1/2-inch thru 6-inch: ASTM-A-135, ASTM-A-53, grade A, schedule 10 with malleable iron grooved pipe fittings.

Kingsley Elementary School Plumbing Solutions

- All existing water heaters and recirculating pumps will be replaced with new.

Kingsley Elementary School Site Improvement Solutions

Based on visual site review, the following site modification items will be included in the scope of work:

- Provide a new fire line branch from existing 8" fire hydrant line with a new vault outside the building. New line will go to existing mechanical room and split into 2 risers.



^ Kingsley Elementary School Utility Plan

Kingsley Elementary School Architectural Solutions

ROOFING:

Although the existing modified bitumen roof is not included in the DCSD Scope of work, we observed roof leaks in multiple locations and the roof system is nearing the end of its estimated useful life. Due to the duration of ongoing roof leaks, the underlying insulation is most likely waterlogged. Full replacement is recommended. Borings will be required to reduce the square-footage of insulation replacement and/or recommend a roof cover-over.

CEILINGS:

Although the existing ceilings are not included in the DCSD Scope of work, per our review of the existing acoustical ceiling panels and grid systems, the ceilings appear to be in fair shape. With the scope of work identified by the electrical, HVAC, and new fire sprinkler, it is our opinion that the existing acoustical ceilings would not be salvageable or re-useable. We are recommending replacement of all acoustical ceiling systems.

Demolition: All acoustical ceiling panel systems will be removed and discarded in association with replacement of building lighting and HVAC systems, including acoustical panels, metal grid, and hangars.

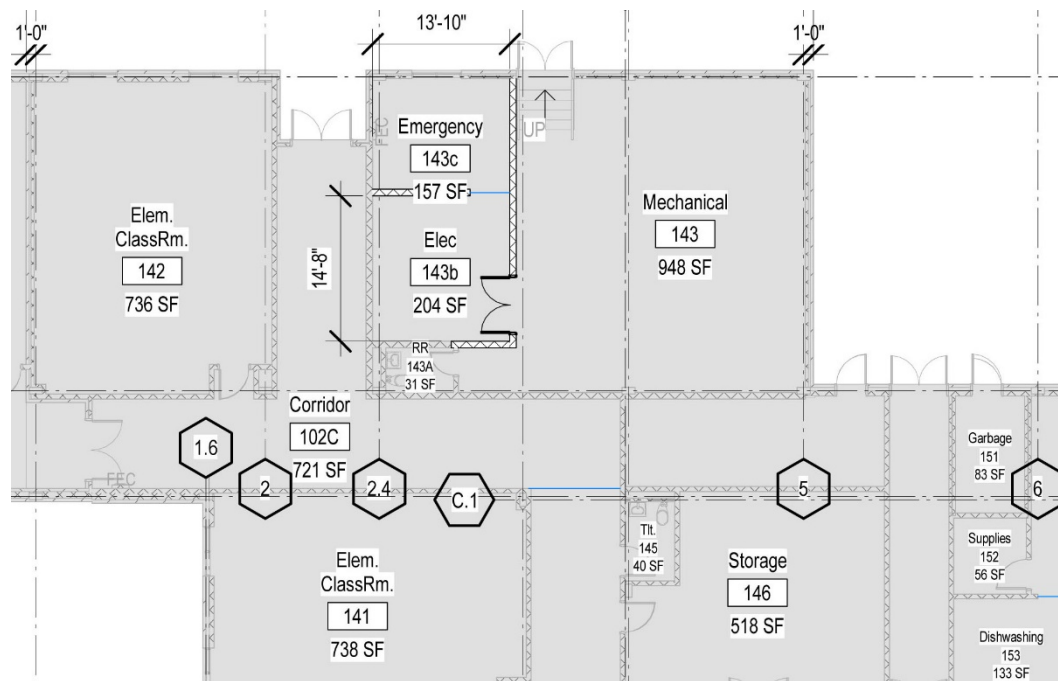
All existing devices to remain mounted to the existing ceiling will be identified, removed, bagged and tagged and placed above ceiling, or otherwise protected during construction for re-installation after construction. These devices include LED lighting, smoke detectors, cameras, and wireless devices.

New 2x2 acoustical panel ceilings will replace demolished ceilings unless noted otherwise. Ceiling tiles basis of design to be 24 x 24 format - Armstrong Ceilings Cortega 770. Ceiling grid basis of design to be 15/16" exposed tee grids – Armstrong Prelude. Scrubbable ceiling tiles will be provided in the kitchen and restroom areas.

Existing finishes to be repaired as needed for patching or repairing areas affected by HVAC and electrical modifications. This should include repainting of all hard ceilings due to lighting replacement.

MECH-ELEC ROOM:

Electrical main and emergency distribution is required to be in a separate room from the mechanical and fire riser equipment and demised by a wall. The resulting equipment layout will be different from existing conditions. New walls will be CMU to deck with hollow metal doors.



^ Kingsley Elementary School Mechanical and Electrical Room Plan

Kingsley Elementary School Executive Summary

Kingsley Elementary School will undergo a building systems-focused renovation due to the age and current condition of the systems. SSOE | S&W recommends the following scope of work:

The HVAC systems at classrooms will be replaced with new equipment to provide a 2 pipe water source heat pump system. Existing packaged units will be re-used for administration, media center, and gymnasium, with new ductwork. New roof top packaged equipment will provide cooling for the kitchen, serving area, cafeteria, and stage.

The electrical system replacement will include switchboards, panels, branch circuit wiring and feeders, outlets, and light switches. New LED lighting will replace existing lighting in classrooms and gymnasium.

Modification of the existing mechanical room is proposed to accommodate a new electrical room.

Fire alarm, intercom, and clock systems will be replaced.

The facility will be provided with a fire sprinkler system.

All acoustical ceiling tile systems will be replaced.

Existing roofing will be removed and replaced with a modified bitumen built-up roof.

Architectural finishes will be patched and finished where required due to other renovation work.

Our cost analysis indicates a potential cost for this project of **\$6,871,052**. This is approximately a 363% increase over the stated budget of **\$1,890,945** with considerable additional scope added for this report. The cost analysis detail document is included at the end of this report.

APPENDIX A

PRELIMINARY ASSESSMENT ANALYSIS For The KINGSLEY ES MAJOR BLDG SYSTEM REPLACEMENT Atlanta, Georgia

Prepared: September 13, 2021

Revised:

| CODE | DESCRIPTION | QTY | UNIT | COST | TOTAL |
|------|-------------|-----|------|------|-------|
|------|-------------|-----|------|------|-------|

RENOVATION SUMMARY

| <u>SCOPE ITEMS</u> | <u>Project Costs</u> | <u>Cost/SF</u> |
|--|----------------------|----------------|
| A. REPLACE HVAC SYSTEMS | 1,523,456 | 24.74 |
| B. REPLACE ELECTRICAL SYSTEMS AND LIGHTING | 2,246,207 | 36.48 |
| C. REPLACE PLUMBING FIXTURES | 57,626 | 0.94 |
| D. REPLACE FIRE ALARM, COMM, & CLOCK SYSTEMS | 637,748 | 10.36 |
| E. PROVIDE FIRE SPRINKLER SYSTEM | 358,549 | 5.82 |
| F. REPLACE ACOUSTICAL CEILING TILE SYSTEM | 404,799 | 6.57 |
| G. MODIFY ROOM LAYOUT FOR NEW ELEC RM | 64,746 | 1.05 |
| H. PROVIDE LIFT SYSTEM AT STAGE | 50,039 | 0.81 |
| I. REPLACE ROOFING SYSTEM | 1,527,882 | 24.81 |

| | | |
|-----------------------------|--------------|-----------|
| BUILDING CONSTRUCTION COSTS | \$ 6,871,052 | \$ 111.58 |
|-----------------------------|--------------|-----------|

61,577 SF

| | | |
|----------------------------------|--------------|----------|
| PROPOSED SCL CONSTRUCTION BUDGET | \$ 1,890,945 | \$ 30.71 |
|----------------------------------|--------------|----------|

(OVER IN RED/UNDER IN BLACK) \$ (4,980,107)

HAZARDOUS ABATEMENT IS EXCLUDED

| CODE | DESCRIPTION | QTY | UNIT | COST | TOTAL |
|------|-------------|-----|------|------|-------|
|------|-------------|-----|------|------|-------|

RENOVATION DETAIL

A. REPLACE HVAC SYSTEMS

| | | | | | |
|-------|---|--------|----|-----------|---------|
| A1010 | Demo HVAC Systems - Classrooms | 46,897 | SF | 1.50 | 70,346 |
| A1011 | Demo HVAC Systems - Cafeteria | 3,921 | SF | 1.50 | 5,882 |
| A1012 | Demo HVAC Systems - Stage | 928 | SF | 1.50 | 1,392 |
| A1013 | Demo HVAC Systems - Serving | 301 | SF | 1.50 | 452 |
| A1014 | Demo HVAC Systems - Kitchen | 1,074 | SF | 1.50 | 1,611 |
| A1015 | New HVAC Systems - Classrooms - 2 pipe water source l | 46,897 | SF | 17.50 | 820,698 |
| A1016 | New HVAC Systems - Cafeteria | 3,921 | SF | 17.50 | 68,618 |
| A1017 | New HVAC Systems - Stage | 928 | SF | 17.50 | 16,240 |
| A1018 | New HVAC Systems - Serving | 301 | SF | 17.50 | 5,268 |
| A1019 | New HVAC Systems - Kitchen \ | 1,074 | SF | 17.50 | 18,795 |
| A1020 | DDC Controls for areas not in above new HVAC | 8,456 | SF | 4.00 | 33,824 |
| A1021 | Cooling Tower for 150 Tons | 1 | LS | 25,000.00 | 25,000 |
| A1022 | Replace Cooling Systems at MDF & IDF rooms | 1 | LS | 25,000.00 | 25,000 |
| A1023 | Demo and Replace Ductwork at Admin | 3,232 | SF | 5.00 | 16,160 |
| A1024 | Insulate Rooftop Ductwork at Gym | 5,511 | SF | 1.00 | 5,511 |
| A1025 | Rework Rooftop ductwork at Media to minimize rooftop ductwork | 4,690 | SF | 3.00 | 14,070 |

Replace HVAC Subtotal **1,128,864**

| | | |
|---------------------------------|-------|---------|
| GENERAL REQUIREMENTS/CONDITIONS | 7.0% | 79,020 |
| FEE | 5.0% | 60,394 |
| PERMITS, INSURANCES, AND BONDS | 4.0% | 50,731 |
| DESIGN CONTINGENCY | 10.0% | 131,901 |
| ESCALATION (5% Per Year) | 5.0% | 72,546 |

REPLACE HVAC TOTAL **\$ 1,523,456**

COST/SF **61,577 SF** **\$ 24.74**

B. REPLACE ELECTRICAL SYSTEM AND LIGHTING

| | | | | | |
|-------|--|--------|----|-----------|---------|
| B1010 | Demo Power Distribution Systems | 61,577 | SF | 2.00 | 123,154 |
| B1011 | New Power Distriibution Sytems | 61,577 | SF | 12.50 | 769,713 |
| B1012 | Demo Lighting | 61,577 | SF | 1.25 | 76,971 |
| B1013 | New LED Lighting (Admin & Cafeteria Remain) | 46,929 | SF | 8.00 | 375,432 |
| B1014 | New Gym Lighting - High Bay LED Lights | 4,796 | SF | 10.00 | 47,960 |
| B1015 | New Exterior Building Mounted LED Security Lights | 61,577 | SF | 1.00 | 61,577 |
| B1016 | Provide Occupancy and Vacancy Controls (cooridors on c | 50,215 | SF | 0.50 | 25,108 |
| B1017 | Lower Light Switches to ADA Height | 1 | LS | 40,000.00 | 40,000 |
| B1018 | Provide ES Level Theatrical Lighting and Dimming | 1 | LS | 25,000.00 | 25,000 |

| CODE | DESCRIPTION | QTY | UNIT | COST | TOTAL |
|---------------------------------|-----------------------------|---------------|-----------|-----------|---------------------|
| B1019 | <i>Emergency System:</i> | | | | |
| B1020 | 150KW Generator (Existing) | 1 | LS | 10,000.00 | 10,000 |
| B1021 | Emergency Panels | 1 | LS | 40,000.00 | 40,000 |
| B1022 | Emergency Feeder Circuits | 1 | LS | 65,000.00 | 65,000 |
| B1023 | Chain Link Security Fencing | 60 | LF | 75.00 | 4,500 |
| Replace Elec Subtotal | | | | | 1,664,414 |
| GENERAL REQUIREMENTS/CONDITIONS | | | 7.0% | | 116,509 |
| FEE | | | 5.0% | | 89,046 |
| PERMITS, INSURANCES, AND BONDS | | | 4.0% | | 74,799 |
| DESIGN CONTINGENCY | | | 10.0% | | 194,477 |
| ESCALATION (5% Per Year) | | | 5.0% | | 106,962 |
| REPLACE ELEC TOTAL | | | | | \$ 2,246,207 |
| COST/SF | | 61,577 | SF | | \$ 36.48 |

C. REPLACE PLUMBING FIXTURES

| | | | | | |
|----------------------------------|---|---------------|-----------|-----------|------------------|
| C1010 | Demo Water Heaters | 2 | EA | 500.00 | 1,000 |
| C1011 | Demo Recirculating Pumps | 2 | EA | 250.00 | 500 |
| C1012 | Gas Water Heater - 80 Gal | 2 | EA | 10,350.00 | 20,700 |
| C1013 | DHW System Recirculating Pumps | 2 | EA | 1,050.00 | 2,100 |
| C1014 | Gas Piping Connection to Equipment | 12 | EA | 554.19 | 6,650 |
| C1015 | Patch/Repair Ceramic Tile - Allowance | 1 | LS | 1,250.00 | 1,250 |
| C1016 | Dom Water - Reduced Pressure Zone - Allowance | 1 | EA | 10,500.00 | 10,500 |
| Replace Plumbing Subtotal | | | | | 42,700 |
| GENERAL REQUIREMENTS/CONDITIONS | | | 7.0% | | 2,989 |
| FEE | | | 5.0% | | 2,284 |
| PERMITS, INSURANCES, AND BONDS | | | 4.0% | | 1,919 |
| DESIGN CONTINGENCY | | | 10.0% | | 4,989 |
| ESCALATION (5% Per Year) | | | 5.0% | | 2,744 |
| REPLACE PLUMBING TOTAL | | | | | \$ 57,626 |
| COST/SF | | 61,577 | SF | | \$ 0.94 |

| CODE | DESCRIPTION | QTY | UNIT | COST | TOTAL |
|------|-------------|-----|------|------|-------|
|------|-------------|-----|------|------|-------|

D. REPLACE FIRE ALARM, COMM, & CLOCK SYSTEMS

| | | | | | |
|-------|--------------------------------------|--------|----|--------|---------|
| D1010 | Demo Existing Fire Alarm System | 61,577 | SF | 0.50 | 30,789 |
| D1011 | New Fire Alarm System | 61,577 | SF | 3.50 | 215,520 |
| D1012 | Demo Existing Intercom System | 61,577 | SF | 0.25 | 15,394 |
| D1013 | New Intercom System | 61,577 | SF | 1.75 | 107,760 |
| D1014 | Demo Existing Clock System | 61,577 | SF | 0.15 | 9,237 |
| D1015 | New Clock System | 61,577 | SF | 1.50 | 92,366 |
| D1016 | Patch/Repair CMU Walls - Allowance | 1 | LS | 750.00 | 750 |
| D1016 | Touch-up Paint CMU Walls - Allowance | 1 | LS | 750.00 | 750 |

FA, Comm, Clock Subtotal 472,564

| | | |
|---------------------------------|-------|--------|
| GENERAL REQUIREMENTS/CONDITIONS | 7.0% | 33,079 |
| FEE | 5.0% | 25,282 |
| PERMITS, INSURANCES, AND BONDS | 4.0% | 21,237 |
| DESIGN CONTINGENCY | 10.0% | 55,216 |
| ESCALATION (5% Per Year) | 5.0% | 30,369 |

FA, COMM, CLOCK TOTAL \$ 637,748

COST/SF 61,577 SF \$ 10.36

E. PROVIDE FIRE SPRINKLER SYSTEM

| | | | | | |
|-------|--|--------|----|-----------|---------|
| E1010 | New Fire Sprinkler System | 61,577 | SF | 3.00 | 184,731 |
| E1011 | Demo Landscaping/Sod/Fixtures - Allowance | 1 | LS | 1,500.00 | 1,500 |
| E1013 | Fire Line - Remove Street For Tie-In | 580 | SF | 15.00 | 8,700 |
| E1014 | Fire Line - 8" DIP Fire Line To Building | 400 | LF | 75.00 | 30,000 |
| E1015 | Fire Line -Tap Into Existing Water Line | 1 | EA | 2,000.00 | 2,000 |
| E1016 | Fire Line - New Post Indicator Valve | 1 | EA | 2,250.00 | 2,250 |
| E1017 | Fire Line - New Double Detector Check System | 1 | EA | 17,500.00 | 17,500 |
| E1018 | Fire Line - New Wall Mtd Fire Dept Connector | 1 | EA | 2,500.00 | 2,500 |
| E1019 | Fire Line - Repair Street | 580 | SF | 25.00 | 14,500 |
| E1020 | Replace Landscaping/Sod/Fixtures - Allowance | 1 | LS | 2,000.00 | 2,000 |

Sprinkler Subtotal 265,681

| | | |
|---------------------------------|-------|--------|
| GENERAL REQUIREMENTS/CONDITIONS | 7.0% | 18,598 |
| FEE | 5.0% | 14,214 |
| PERMITS, INSURANCES, AND BONDS | 4.0% | 11,940 |
| DESIGN CONTINGENCY | 10.0% | 31,043 |
| ESCALATION (5% Per Year) | 5.0% | 17,074 |

SPRINKLER TOTAL \$ 358,549

COST/SF 61,577 SF \$ 5.82

| CODE | DESCRIPTION | QTY | UNIT | COST | TOTAL |
|--|---|--------|------|----------|---------|
| F. REPLACE ACOUSTICAL CEILING TILE SYSTEM | | | | | |
| F1010 | Demo/Remove Existing ACT Ceiling System | 50,309 | SF | 1.00 | 50,309 |
| F1011 | Demo/Remove Ceilings At Kitchen | 1,720 | SF | 2.00 | 3,440 |
| F1012 | Demo/Remove GWB Ceilings | 4,720 | SF | 3.00 | 14,160 |
| F1013 | Bag & Tag Extg Lighting/Smk Det/Cameras - Allowance | 56,749 | SF | 0.18 | 9,931 |
| F1014 | New 2x2 ACT Ceiling System/W/ Grid | 50,309 | SF | 3.50 | 176,082 |
| F1015 | New 2x2 ACT Ceiling System/W/ Grid - Scrubbable | 1,720 | SF | 3.50 | 6,020 |
| F1016 | New GWB Ceilings | 4,720 | SF | 8.00 | 37,760 |
| F1017 | Patch 8" CMU Wall - Allowance | 1 | LS | 750.00 | 750 |
| F1018 | Touch-up Paint At Int Walls - Allowance | 1 | LS | 1,500.00 | 1,500 |

ACT System Subtotal 299,952

| | | |
|---------------------------------|-------|--------|
| GENERAL REQUIREMENTS/CONDITIONS | 7.0% | 20,997 |
| FEE | 5.0% | 16,047 |
| PERMITS, INSURANCES, AND BONDS | 4.0% | 13,480 |
| DESIGN CONTINGENCY | 10.0% | 35,048 |
| ESCALATION (5% Per Year) | 5.0% | 19,276 |

ACT SYSTEM TOTAL \$ 404,799

COST/SF 61,577 SF \$ 6.57

G. MODIFY ROOM LAYOUT FOR NEW ELEC RM

| | | | | | |
|-------|--|-------|----|-------------------|-------------------|
| G1010 | Remove/Replace Furniture - By Owner | - | LS | NIC | NIC |
| G1011 | Remove/Store Classroom Fixtures - Allowance | 1 | LS | 500.00 | 500 |
| G1012 | Demo ACT Ceiling | - | SF | <i>incl above</i> | <i>incl above</i> |
| G1014 | Demo Extg VCT Flooring/Base | 834 | SF | 1.50 | 1,251 |
| G1016 | Sawcut CMU/Concrete At Demo - Allowance | 1 | LS | 750.00 | 750 |
| G1017 | Demo/Remove Doors And Frames - Single | 2 | EA | 50.00 | 100 |
| G1018 | Demo/Remove Int CMU PartitionWalls | 350 | SF | 2.00 | 700 |
| G1019 | Demo/Remove SOG At Now Plumbing - Allowance | 45 | SF | 15.00 | 675 |
| G1020 | SS Line Fom Ne RR To Extg Group RR - Allowance | 1 | LS | 1,250.00 | 1,250 |
| G1021 | Concrete Slab Fill-in At New RR Plumbing | 25 | SF | 35.00 | 875 |
| G1022 | Patch/Prep Extg Int Concrete SOG At Demo | 1,400 | SF | 0.10 | 140 |
| G1023 | Repair Extg CMU Partitions At Wall Demo | 60 | SF | 15.00 | 900 |
| G1024 | Patch/Prep Extg CMU Partitions To Remain | 2,000 | SF | 0.25 | 500 |
| G1025 | New 8" CMU Interior Partitions | 600 | SF | 15.00 | 9,000 |
| G1026 | Grout Fill At 8" CMU Ext Wall (50%) | 300 | SF | 3.50 | 1,050 |
| G1027 | HM Frm/SC Wood Door - 3-0 x 7-0 - Single | 3 | EA | 1,150.00 | 3,450 |
| G1028 | HM Frm/SC Wood Door - 3-0 x 7-0 - Pair | 1 | EA | 2,250.00 | 2,250 |
| G1029 | Interior Finish Hardware - Per Leaf | 5 | EA | 550.00 | 2,750 |
| G1030 | Ceramic Floor Tile In RRs | 90 | SF | 11.00 | 990 |
| G1031 | Ceramic Tile Base In RRs | 40 | SF | 11.50 | 460 |
| G1032 | Floor Finish - VCT | 1,200 | SF | 4.50 | 5,400 |
| G1033 | Floor Finish - Sealed Concrete At New Elect Rm | 400 | SF | 4.50 | 1,800 |
| G1034 | Paint Existing CMU Partitions | 1,100 | SF | 2.00 | 2,200 |

| CODE | DESCRIPTION | QTY | UNIT | COST | TOTAL |
|---------------------------------|---|---------------|-----------|-------------------|-------------------|
| G1035 | Paint New CMU Partitions | 1,200 | SF | 2.00 | 2,400 |
| G1036 | Paint Interior Doors/Frames | 8 | EA | 50.00 | 400 |
| G1038 | New ACT Ceiling | - | SF | <i>incl above</i> | <i>incl above</i> |
| G1039 | New PL Base Cabinets W/ PL Countertop | 6 | LF | 225.00 | 1,350 |
| G1040 | New Sink Fixture - Complete | 1 | LS | 2,800.00 | 2,800 |
| G1041 | New Toilet Fixture - Complete | 1 | LS | 2,600.00 | 2,600 |
| G1042 | Handicap Grab Bars | 2 | EA | 75.00 | 150 |
| G1043 | Toilet Tissue Holder - Double Roll | 1 | EA | 65.00 | 65 |
| G1044 | Toilet Seat Cover Dispenser | 1 | EA | 85.00 | 85 |
| G1045 | Sanitary Napkin Disposal | 1 | EA | 110.00 | 110 |
| G1046 | Coat/Towel Hooks | 1 | EA | 35.00 | 35 |
| G1047 | Framed Mirror - 2'-0W x 3'-6"H | 1 | EA | 135.00 | 135 |
| G1048 | Hand Soap Dispenser | 1 | EA | 55.00 | 55 |
| G1049 | Paper Towel Disp/Waste Receptacle | 1 | EA | 300.00 | 300 |
| G1050 | Replace Existing Classroom Fixtures - Allowance | 1 | LS | 500.00 | 500 |
| Modify Rooms Subtotal | | | | | 47,976 |
| GENERAL REQUIREMENTS/CONDITIONS | | | 7.0% | | 3,358 |
| FEE | | | 5.0% | | 2,567 |
| PERMITS, INSURANCES, AND BONDS | | | 4.0% | | 2,156 |
| DESIGN CONTINGENCY | | | 10.0% | | 5,606 |
| ESCALATION (5% Per Year) | | | 5.0% | | 3,083 |
| MODIFY ROOMS TOTAL | | | | | \$ 64,746 |
| COST/SF | | 56,066 | SF | | \$ 1.15 |

H. PROVIDE LIFT SYSTEM AT STAGE

| | | | | | |
|-------|--|-----|----|-------------------|-------------------|
| H1010 | Remove/Replace Furniture - By Owner | - | LS | <i>NIC</i> | <i>NIC</i> |
| H1011 | Demo ACT Ceiling At Cafeteria | - | SF | <i>incl above</i> | <i>incl above</i> |
| H1012 | Demo Extg VCT Flooring/Base Stor Rm | 54 | SF | 1.50 | 81 |
| H1013 | Sawcut CMU/Concrete At Demo - Allowance | 1 | LS | 750.00 | 750 |
| H1014 | Demo/Remove Doors And Frames - Single | 1 | SF | 50.00 | 50 |
| H1015 | Demo/Remove Int GWB Partition Walls At Stor Rm | 216 | SF | 2.50 | 540 |
| H1016 | Demo/Remove CMU Wall At Stage | 81 | SF | 7.50 | 608 |
| H1017 | Patch/Prep Extg Int Concrete SOG At Demo | 54 | SF | 4.00 | 216 |
| H1018 | Patch/Prep Extg CMU Partitions To Remain | 377 | SF | 1.00 | 377 |
| H1019 | Modify/Tooth New CMU to Extg | 41 | SF | 15.00 | 615 |
| H1020 | New 8" CMU Interior Partitions | 216 | SF | 17.50 | 3,780 |
| H1021 | Grout Fill At 8" CMU Ext Wall (50%) | 108 | SF | 3.50 | 378 |
| H1022 | New GWB Interior Partitions | 42 | SF | 15.00 | 630 |
| H1023 | New GWB Bulkhead | 35 | SF | 8.50 | 298 |
| H1024 | HM Frm/SC Wood Door - 3-0 x 7-0 - Single | 1 | EA | 1,150.00 | 1,150 |
| H1025 | Interior Finish Hardware - Per Leaf | 1 | EA | 550.00 | 550 |
| H1026 | Floor Finish - VCT | 45 | SF | 4.50 | 203 |
| H1027 | Floor Finish - Sealed Concrete | 24 | SF | 5.00 | 120 |
| H1028 | Paint Existing CMU Partitions | 377 | SF | 2.50 | 943 |

| CODE | DESCRIPTION | QTY | UNIT | COST | TOTAL |
|-------|--|-----|------|----------|----------|
| H1029 | Paint New CMU Partitions | 448 | SF | 2.50 | 1,120 |
| H1030 | Paint GWB Interior Partitions | 42 | SF | 2.00 | 84 |
| H1031 | Paint GWB Bulkhead | 15 | SF | 4.00 | 60 |
| H1032 | Paint Interior Doors/Frames | 1 | EA | 50.00 | 50 |
| H1033 | New ACT Ceiling At New Classrooms | 36 | SF | 4.50 | 162 |
| H1027 | HDCP Lift At Corridor | 1 | EA | 22,500 | 22,500 |
| H1028 | Wheelchair Lift Power Circuit - Complete | 1 | LS | 1,815.00 | 1,815.00 |

Provide Lift Subtotal 37,078

| | | |
|---------------------------------|-------|-------|
| GENERAL REQUIREMENTS/CONDITIONS | 7.0% | 2,595 |
| FEE | 5.0% | 1,984 |
| PERMITS, INSURANCES, AND BONDS | 4.0% | 1,666 |
| DESIGN CONTINGENCY | 10.0% | 4,332 |
| ESCALATION (5% Per Year) | 5.0% | 2,383 |

PROVIDE LIFT TOTAL \$ 50,039

COST/SF 56,066 SF \$ 0.89

I. REPLACE ROOFING SYSTEM

| | | | | | |
|-------|--|--------|----|-------|---------|
| J1010 | Demo/Remove Modified Bitumous Roofing System | 56,066 | SF | 2.00 | 112,132 |
| J1011 | Demo/Remove Metal Parapet Coping | 1,619 | LF | 1.50 | 2,429 |
| J1012 | New Modified Bitumen Roof System (Gym NIC) | 56,066 | SF | 17.50 | 981,155 |
| J1013 | New Metal Parapet Coping | 1,619 | LF | 22.50 | 36,428 |

Roof System Subtotal 1,132,143

| | | |
|---------------------------------|-------|---------|
| GENERAL REQUIREMENTS/CONDITIONS | 7.0% | 79,250 |
| FEE | 5.0% | 60,570 |
| PERMITS, INSURANCES, AND BONDS | 4.0% | 50,879 |
| DESIGN CONTINGENCY | 10.0% | 132,284 |
| ESCALATION (5% Per Year) | 5.0% | 72,756 |

ROOF SYSTEM TOTAL \$ 1,527,882

COST/SF 56,066 SF \$ 27.25