AXIOMCONSULTANTS
A RUEKERT & MIELKE COMPANY

300 S. Clinton St. #200, Iowa City, IA 52240
(319) 519-6220

ALLAMAKEE CSD MIDDLE SCHOOL HVAC UPGRADE
WAUKON, IOWA

ADDENDUM 01
March 2, 2026

GENERAL

APPROVED SUBSTITUTION REQUESTS:

Specification Section: 15830 Terminal Units
Item: VAV Boxes
Manufacturer: Anemostat

Specification Section: 15830 Terminal Units
Item: Hot Water Unit Heaters
Manufacturer: Vulcan Radiator

Specification Section: 15880 Fire Dampers
Item: Fire Dampers
Manufacturer: Anemostat Arrow by Mestek

Specification Section: 15910 Ductwork Accessories
Item: Dampers
Manufacturer: Anemostat Arrow by Mestek

SPECIFICATIONS:

S-1 Section **00 010 – TABLE OF CONTENTS**
1. **REPLACE** original section in its entirety with the attached specification section.

S-2 Section **01 100 – SUMMARY**
1. **REPLACE** original section in its entirety with the attached specification section.

S-3 Section **15 482 – FACTORY FABRICATED PACKAGED HEATING MAKEUP AIR UNIT**
1. **ADD** attached specification section in its entirety.

S-4 Section **15 865 – ENERGY RECOVERY VENTILATORS**
1. **REPLACE** original section in its entirety with the attached specification section.

DRAWINGS:

D1-1 Drawing **D-101A – DEMO MECHANICAL & ELECTRICAL PLAN – AREA A**
1. Added general demo notes.
2. Added electrical demo keynote D5 to all HVAC equipment to be demolished that weren't previously keynoted.

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D1-2 Drawing **D-101B – DEMO MECHANICAL & ELECTRICAL PLAN – AREA B**

1. Added general demo notes.
2. Added the demolition of existing conduit and conductors to the existing campus sectionalizer.
3. Added electrical demo keynote D5 to existing HW radiant heater.

D1-3 Drawing **D-110 – DEMO LIGHTING PLAN – OVERALL**

1. Added the demolition of all existing light fixtures and controls in admin area and added a note describing this.

D1-4 Drawing **D-110A – DEMO LIGHTING PLAN – AREA A**

1. Added the demolition of a light switch in the boy's locker room.
2. Removed demolition of light switches on south wall of gymnasium.
3. Added the demolition of cafeteria ceiling mounted round speakers.
4. Removed the demolition of ceiling mounted occupancy sensors in the kitchen.
5. Added the demolition of all existing light fixtures and controls in admin area.

D1-5 Drawing **D-110B – DEMO LIGHTING PLAN – AREA B**

1. Removed the demolition of a light switch in the gymnasium.

D1-6 Drawing **D-201 – DEMO MECHANICAL & ELECTRICAL ROOF PLAN - OVERALL**

1. Added electrical demo keynote D5 to existing walk-in cooler condensers above the kitchen.

M1-1 Drawing **M-101A – MECHANICAL PLAN – AREA A**

1. Added remaining Admin spaces and offices to DOAS-6 system and added mini-split systems to provide heating and cooling to the associated spaces.
2. Removed VAV-1 and VAV-2.
3. Revised kitchen hood makeup and associated ductwork to be provided by individual makeup air units MAU-1, MAU-2, and MAU-3 (one per cooking exhaust hood).
4. Revised UV-9 to be ceiling cassette style unit ventilator.

M1-2 Drawing **M-101B – MECHANICAL PLAN – AREA B**

1. Relocated humidistat for DH-1 to DOAS-1 return ductwork.
2. Show existing make-up air unit to remain.

M1-3 Drawing **M-101C – MECHANICAL PLAN – AREA C**

1. Relocated humidistat for DH-3 to existing DOAS S return ductwork.

M1-4 Drawing **M-101D – MECHANICAL PLAN – AREA D**

1. Relocated humidistat for DH-2 to existing DOAS N return ductwork.

M1-5 Drawing **M-111A – MECHANICAL PIPING & CONTROLS PLAN – AREA A**

1. Added remaining Admin spaces and offices to DOAS-6 system and added mini-split systems to provide heating and cooling to the associated spaces. Added associated controls, refrigerant piping, and condensate piping.
2. Revised UV-9 to be ceiling cassette style unit ventilator.

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3. Revised gas piping to new HVAC equipment to be standalone branch ran from mechanical room.

M1-6 Drawing **M-111B – MECHANICAL PIPING & CONTROLS PLAN – AREA B**
1. Revised gas piping to new HVAC equipment to be standalone branch ran from mechanical room.

M1-7 Drawing **M-111C – MECHANICAL PIPING & CONTROLS PLAN – AREA C**
1. Show soft water piping connection to DH-3.

M1-8 Drawing **M-111D – MECHANICAL PIPING & CONTROLS PLAN – AREA D**
1. Show soft water piping connection to DH-2.

M1-9 Drawing **M-201 – MECHANICAL ROOF PLAN**
1. Revised kitchen hood makeup to be provided by individual makeup air units MAU-1, MAU-2, and MAU-3 (one per cooking exhaust hood).
2. Revised gas piping to make-up air units accordingly.

M1-10 Drawing **M-503 – MECHANICAL DETAILS**
1. Added Natural Gas Flow Diagram.

M1-11 Drawing **M-601 – MECHANICAL SCHEDULES**
1. Removed VAV-1 & VAV-2.
2. Revised UV-9 to be ceiling cassette style unit ventilator.
3. Added UV-11, UV-12, UV-13, UV-14, UV-15, UV-16, and associated CU-4.
4. Revised MAU-1 selection, refer to sheet M-604 for updated selection.

M1-12 Drawing **M-602 – MECHANICAL SCHEDULES**
1. Added remaining Admin spaces and offices to airflow matrix.

M1-13 Drawing **M-604 – MECHANICAL SCHEDULES**
1. Added Direct-Fired Make-Up Air Unit Schedule including MAU-1, MAU-2, and MAU-3 selections.

M1-14 Drawing **M-802 – HVAC CONTROLS**
1. Added note regarding thermostat set point of Radiant Heating Panels Sequence of Operation.

ME1-1 Drawing **ME101 – DEMO MECHANICAL & ELECTRICAL PLANS – HIGH SCHOOL**
1. Added electrical demo keynote D5 to existing DOAS unit and existing exhaust fan above the high school.

ME1-2 Drawing **ME102 –MECHANICAL & ELECTRICAL PLANS – HIGH SCHOOL**
1. Added thermostat and smoke detector.

ME1-3 Drawing **ME103 – MECHANICAL & ELECTRICAL PLANS – EAST ELEMENTARY**
1. Added clarification which specifies that disconnects for the proposed unit heaters shall be provided by the mechanical contractor.

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2. Revised entering water temperature (EWT) of UH-1 and UH-2.

E1-1 Drawing **E-101 – ELECTRICAL PLAN – OVERALL**

1. Added circuit for one (1) new outdoor condensing unit.
2. Revise DH-3 (Alternate #2) circuit to panel HJ.
3. Revise EF-1 circuit to panel HJ.
4. Revised MAU-1 circuit and added (2) additional circuits to feed three (3) smaller MAU's: MAU-1, MAU-2 and MAU-3.
5. Revised DOAS-5 circuit to panel K-1.
6. Revised KEF-circuit to existing spare circuit K-1-22.

E1-2 Drawing **E-101A – ELECTRICAL PLAN – AREA A**

1. Added circuit for one (1) new outdoor condensing unit, six (6) new unit ventilators, and one (1) new branch box for the north admin area.
2. Added note to provide new conduit and conductors for CE-1 while re-using the existing breaker.
3. Added note to circuit new exhaust fan to the existing lighting circuit.
4. Revised electrical keynote E5.

E1-3 Drawing **E-101B – ELECTRICAL PLAN – AREA B**

1. Revised electrical keynote E2.
2. Revised Alternate #2 note.

E1-4 Drawing **E-102 – ELECTRICAL ROOF PLAN**

1. Revised circuit for roof-mounted MAU-1 to three (3) smaller roof-mounted MAU's.
2. Added convenience receptacle circuits and disconnects for new MAU's.
3. Created enlarged view of equipment on the kitchen's roof to clearly see each piece of equipment's circuiting.
4. EF-1 is now powered by panel HJ.
5. DOAS-5 is now powered by panel K-1.
6. KEF-1 is now on existing spare circuit K-1-22.

E1-5 Drawing **E-110 – LIGHTING PLAN - OVERALL**

1. Added lighting fixtures to north Admin area and the janitor's closet near the kitchen.

E1-6 Drawing **E-110A – LIGHTING PLAN – AREA A**

1. Added proposed lighting fixtures, smoke detectors, occupancy sensors, light switches, square ceiling mounted speakers, and room controllers in north Admin area and the janitor's closet near the kitchen.
2. Added proposed square ceiling-mounted speakers to south Admin area.
3. Added proposed lighting fixtures in janitor's closet near kitchen.
4. Revised light switch type and zoning control in the gymnasium.

E1-7 Drawing **E-110B – LIGHTING PLAN – AREA B**

1. Revised light switch type and zoning control in the gymnasium, stage, and auditorium.
2. Revised Alternate #3 note.
3. Revised Lighting Note #6.

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E1-8 Drawing **E-601 – ELECTRICAL EQUIPMENT SCHEDULE**

1. Revised electrical keynotes E2 and E5.
2. Revised wire sizes in Motor and Equipment Schedule.
3. Added circuit for CU-4, BB-2, and UV's.
4. Revised amperage load for condensing unit and unit ventilator circuits.
5. Revised MCA for all condensing unit and unit ventilator circuits.
6. Revised MOCP for CU-2 & CU-3 circuits.
7. Added note to all condensing unit and unit ventilator circuits to wire a condensate pump to each unit ventilator.
8. Added note to DOAS-4 to clarify equipment is part of Alternate #3.
9. Replaced MAU-1 with three units: MAU-1, MAU-2, and MAU-3.

E1-9 Drawing **E-602 – LIGHTING SCHEDULES**

1. Revised descriptions Lighting Control Sequence of Operation #4 & #7
2. Added note to Lighting Control Sequence of Operation for the electrical contractor to provide new control wiring.

E1-10 Drawing **E-603 – ELECTRICAL PANEL SCHEDULES**

1. Revised SWBD bus rating and mains rating to 2000A.
2. Revised DH-3 circuit to panel HJ with 70A/3P breaker.
3. Revised EF-1 circuit to panel HJ with 15A/1P breaker.
4. Added circuit for new condensing unit, branch box, and unit ventilators to panel HJ with 70A/2P breaker.
5. Revised DH-3 circuit to panel HJ with 70A/3P breaker.
6. Revised DOAS-5 circuit to panel K-1 with 70A/3P breaker.
7. Revised KEF-3 circuit to use existing 20A/1P spare breaker in panel K-1.
8. Revised DOAS and MAU receptacle circuits and DOAS light circuits to spare on panel K-1 with 20A/1P breaker.
9. Revised MAU-1 circuit to panel K-1 with 20A/2P breaker.
10. Added MAU-2 circuit to panel K-1 with 20A/2P breaker.
11. Added MAU-3 circuit to panel K-1 with 20A/2P breaker.

E1-11 Drawing **E-604 – ELECTRICAL PANEL SCHEDULES**

1. Removed DOAS-5 from panel DB.
2. Revised mains type of Panel A to MLO.

E1-12 Drawing **E-605 – ELECTRICAL PANEL SCHEDULES - PHOTOS**

1. Removed pictures of panels HI, HF, and K-1.
2. Revised note for existing 20A/3P circuit breaker in 25, 27, 29 on panel L11 to be noted as spare.

Enclosure:
Architectural Addendum
Plans Holders List

END OF ADDENDUM 01

March 2, 2026

Design Dynamics, Inc.
3745 Center Point Road, NE
Cedar Rapids, IA 52402
319-298-0400
Robert Peck, AIA, LEED AP
robertp@designdynamics.biz

Allamakee Community School District
Waukon Middle School HVAC Upgrade

Location: Waukon**, Iowa**

ADDENDUM NUMBER 1

TO ALL HOLDERS OF PLANS AND SPECIFICATIONS:
This addendum is issued to incorporate the following changes in the plans and specifications DATED: February 20, 2026. For bids to be considered, this addendum must be acknowledged by the bidders by so indicating on the Bid Proposal form.

The Contractor shall make the following corrections or additions to the bidding documents. These items shall supersede, modify, and/or change all statements or drawings to the contrary in the plans and specifications and shall take precedence over these documents. Bidders shall base their bid on the plans and specifications and as modified by the changes herein stated.

Contents:

DDI Addendum 1 (1 page)
DDI Sheets A.1, A.2, A.3, A.4 and A.5

ARCHITECTURAL SPECIFICATIONS:

1. Section 09511, Acoustical Panel Ceilings, 2.3, Acoustical Panels, 1.: Change to read as follows: Armstrong, School Zone Fine Fissured #1713

ARCHITECTURAL DRAWINGS:

1. Replace Sheets A.1, A.2, A.3, A.4, and A.5 in their entirety.
2. Sheet A.10, Room Finish Schedule: Remove the VCT (vinyl composite tile) and VB (vinyl base) form room numbers 119 Boiler Room and 201 Library.

ADDENDUM 1

END OF DOCUMENT 00010

SECTION 01100
SUMMARY
ADDENDUM ONE

PART 1.
GENERAL

1.1. SUMMARY

A. This Section includes the following:
1. Work covered by the Contract Documents
2. Work phases.
3. Work under other contracts.
4. Use of premises.
5. Owner's occupancy requirements.
6. Specification formats and conventions.

B. The Design Professional estimates the construction cost of the base bid and alternate work as follows.
1. To Provide Base Bid (excluding the base bid control alternate) plus Allowance at the Middle School HVAC Upgrades is estimated between $1,526,000 and $2,344,000.
2. Alternate No.1 to provide control system alternate for base bid work, excluding controls for alternate work is estimated between $170,000 and $200,000.
3. Alternate No. 2 to provide Humidification system s for base bid DOAS and air handling systems including controls are estimated between $60,000 and $80,000.
4. Alternate No. 3 to provide Total Remodeling work specified for Middle School Stage and Auditorium is estimated between $330,000 $380,000.
5. Alternate No. 4 to provide new hot water heaters, piping, controls, electrical service, at East Elementary School Stage is estimated between $12,000 and $25,000.
6. Alternate No. 5 to provide new stage curtains at the East Elementary School and the Middle School Stage is estimated between $5,000 and $10,000.
7. Alternate No. 6 to replace windows at East Elementary School as indicated is estimated between $$15,000 and $20,000.
8. Alternate No.7 to provide new floors to replace old asbestos tiles at East Elementary School as specified is estimated between $46,800 and $60,800
9. Alternate No. 8 to provide new lights for Middle School Auditorium and Gymnasium is estimated between $7,500 and $10,500.

1.2. WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Allamakee Community School District, Middle School HVAC Upgrade
1. General Project Location: Middle School and High School, Waukon, Iowa for base bid and control system work for the base bid, some alternate work.
2. Alternate Work Location: East Elementary School

B. Owner: Allamakee Community School District
1. Owner's Representative: Superintendent Jay Mathis, 563.568.3409
2. Director of Facilities: Tyler Plein, 563.568.3409

3. Superintendent Mathis may designate another District employee as his representative to attend project meetings.

C. Design Professionals:
   1. Mechanical and Electrical: Contact Joe Lomheim, Axiom Consultants, Iowa City at 712-490-5533.
   2. Architectural and Structural: Contact Robert Peck, Design Dynamics, Cedar Rapids at 319-298-0400.
   3. Overall Design Coordination: Contact Victor Amoroso, A&J Associates at 319-333-9955.

   The Work consists of the following:
   4. The Middle School work shall be completed in one overall phase that will allow the new HVAC system to provide heat over the 2026-2027 fall/winter heating season by October 16, 2026, and the cooling and ventilation components to provide cooling and ventilation by August 14, 2026.
   5. Base bid and alternate work inside classrooms must be completed on or before August 7, 2026.
   6. Security cameras, fire alarms, corridor floors, new domestic water piping, and waste and vent to and from existing plumbing fixtures, and new entryways must be completed on or before August 7, 2026. Contractor shall prepare work schedules, overtime, and off normal working hours to meet these deadlines.
   7. The work shall include the heating upgrades and shall occur during the spring/summer/fall seasons, and shall not disrupt classes.
   8. The base bid work shall include the following major items.
      (1) Remove existing hot water classroom unit ventilators as specified. Provide new perimeter heating radiant panels or strips as specified. Provide new insulated metal covers over the outdoor intake opening on the interior walls under base bid and alternate bids to provide new windows and ACM panels at the window openings. Remove thermostats, controllers, control wiring connected to the removed class room unit ventilators.
      (2) Coordinate the removal of the unit ventilators with asbestos floor tile and mastic removal within the rooms in the specified project area. Asbestos and lead paint remediation / removal shall be provided by the Owner under separate contracts.
      (3) Coordinate the removal of items for offsite storage with hazardous material (asbestos and lead paint) abatement and removal contractor and Allamakee CSD.
      (4) Provide new hot water heating piping, control valves, isolation and balance valves to new perimeter radiant heating panels and strips.
      (5) Remove electrical and communication wiring and conduit/raceway serving components specified to be removed to the last active service. Do not abandon in place any disconnected wiring.
      (6) Remove existing control system components including hot water control valves, control dampers, thermostats, air compressors and instruments for components specified to be removed on the drawings including the unit ventilators. Remove control wiring and pneumatic control tubing between controllers and controlled items specified to be removed
      (7) Dispose of removed items in a lawful manner.
      (8) Connect the new Middle School HVAC control systems to the existing High School, Middle School, and West Elementary School campus control system head end components located in the Middle School and the alternate control work at East Elementary School to the East Elementary School controls system.

(9) Provide ductless mini split air conditioning air cooled heat pumps to provide cooling and heating to the Middle School classrooms and specified office areas indicated under both base and alternate bids.
(10) Provide a new dedicated outside air systems (DOAS) to supply and exhaust ventilation air to the individual rooms, and to provide back- up heating for the ductless mini split heat pump systems.
(11) Provide supply and return/exhaust system ductwork to distribute ventilation air from the roof top DOAS systems.
(12) Provide miscellaneous heating and ventilation components such as fin tubes, radiant heating strips, radiant heating panels, fans and hot water unit heaters to provide supplemental heating and ventilation.
(13) Provide new central station air conditioning units for the Middle School Kitchen, Dining, Woodworking classroom, and Art Room spaces.
(14) Provide new refrigerant piping for the ductless mini split systems that will provide either cooling or heating depending on the season.
(15) Provide new electric equipment and wiring and make electrical connections to new mechanical equipment and new lighting.
(16) In new drop ceilings provide new communication and power wire for speakers in new drop ceilings, rerouting of communication wiring for new projector locations, new power outlets for new projector locations, and corridor security cameras that must be dropped in new ceilings.
(17) Test and balance the revised existing hot water heating system before and after new hot water piping has been installed.
(18) Test and balance the DOAS and central system air handling units' air side and the new ducted air distribution system under both Base Bid and Alternates.
(19) Test for sound levels in rooms with new HVAC ductless mini split units under both base bid and Alternates.
(20) Remove existing light fixtures in classroom indicated. Reuse some of the removed light fixes in the attic spaces as indicated on the drawings. Turn over the removed fixtures not used in the attic spaces to the district. Provide new LED lights and associated lighting controls in the classrooms and corridors indicated in Middle School. Coordinate this light fixture exchange with the District.
(21) Remove existing windows under both base bid and alternates as specified on the drawings.
(22) Provide new windows as indicated. Include structural lintels for all new windows under base bid and alternate work.
(23) Provide manual roller shades for the base bid class rooms, and for class rooms indicated on the drawings under the different alternates.
(24) Remove failing masonry work around windows and ceramic tiles above and around the windows and refinish as specified on the drawings.
(25) Provide new acoustical tile ceilings as indicated on the drawings. Refer to architectural drawings for all locations. New ceilings are required for both Base Bid work and Alternate work.
(26) Relocate existing ceiling mounted devices such as speakers, carbon monoxide detectors, security cameras, fire/smoke detectors and miscellaneous items in the new ceilings. Extend communication and power wiring to new locations for these ceiling mounted items. **Security cameras shall be reinstalled and made functional before school starts after summer recess.**
(27) Provide new walls and enclosures where indicated on the drawings.
(28) Provide new room doors and reuse existing hardware or replace with new hardware as indicated on the drawings and in the specifications.

(29) Seal duct, pipe and conduit penetrations made in corridor walls and floors. **Provide fire dampers at any and all duct penetrations of the corridor fire walls, and at cross corridor fire barriers indicated on the architectural drawings.**
(30) Under the base bid and alternate work touch up paint all walls in all rooms where any construction work is specified to occur, and in any other rooms so indicated on the drawings.
(31) Repair draft stops in the attic spaces as indicated on the drawings. Blow in fiberglass insulation into the attic to replace that was removed or disturbed e during construction, and supplement existing compacted insulation to the depth specified on the drawings.
(32) Provide pitched roof structural reinforcement as indicated on the drawings.
(33) Provide incidental fire alarm system connection from new or relocated fire alarm to the existing fire alarm system throughout project area indicated
(34) Provide patch and repair of walls and floors around the locations where the existing floor mounted unit ventilators were removed and not returned to that space.
(35) Provide replacement flooring material for areas where hazardous materials (asbestos floor tiles) are specified to be removed under both base bid and alternate work.
(36) Provide city street/road, asphalt parking lot, sidewalk, landscape repair required because of damage caused by the project construction.
(37) Personnel removing and reinstalling the existing security cameras shall be technicians certified to work on security systems. The contractor shall submit the qualifications of the proposed individuals who will be working on the security camera system.
(38) The Owner currently has a carbon monoxide (CO) sensing system installed in the project areas. This existing CO system is not “tied” into the fire alarm system. Provide new CO monitors as required by IBC to monitor and control CO levels in class rooms served by the new gas fired DOAS units. Also, tie the new CO monitors into the existing CO alarm system.
(39) Provide new heating hot water boiler circulating pumps as indicated on the drawings. Provide incidental power, boiler interface controls, insulation and supports for the new pumps.
(40) Provide new refrigeration equipment for the kitchen walk in cooler and freezer. Remove existing equipment and dispose of lawfully. Provide new refrigerant piping, refrigerant, electrical connections, calking, roof repair, incidental architectural patching, and support structures for the outdoor condensing units.
(41) Provide new replacement transformer and transformer pad, new conduit and conductors for primary and secondary voltage sides. Transformer installation shall be in accordance with Alliant Energy standards and specifications.
(42) Provide new ventilation and air conditioning systems for the Middle School and High School locker rooms and associated coaches offices.
(43) Any alternate work shall include the necessary demolition work specified to precede the alternate work.

9. The Contractor shall coordinate all aspects of the work with the services schedule of Allamakee Community School District.

D. Project will be constructed under a single prime contract.

E. The Owner will provide the following under separate contracts.

1. Testing and remediation or removal of any asbestos containing material or lead paint in the project area will be provided by the Owner.
2. Refer to the Special Conditions Section of the Project Manual for more specifics on the hazardous material in the project area.
3. There may be asbestos in the existing pipe fittings and in the pipe tunnels
4. Asbestos has been found in the existing floor tiles.
5. Asbestos has been found in the old built up roofing material that is covered with blown in insulation.
6. Flexible connectors in existing air handling units specified to be removed and replaced contain asbestos material.
7. The presence of any lead paint will have to be determined by testing under a separate contract.
8. The project work shall be coordinated and phased with the hazardous material removal and abatement work.

F. **The roofs at the Middle School have existing warranties maintained by the following listed roofing contractor. The contractor shall contact this roofing contractor to do any needed roofing repair on the project. Modifications to the roof to place equipment and to make the necessary penetrations shall be in accordance with requirements of the existing roof warranties, and per recommendations of the roofing contractor.**
   1. **Moss Roofing, 310Highway 150 South, West Union, Iowa 52175.**
   2. **Telephone contact is 563-422-3331.**
   3. **Contact is Chris Moss.**

1.3. USE OF PREMISES

A. General: Contractor will have full use of the existing Middle School and East Elementary School boiler rooms, and electric equipment rooms, for construction operations, including use of Project site, during the construction period regardless of whether students are in session or not. The only limitation to the full access is that Contractor shall not crane in equipment and materials to the roof and attic areas whenever the students are occupying the building.
B. The Contractor will have use and access to the entire Middle School and East Elementary School when the students are away for the summer break.
C. Storage of construction related materials and access to the School shall be coordinated with the Superintendent Mathis or his designate.
D. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
   1. Owner Occupancy: Allow for continuous Owner and separate contractor occupancy of Project site and use by the public.
   2. Driveways and Entrances: Keep driveways, loading areas, alley ways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
      a. Schedule deliveries to minimize use of driveways and entrances.
      b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
   3. The playground areas located as indicated on the drawings shall not be used for contractor material and equipment storage. The contractor shall not stage or place equipment on the playground surfaces unless there is no other way to complete the construction. An example of this might be installation of new windows on the north, south and east sides of the school buildings. Any such ex-

traordinary use of the playground areas shall be cleared with the Superintendent and Director of Facilities.

E. Use of Existing Building: Maintain existing building in a weather-tight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.
   1. Place protective surfaces on existing gym floors when performing work in the gym areas.
   2. Contractor shall provide temporary weather proofing material while removing old windows and replacing with new windows.

1.4. OWNER'S OCCUPANCY REQUIREMENTS

A. Full Owner Occupancy: Owner will occupy the School premises adjacent to the equipment rooms and the existing boiler rooms and other rooms during part of the construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits, unless otherwise indicated.
   1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
   2. **Construction activities shall not cause the displacement of students during the official school year. Contractors shall work off hour shifts and on weekends during the school year when students are scheduled to be in the classrooms as needed to complete the work.**
   3. **Contractors may work any time when students are in school in areas where the student will not be. This would include the existing boiler rooms, utility tunnels and outside of the buildings.**

B. Owner Use of Completed Parts of Construction: Owner reserves the right to use equipment in completed areas of building, before Substantial Completion of the entire project, provided such use does not interfere with completion of the Work. Such use of equipment shall not constitute acceptance of the total Work.
   1. Contractor may prepare a Certificate of Substantial Completion for the entire project that recognizes early use of portions of the project.
   2. Design Professional and Owner will review the phased substantial completion request and reject or approve the phase substantial completion request. The Owner’s and Design Professional’s decision is final.
   3. **Note that Substantial Completion denotes the request for all payment except for the retainage held back. The Date of Substantial Completion does not start the warranty period.**

1.5. SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format and CSI/CSC's "Master Format" numbering system.
   1. Division 1: Sections in Division 1 govern the execution of the Work of all Sections in the Specifications.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
    1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
    2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
        a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.6. PROJECT REPORTING

A. Refer to pay application requirements for reporting.

1.7. SALVAGE OF REMOVED ITEMS

A. The Contractor shall remove and dispose of all items indicated on the drawings to be removed in a lawful manner.

B. Under the base bid or alternates the Owner has no intention of claiming the hot water heaters, unit ventilators, control valves, steam traps, ceiling components, pumps for salvage, unless specifically indicated on the drawings.

C. Turn over the removed light fixtures to the Owner. Coordinate the turn over with the Director of Facilities, Tyler Plein.

D. The Owner will remove the existing window air conditioning units and retain those units for salvage.

1.8. ALTERNATES

1. Alternate No.1 Provide control system alternate ABB/Automatrix for base bid work, excluding controls for alternate work.
2. Alternate No. 2 Provide Humidification system for base bid DOAS and air handling systems including ABB/Automatrix controls.
3. Alternate No. 3 Provide total remodeling work specified for Middle School Stage and Auditorium.
4. Alternate No. 4 to provide new hot water heaters, piping, controls, electrical service, for the East Elementary School stage.
5. Alternate No. 5 to provide new stage curtains at the East Elementary School Stage and at the Middle School stage.
6. Alternate No. 6 to replace windows East Elementary School as indicated.
7. Alternate No.7 to provide new floors to replace old asbestos tiles as specified for East Elementary School.

8. Alternate No. 8 to provide new lights for Middle School Auditorium and Gymnasium.

1.9 ALLOWANCE

A. Refer to Special Conditions for contract requirements for the allowances specified.

PART 2. PRODUCTS (Not Used)

PART 3. EXECUTION (Not Used)

SECTION 15482
FACTORY FABRICATED PACKAGED HEATING MAKE-UP AIR UNITS
Addendum One

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes modular packaged heating units capable of supplying up to 100 percent outdoor air.

B. The units shall be provided by Captive Air or Design Professional approved equivalent.

1.2 QUALITY ASSURANCE

A. ETL-Listed to the American National Standard/CSA Standard for Gas Unit Heaters and Gas-Fired Duct Furnaces ANSI Z83.4, CSA 3.7.

B. ETL-Listed to the American National Standard/CSA Standard for Gas Unit Heaters and Gas-Fired Duct Furnaces ANSI Z83.4, CSA 3.7, and Z83.18. (Recirculating)

C. The Safety Control Board is ETL-Listed to standards UL 60730-2-9, UL 60730-1; CSA E60730-1, and CSA E60730-2-9.

1.3 WARRANTY

A. All units are provided with the following 2-year standard warranty.

PART 2 - PRODUCTS

2.1 GENERAL ASSEMBLY

A. Unit(s) shall be factory assembled, tested and shipped as a complete packaged assembly, for indoor or outdoor mounting, consisting of the following specifications, deliver all capacities scheduled, and conform to design indicated herein. Alternate layouts or dimensional changes will not be accepted.

2.2 CABINET

A. Unit(s) shall be constructed of minimum 20-gauge G-90 galvanized steel riveted together via structural pop-rivets. All metal shall be CNC bent for precise assembly.

1. Base Construction: The base shall be constructed of galvanized steel for improved rigidity. Base shall be structurally reinforced to accommodate the blower assembly and burner.
2. Rigging Provisions: The unit shall have a structural base constructed of minimum 14-gauge G-90 galvanized steel, and include lifting points on all four sides.
3. Roof Construction: Roof shall be pitched to allow for proper drainage.
4. Exterior Wall Construction: All exterior walls shall consist of insulated galvanized steel construction.
5. Service Access Doors: All door jambs shall be gasketed around their perimeter. Doors may be mounted via spring actuated, stainless steel hinges with stainless steel rivets, and self-compressing stainless steel pad lockable latches or through removable sliding panels.

6. Each compartment shall have removable access panels to allow for ease of service and maintainability. Electrical cabinet doors shall be outfitted with manual pouches mounted on the door, along with wiring diagram attached to the indoor from the factory.

B. Entire interior and exterior casing shall be constructed of minimum 20-gauge G-90 galvanized steel with no painting, and shall have undergone a salt spray corrosion test as per ASTM B 117.

C. An observation port shall be located on the exterior of the unit for observation of the main flame and pilot flame. All controls, gas valves, modulating controls and electrical components shall be mounted within the burner vestibule. The burner vestibule shall be an integral part of the unit and not extend outside the exterior casing of the unit and not exposed to the main air stream.

2.3 AIRFLOW CONFIGURATIONS

A. Refer to drawings and equipment schedules for intake and discharge configuration.

B. 100 percent outdoor air unit - The intake airflow configuration shall be through use of a fresh/outdoor Damper.

1. Damper: Manufacturer shall provide and install on unit, when possible, a two-position, motor-operated damper with internal end switch to energize the blower-starter circuit, when damper is 80% open. Blades shall be a maximum of 6" wide 16-gauge G-90 galvanized steel and shall be made to guarantee the absence of noticeable vibration at design air velocities. Damper blades are to be mounted on friction-free synthetic bearings. Damper edges shall have PVC coated polyester fabric mechanically locked into blade edge. Jamb seals used are flexible metal, compression type. Dampers shall exceed AMCA Class 1A standard for low leakage.
2. Insulated Damper: Shall be thermally broken with an insulation R-value = 5.
3. Discharge Diffuser: Shall be constructed of G-90 galvanized steel with horizontal and vertical blades capable of four-way diffusion.
4. Actuator: A single direct drive damper actuator shall be used with spring return to ensure that the outdoor air section opens when not powered.

2.4 SUPPLY AIR BLOWER AND MOTOR

A. All supply fans shall be:

1. Direct Drive: Blower assembly shall consist of a centrifugal backward inclined, non-overloading wheel secured directly to a heavy-duty, ball bearing type motor via two set screws. The motor and wheel assembly shall be mounted to a heavy gauge galvanized steel frame. The motor shall be controlled by a variable frequency drive, allowing for variable airflow without the need of belts and pulleys.
2. Direct drive variable frequency drive control shall be used for balancing air flow. It shall not be used to vary flow during operation.

B. Blower Motor: Motor shall be a premium efficiency motor available as:

1. Totally Enclosed Fan Cooled (TEFC) motor driven by a Variable Frequency Drive.

2. Electronically Commutated Motor (ECM).

C. Fans to be selected at or near efficiency peak. Check fan curves provided with job.

D. Blower and motor assembly shall be dynamically balanced. The entire blower and motor assembly shall be mounted on rubber vibration isolators. Wheels balanced as per AMCA 204-96; Balance Quality and Vibration Levels for fans.

2.5 VARIABLE AIR VOLUME FOR AIR FLOW BALANCING

A. VFD Manual - Blower will communicate with VFD. VFD will run at user defined static speed set through HMI.

B. ECM Manual - PWM output signal for ECM. ECM speed set by user through HMI.

2.6 SHAFTS AND BEARINGS

A. Shafts shall be precision ground and polished. Heavy duty, pre-lubricated bearings designed for, and individually tested, specifically for use in air handling applications.

2.7 HEATING SYSTEM

A. The gas burner shall be natural gas at an inlet-supply pressure to the unit of 7” W.C. minimum natural gas.

B. Burner design shall be capable of using natural gas. Burner ignition shall be of the direct-spark design with remote flame sensing at the pilot assembly to detect the presence of flame in the burner.

C. Direct-sparking sequence shall last through the complete duration of the trial for ignition period for guaranteed light-off. Each burner ignition module shall have LED indicators for troubleshooting and a set of exposed prongs for testing flame indication signal.

D. Unit should include self-adjusting burner profile plates, which ensure proper air velocity and pressure drop across the burner for clean combustion. Spring-loaded profile plates should react to the momentum of the fresh air stream. No motors or actuators are needed to drive them, nor should they need to be manually set to a specific position. Units should be capable of variable air volume applications.

E. Each heating section shall have:

1. The burner shall have non-clogging, stainless steel combustion baffles attached to a ductile aluminum gas-supply section with no moving parts to wear out or fail. The burner shall be capable of 92% combustion efficiency with a maximum turndown ratio of up to 30 to 1.
2. Stainless steel Quick Seal Connection for gas connection.
3. Manifold and Input gas pressure gauges.
4. Inlet pressure gauge installed on the gas manifold (0-15#).
5. Inlet pressure gauge installed on the gas manifold (0-35” WC).
6. Inlet pressure gauge installed on the gas manifold (0-5#).
7. Inlet pressure gauge installed on the gas manifold (-5 to 15” WC).
8. High gas-pressure switches to disable heating if gas pressure is too high.

9. Provide the pressure gauges for the inlet gas pressure specified on the drawings.
10. Low gas pressure switch to disable heating if the gas pressure is too low.
11. Proof-of-closure switch to energize the main-burner circuit only if the motorized gas valve is in a closed position.

2.8 FILTERS

A. Provide filters as part of unit. All filters shall be furnished and installed to meet the performance requirements set forth in the schedule and as specified under another section of this work.

B. The filters shall be 2" thick, aluminum mesh coated with super-filter adhesive, aluminum mesh with polyester foam or pleated throw away. Aluminum-mesh filters shall have aluminum frames with media to be layers of slit and expanded aluminum, varying in pattern to obtain maximum depth loading. Washable 2" filters shall be enclosed in two-piece, die-cut frame with diagonal supports. Frame shall be constructed of heavy-duty beverage board. Filter media is supported on the air leaving side by a metal grid.

C. All filters shall be installed on tracks for easy removal from the unit.

D. Shall be either insulated or non-insulated constructed of G-90 galvanized steel with filters supported by internal slides and with removable access panels.

E. Unit shall have an optional adjustable pressure differential sensor for the filter bank to alert in the event of a clogged filter.

2.9 ELECTRICAL

A. All controls shall be pre-wired and housed in an insulated electrical cabinet within the unit to protect against risk of condensation.

B. All direct fired units shall be provided with single point electrical connection.

C. Unit shall be provided with a door safety switch that de-energizes the supply fan when the door is opened.

D. Units shall be provided with a factory mounted averaging intake air temperature sensor to allow for accurate intake temperature reading regardless of how the OA/RA dampers are positioned.

E. The electrical cabinet shall be outfitted with the following:

1. LED electrical cabinet service light with automatic activation upon door switch.
2. Color wiring schematics, laminated to the interior wall of the cabinet doors.
3. Factory mounted disconnect with unit bottom knockouts.
4. A LED backlit, LCD Human-Machine Interface (HMI) shall be mounted within the unit’s control cabinet to allow for all set points configuration and refrigeration system monitoring at the unit.
5. Up to 4 additional space HMIs/wall mounted sensors are available. Verify wiring and/or CAT5/6 cables will be factory or field supplied.

- Optional space HMIs shall allow for full programming capabilities and are outfitted with integral temperature and humidity sensors. Additional HMIs shall be capable of being individually averaged for space temperature/humidity readings. All HMIs shall be wired using standard CAT5/6 cables.

2.10 CONTROLS

A. Unit shall be outfitted with a control board to allow for full control of the entire unit.

B. Provide onboard air flow switch located on MUA control board to sense air flow.

C. All unit controls shall be compatible with BACnet and LonWorks based building management systems.

D. All units shall be outfitted with CASLink cloud based monitoring, which monitors every point of operation. Provides configurable automated fault alert e-mails, and remote control capabilities.

E. Integrated cellular module to provide remote connection to monitoring services to view both real time and historical unit operation. Data shall be stored a minimum of 3 years on the cloud. Data sample rate shall be a maximum of 60 seconds.

F. Temperature Control System:

1. **Discharge Temp Control (Heating)** - Unit modulates the burner flame to accurately maintain the desired discharge temperature set point and compensate for fluctuations in entering air temperature, air volume and % of OA using heating PID controls.
2. **Intake Temp Control (Ventilation Only)** - Unit controls the cooling stage(s) based on intake temperature set point(s) and compensates for fluctuations in entering air temperature, air volume and % of OA.

G. Activation Controls:

1. **Activate Based on Intake (Heating)** - Unit will activate heating when the intake temperature drops below the desired set point.
2. **Activate Based on Intake (Ventilation Only)** - Unit will activate ventilation when the intake temperature rises above the desired set point.
3. **Activate Based on Either (Heating)** - Unit will activate heating when intake temperature drops below the desired set point.
4. **Activate** fan when hood exhaust fan is activated at the related hood.

2.11 CURBS

A. Curb shall be factory assembled and constructed of 20-gauge minimum, galvanized or aluminized steel.

B. Insulation options are 1” and 2” (R13).

C. Rivet together or fully welded, depending on curb size and length.

D. Plenum curb. Refer to drawings for non-penetrating roof support.

E. Factory take-offs are available with plenum curb options.

2.12 VARIABLE FREQUENCY DRIVES

A. Provide Variable Frequency Drive for speed controlon all non-ECM direct drive supply fans.

B. All VFDs shall provide the following inherent protections:

1. Phase protection
2. Brownout protection
3. Overload/Overheat protection
4. Soft starts to protect bearings/hardware
5. Low & High voltage & over-torque protections

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine all areas and conditions under which packaged units are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.2 INSTALLATION

A. Install units in accordance with manufacturer's instructions, drawings, written specifications, manufacturer’s installation manual and all applicable building codes.

3.3 CONNECTIONS

A. Piping installation requirements are specified in other Division 15 Sections. Drawings indicate the general arrangement of piping, fittings, and specialties. Install piping to allow service and maintenance.

B. Duct installation requirements are specified in other Division 15 Sections. Drawings indicate the general arrangement of ducts.

C. Electrical connections conform to applicable requirements in Division 16 Sections.

3.4 SYSTEM START-UP

A. System start-up is performed by a factory-trained Service Technician.

SECTION 15865
ENERGY RECOVERY VENTILATORS
Addendum One

PART 1. GENERAL

1.1. SECTION INCLUDES

A. Provide the energy recovery section (fan, filter and heat recovery section only) for use with the DOAS units specified.

B. Provide the energy recovery ventilator sections for the DOAS units.

1.2. SUBMITTALS

A. Submit manufacturer's catalog cuts showing complete descriptive data.

B. Submit operating and maintenance manuals for the units.

1.3. WARRANTY

A. Provide a manufacturer’s standard warranty for a period of two (2) years from the date of final acceptance of the project by the Owner.

PART 2. PRODUCTS

2.1. MANUFACTURERS

A. Acceptable Stand Alone Energy Recovery Ventilator Manufacturers:
1. Trane
2. Renew Air
3. York
4. Greenheck
5. Design Professional Approved Equivalent

2.2. MATERIALS

A. Energy Recovery Ventilation – Energy Heat Exchanger/ Supply / Exhaust Fans
1. Energy exchange. Recovery cell shall be the energy recovery cell providing the desiccant media energy exchange. Recovery cell shall provide total energy recovery with a rotating wheel and drive motor.
2. Energy transfer shall be both sensible and latent heat
3. Unit shall be capable of operating without condensation.
4. The energy recovery system shall include powered exhaust to match the powered supply of the DOAS unit.
5. Provide fans, fan motors, filters and dampers specified.
6. Freeze protection of the unit shall be provided by Section 15950 by repositioning dampers and placing unit in the recirculation mode or by de-energizing fans as specified in the control sequence, or by slowing rotation of the wheel energy recovery.
7. Provide unit mounted disconnect switches for fan and energy recovery wheel motors.
8. Provide controllers and control to interface with the HVAC control system.

9. Capacities and efficiencies of the units shall be as specified on the drawings.
10. Provide filter racks within the ventilator to accept MERV 8 on the exhaust stream and MERV 8 on the supply air. Supply and exhaust air stream filter shall be protecting the rotating wheel media.
11. Freeze protection shall be provided by defrost control, slowing wheel rotation and by closing the outside air intake damper at outside air temperatures below set point.
12. Provide low voltage and high voltage protection for wheel motor and energy recovery low voltage controls.
13. The energy recovery ventilators shall not “backwards upon start-up of the DOAS / ERV combination.

B. Access doors shall be provided on all air entering and air leaving sides of heat exchange coils to allow for maintenance, cleaning and removal. Access doors shall be constructed per Section 15850 for air handling units.

PART 3. EXECUTION

3.1. INSTALLATION

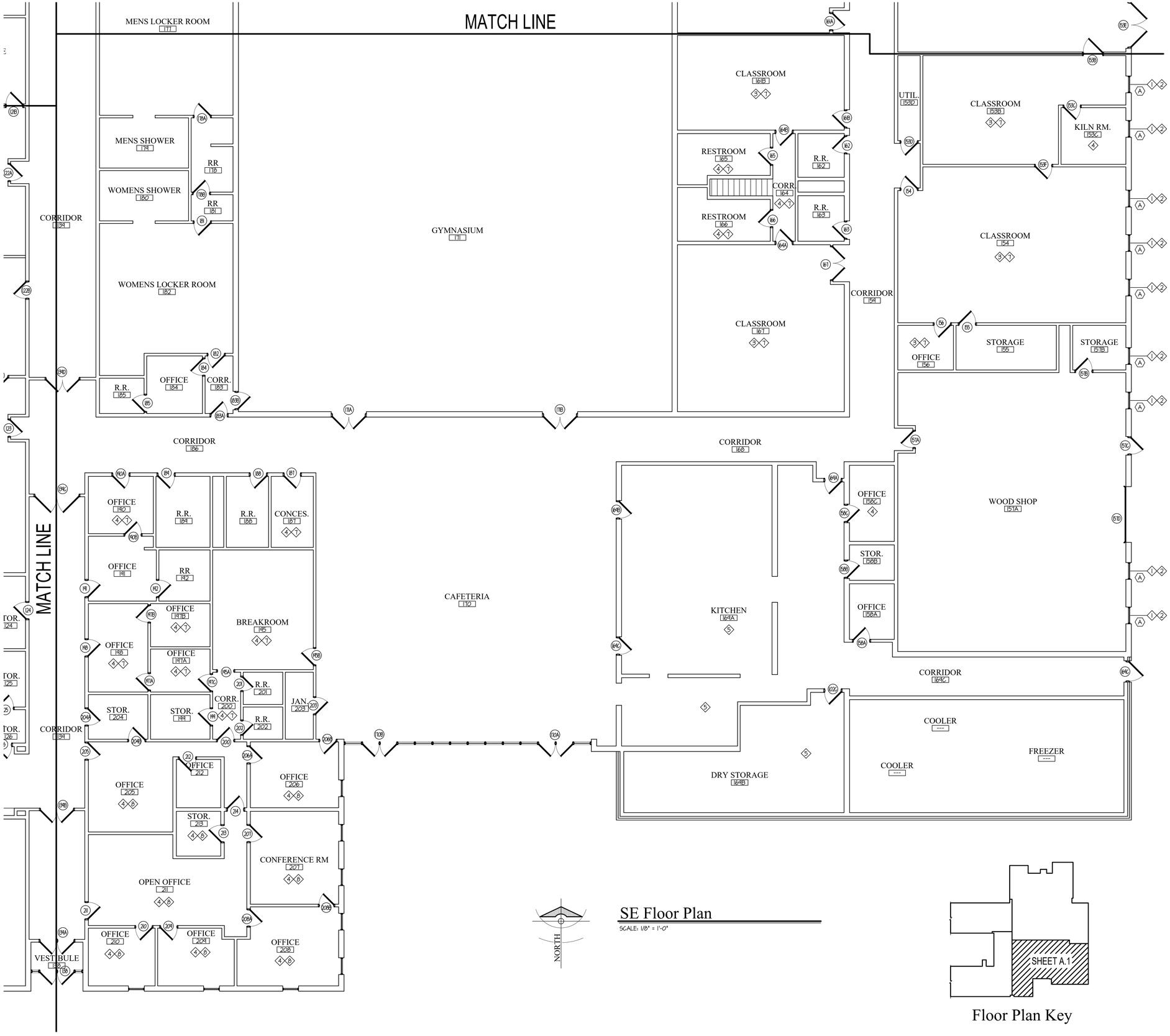
A. Install the energy recovery ventilators under base bid and alternates in accordance with the manufacturer's instructions.

3.2. BALANCING AND SET UP

A. Set up the separate supply and exhaust flow rates to operate in accordance with the control sequence specified.

B. Remove the supply air intake (outside cold air stream) filters during cold weather to prevent filter freeze up. Replace filter in air intake with onset of warm weather.

END OF SECTION 15865



SE Floor Plan

SCALE: 1/8" = 1'-0"

Floor Plan Key

GENERAL NOTES

1. ALL WORK ON THIS PROJECT TO BE BUILT IN COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL BUILDING CODES. CONTRACTOR SHALL BRING TO ARCHITECT'S ATTENTION ALL ITEMS REQUIRING INTERPRETATION.

2. ALL CONTRACTORS ON THIS PROJECT MUST BE REGISTERED WITH THE STATE OF IOWA. GENERAL CONTRACTOR SHALL OBTAIN A COPY OF STATE REGISTRATION AND INSURANCE CERTIFICATES FROM EACH CONTRACTOR AND TRANSMIT TO ARCHITECT PRIOR TO START OF CONSTRUCTION.

SYMBOLS LEGEND:

ROOM — ROOM NAME / ROOM NUMBER (RM #)
DOOR NUMBER
WINDOW TYPE
WALL TYPE
EQUIPMENT TYPE
KEY NOTES
REVISION
COLUMN GRID
ELEVATION MARK
SMOKE DETECTOR
FLOOR DRAIN
SECTION NUMBER / BUILDING SECTION / SHEET NUMBER
SECTION NUMBER / WALL SECTION / SHEET NUMBER
DETAIL NUMBER / DETAIL / SHEET NUMBER
SHEET NUMBER / INTERIOR ELEVATIONS / ELEVATION NUMBER

ABBREVIATIONS:

A/C	AIR CONDITIONING	INSUL	INSULATION
ALUM	ALUMINUM	MFG	MANUFACTURER
BD	BOARD	MAX	MAXIMUM
BSMT	BASEMENT	MIN	MINIMUM
BRG	BEARING	MTL	METAL
BM	BEAM	NTS	NOT TO SCALE
BLK	BLOCK	O.C.	ON CENTER
BLKG	BLOCKING	OPG	OPENING
CLG	CEILING	O/	OVER
CLR	CLEAR	PT	PAINT
COL	COLUMN	PL	PLATE
CONC	CONCRETE	PLY	PLYWOOD
CONST	CONSTRUCTION	REC	RECESSED
CONT	CONTINUOUS	REINF	REINFORCED
DIA	DIAMETER	RA	RETURN AIR
DN	DOWN	REQ	REQUIRED
DS	DOWNSPOUT	RO	ROUGH OPENING
DF	DRINKING FOUNTAIN	SHT	SHEET
EA	EACH	SC	SOLID CORE
ELEV	ELEVATION	SPEC	SPECIFICATIONS
EXP	EXPANSION	SUSP	SUSPENDED
EXT	EXTERIOR	TEMP	TEMPERED
FIN	FINISH	T&G	TONGUE AND GROOVE
FLR	FLOOR	TYP	TYPICAL
FTG	FOOTING	VCT	VINYL COMPOSITE TILE
FNDN	FOUNDATION	VERT	VERTICAL
GALV	GALVANIZED	WDW	WINDOW
GYP	GYPSUM	WWF	WELDED WIRE FABRIC
HC	HOLLOW CORE	W/	WITH
HM	HOLLOW METAL	WD	WOOD
HORZ	HORIZONTAL		
HB	HOSE BIBB		

A.D.A. MUST BE COMPLIANT WITH AMERICANS WITH DISABILITIES ACT

FLOOR PLAN KEY NOTES:

1. REMOVE EXISTING WINDOW, SEALANTS AND FLASHINGS AS REQUIRED FOR NEW WORK INSTALLATION.
2. INSTALL NEW THERMALLY BROKEN ALUMINUM WINDOW WITH 1" INSULATED, LOW E GLASS. INSTALL FULL HEIGHT ROLLER BLIND WITH VALANCE ON THE INTERIOR.
3. PAINT ROOM, ONE WALL SHALL BE PAINTED AN ACCENT COLOR. COLORS AS SELECTED BY ARCHITECT.
4. PAINT ROOM ALL ONE COLOR. COLOR AS SELECTED BY OWNER.
5. CLEAN EXISTING CEILING AND ROOF STRUCTURE, PAINT CEILING AND ROOF STRUCTURE ELEMENTS USING EPOXY PAINT. COLOR AS SELECTED BY ARCHITECT.
6. PAINT ALL WALLS COLOR #1 FROM SOUTH END FLOOR TO A LINE AT 7' A.F.F. AND COLOR #2 FROM SAME LINE AT 7' A.F.F. TO ACOUSTICAL CEILING CLOUDS. PAINT ALL WALLS, CEILINGS AND STRUCTURE ABOVE ACOUSTICAL CEILING CLOUDS BLACK. WALL COLORS AS SELECTED BY ARCHITECT.
7. REPLACE EXISTING FLOORING WITH 12x12 VINYL COMPOSITE TILE. COLOR AS SELECTED BY ARCHITECT.
8. REPLACE EXISTING FLOORING WITH CARPET TILE. COLOR AS SELECTED BY ARCHITECT.

REVISION DATES
Addendum 1
1 3.2.2026 4 ----------
2 ---------- 5 ----------
3 ---------- 6 ----------
DATE OF ISSUE
2.20.2026

Allamakee CSD Middle School HVAC Upgrade

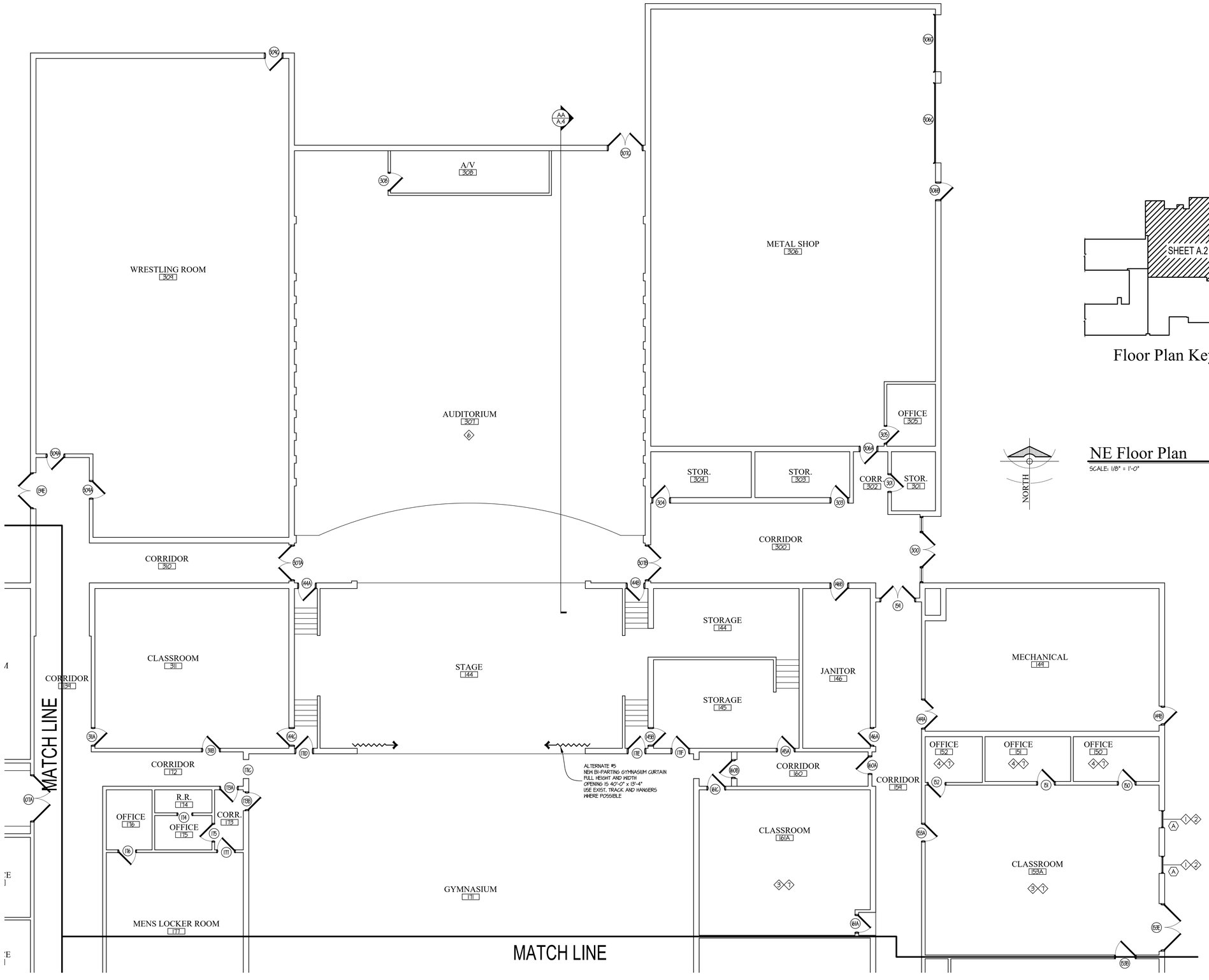
1061 3rd Avenue, NW, Waukon, Iowa 52172

Design Dynamics, Inc.
3745 Center Point Road, NE
Cedar Rapids, Iowa 52402
Tel. 319-298-0400
e-mail: DDI@DesignDynamics.biz

SHEET TITLE
SE FLOOR PLAN

A.1

PROJECT NUMBER
042-25



Floor Plan Key

NE Floor Plan

SCALE: 1/8" = 1'-0"

FLOOR PLAN KEY NOTES:

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Addendum 1
1 3.2.2026 4 ********
2 ******** 5 ********
3 ******** 6 ********
DATE OF ISSUE
2.20.2026

Allamakee CSD Middle School HVAC Upgrade

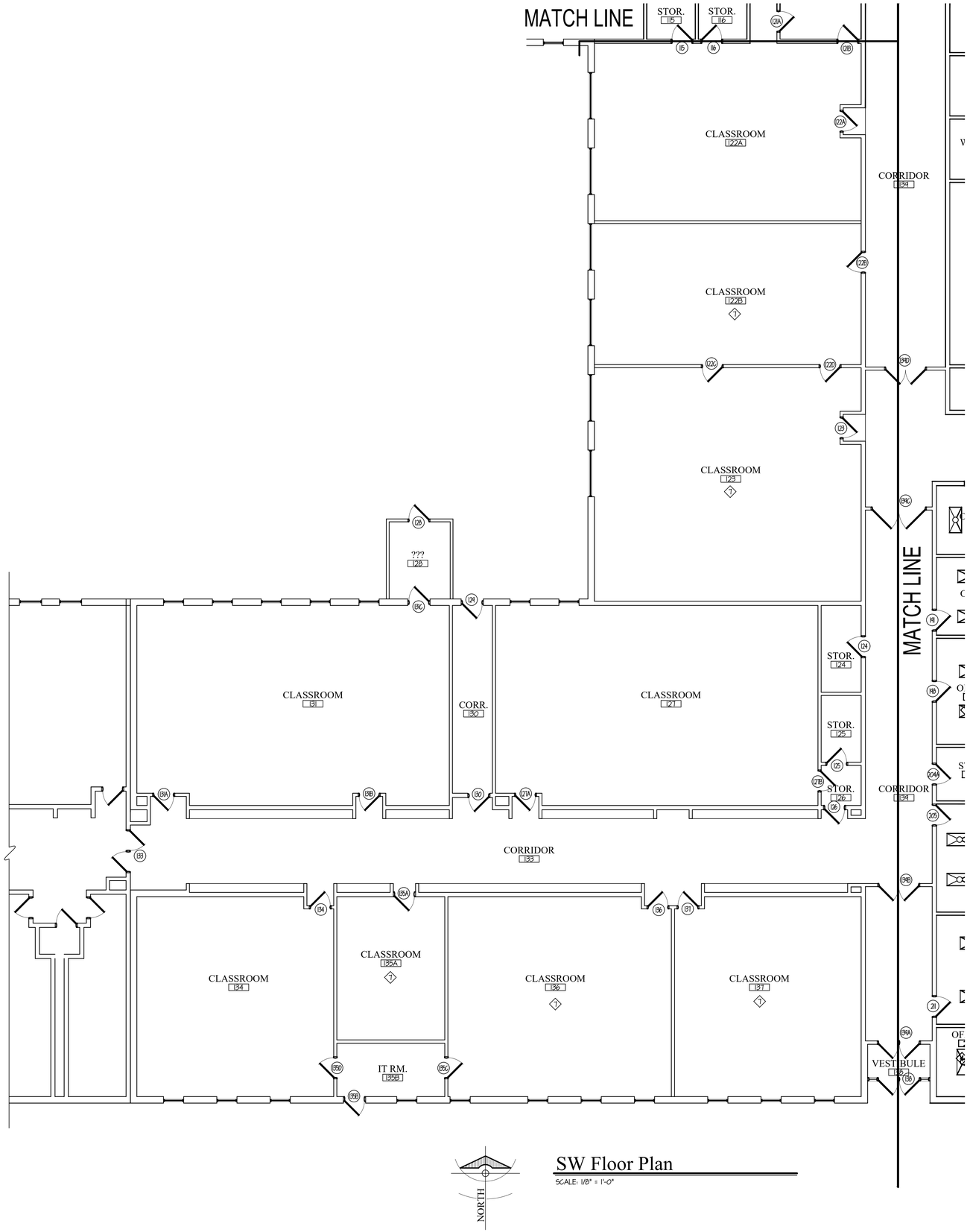
106 1st Avenue, NW, Waukon, Iowa 52172

Design Dynamics, Inc.
5745 Center Point Road, NE
Cedar Rapids, Iowa 52402
Tel: 319-298-0400
e-mail: DDI@DesignDynamics.biz

SHEET TITLE
NE FLOOR PLAN

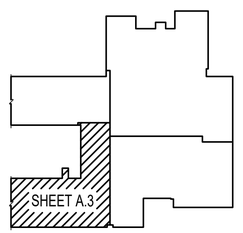
A.2

PROJECT NUMBER
042-25



SW Floor Plan

SCALE: 1/8" = 1'-0"



Floor Plan Key

FLOOR PLAN KEY NOTES: ◇

1. REMOVE EXISTING WINDOW, SEALANTS AND FLASHINGS AS REQUIRED FOR NEW WORK INSTALLATION.
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Addendum 1			
1	3.2.2026	4	----------
2	----------	5	----------
3	----------	6	----------

DATE OF ISSUE
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Allamakee CSD Middle School HVAC Upgrade

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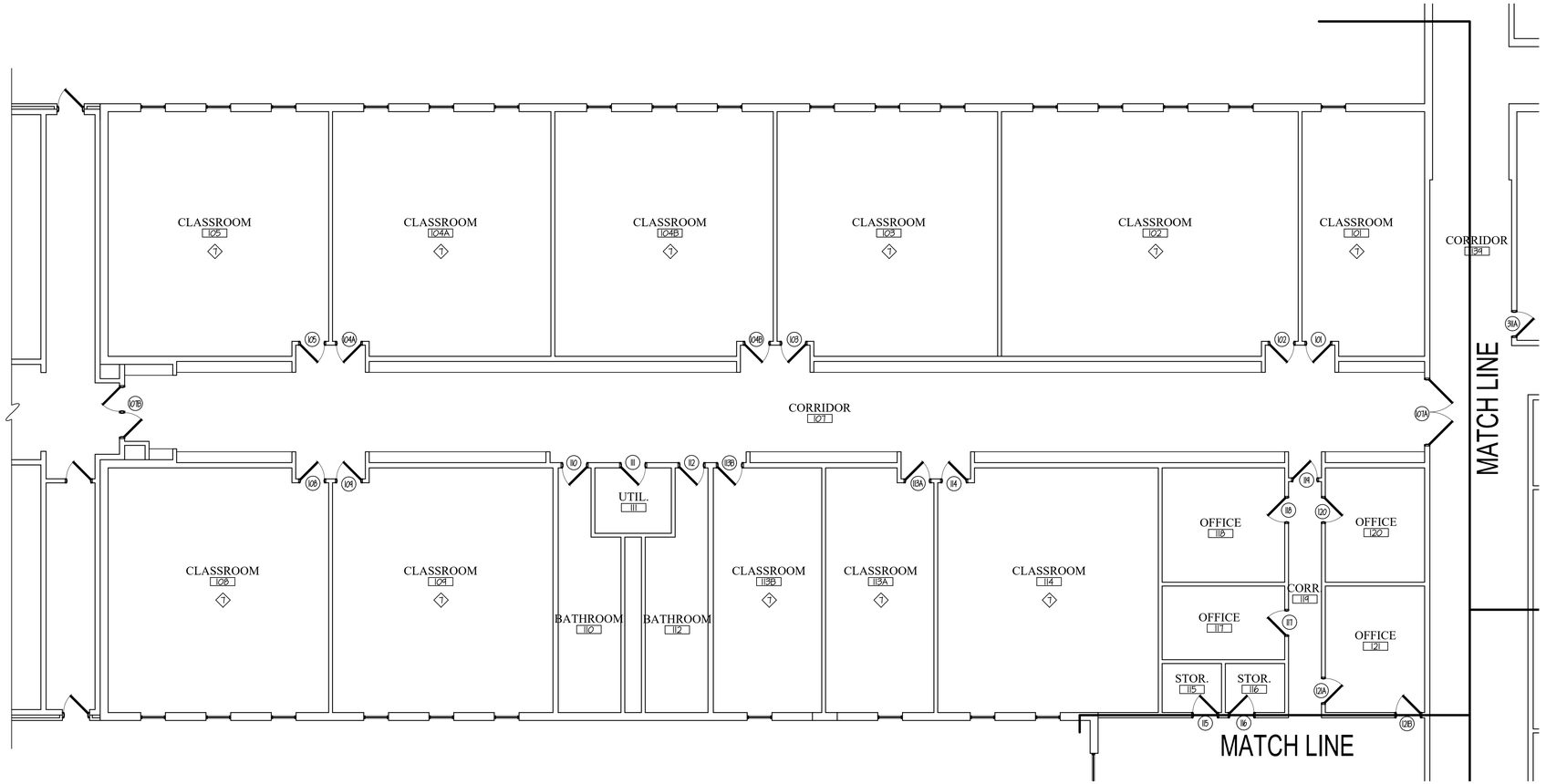
SHEET TITLE
SW FLOOR PLAN

A.3

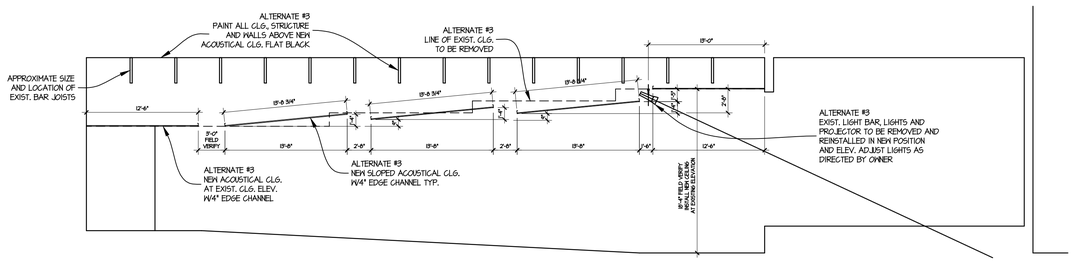
PROJECT NUMBER
042-25



NORTH

NW Floor Plan

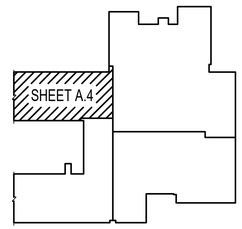
SCALE: 1/8" = 1'-0"



AA

Alternate #3 Auditorium Ceiling Section

SCALE: 1/8" = 1'-0"



Floor Plan Key

FLOOR PLAN KEY NOTES:

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3. PAINT ROOM, ONE WALL SHALL BE PAINTED AN ACCENT COLOR. COLORS AS SELECTED BY ARCHITECT.
4. PAINT ROOM ALL ONE COLOR. COLOR AS SELECTED BY OWNER.
5. CLEAN EXISTING CEILING AND ROOF STRUCTURE, PAINT CEILING AND ROOF STRUCTURE ELEMENTS USING EPOXY PAINT. COLOR AS SELECTED BY ARCHITECT.
6. PAINT ALL WALLS COLOR #1 FROM SOUTH END FLOOR TO A LINE AT 7' A.F.F. AND COLOR #2 FROM SAME LINE AT 7' A.F.F. TO ACOUSTICAL CEILING CLOUDS. PAINT ALL WALLS, CEILINGS AND STRUCTURE ABOVE ACOUSTICAL CEILING CLOUDS BLACK. WALL COLORS AS SELECTED BY ARCHITECT.
7. REPLACE EXISTING FLOORING WITH 12x12 VINYL COMPOSITE TILE AND VINYL BASE. COLOR AS SELECTED BY ARCHITECT.
8. REPLACE EXISTING FLOORING WITH CARPET 24x24 TILE AND VINYL BASE. COLOR AS SELECTED BY ARCHITECT.

REVISION DATES
1 Addendum 1 3-2-2026
2
3
4
5
6
DATE OF ISSUE
2.20.2026

Allamakee CSD Middle School HVAC Upgrade

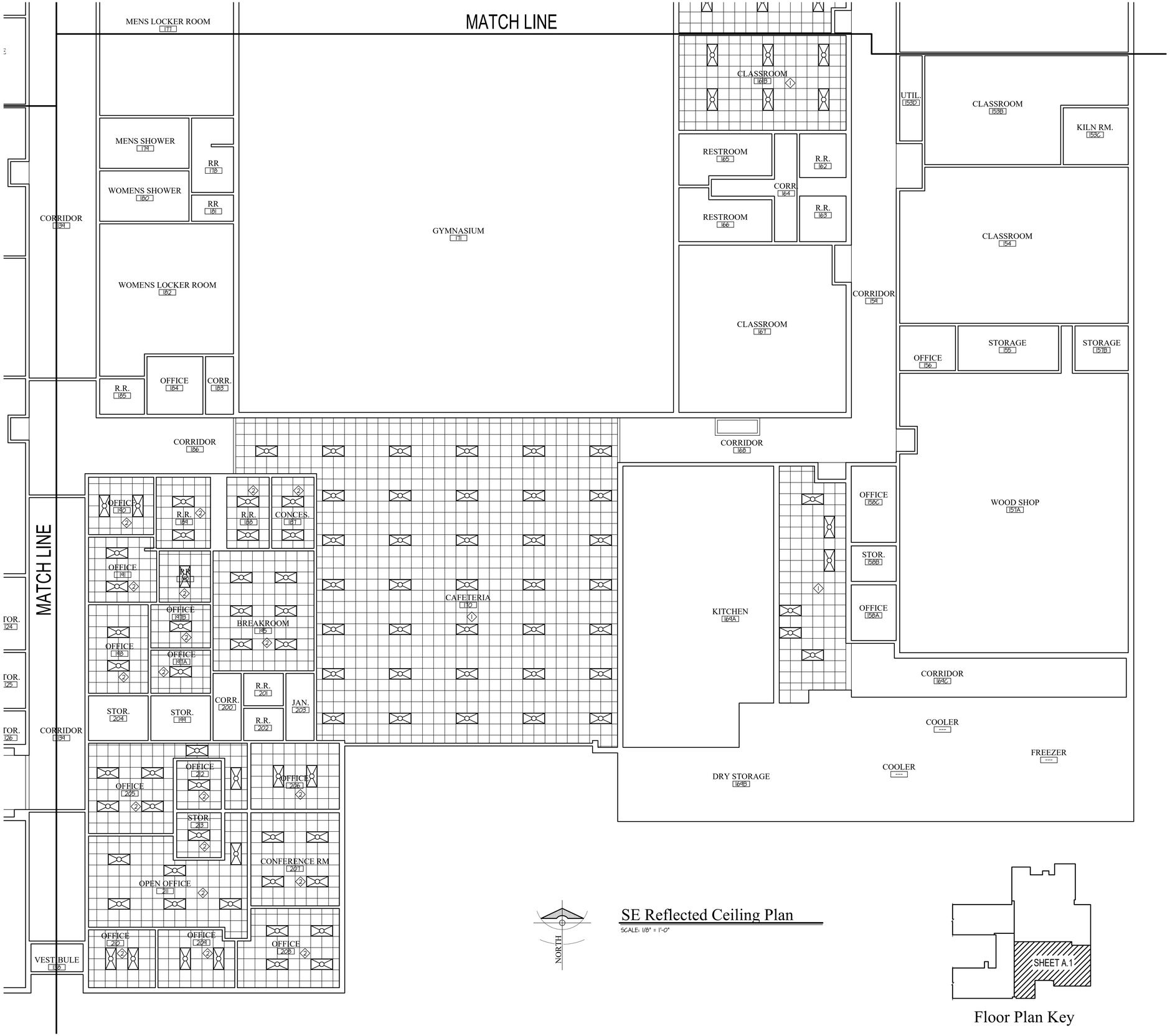
1061 3rd Avenue, NW, Waukon, Iowa 52172

Design Dynamics, Inc.
2745 Center Point Road, NE
Cedar Rapids, Iowa 52402
Tel: 319-298-0400
E-mail: DDI@DesignDynamics.biz

SHEET TITLE
NW FLOOR PLAN

A.4

PROJECT NUMBER
042-25



NORTH

SE Reflected Ceiling Plan

SCALE: 1/8" = 1'-0"

Floor Plan Key

REFLECTED CEILING PLAN NOTES

1. VERIFY FINAL CEILING GRID WITH EXACT ROOM DIMENSIONS.
2. CENTER ALL CEILING GRID IN ROOM. AVOID CUT TILE LESS THAN 4 INCHES WIDE.
3. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR FINAL REGISTER AND LIGHT LOCATIONS.

REFLECTED CEILING PLAN KEY NOTES: ◇#

1. INSTALL NEW 2x2 ACOUSTICAL CEILING AT EXISTING REMOVED CEILING POSITION AND ELEVATION ABOVE FINISHED FLOOR.
2. INSTALL NEW 2x2 ACOUSTICAL CEILING AS HIGH AS POSSIBLE IN THE ROOM AFTER MECHANICAL DUCTWORK AND EQUIPMENT HAS BEE INSTALLED.

REVISION DATES
Addendum 1
1 3-2-2026 4 ---------
2 --------- 5 ---------
3 --------- 6 ---------
DATE OF ISSUE
2.20.2026

Allamakee CSD Middle School HVAC Upgrade

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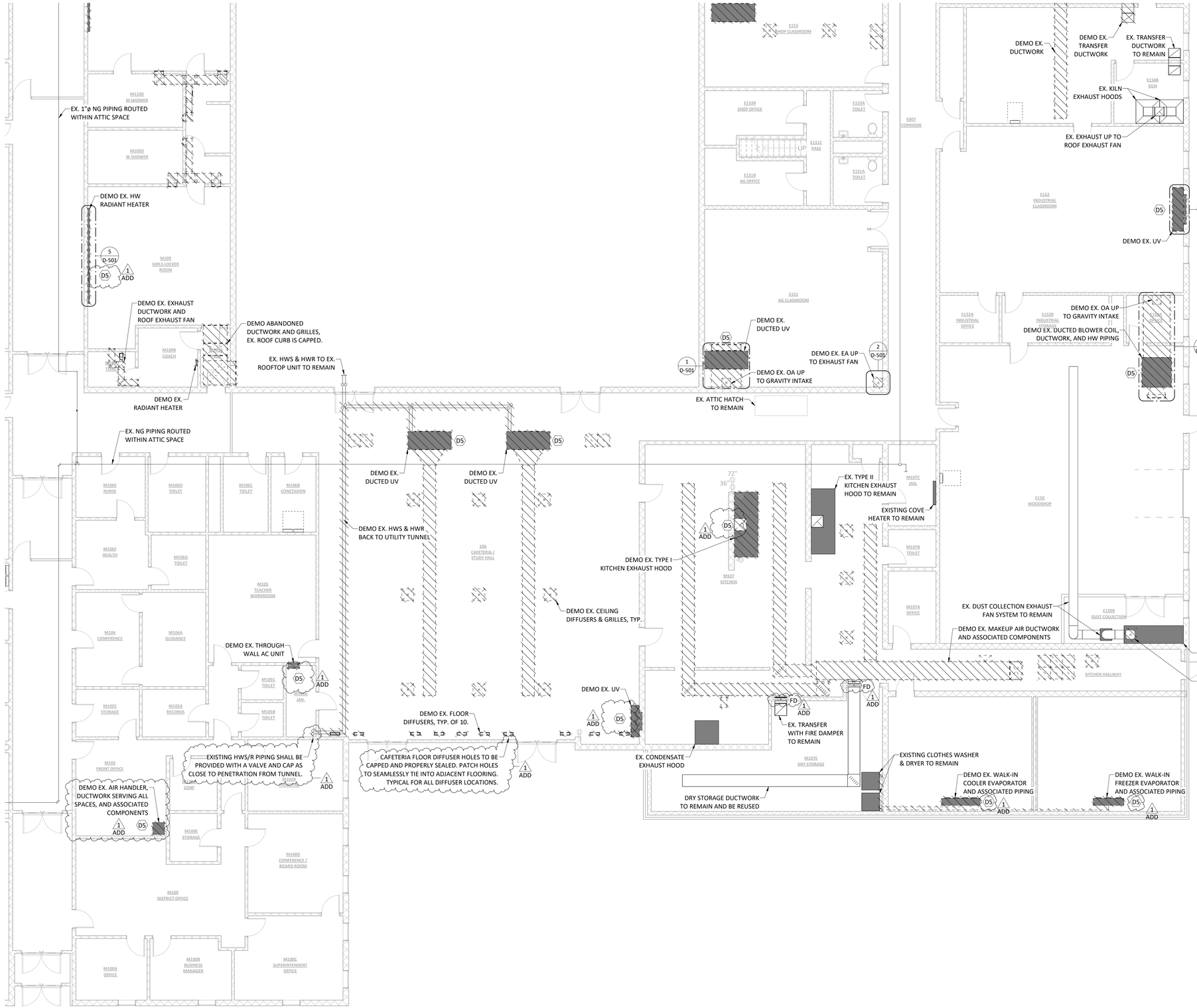
Design Dynamics, Inc.
3749 Center Point Road, NE
Cedar Rapids, Iowa 52402
Tel: 319-298-0400
e-mail: DD1@DesignDynamics.biz

SHEET TITLE
SE RCP

A.5

PROJECT NUMBER
042-25

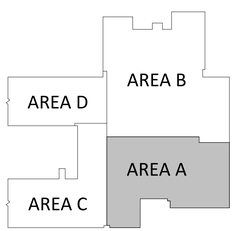


GENERAL DEMO NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. EQUIPMENT SPECIFIED TO BE DEMOLISHED SHALL HAVE THE EQUIPMENTS'S ASSOCIATED COMPONENTS REMOVED AND TERMINATED BACK TO THE RESPECTIVE SOURCE WITHOUT DISRUPTING EXISTING SYSTEMS SPECIFIED TO REMAIN. ASSOCIATED EQUIPMENT COMPONENTS TO BE DEMOLISHED INCLUDE BUT ARE NOT LIMITED TO:
   - A. DUCTWORK (SA/RA/EA/OA)
   - B. HOT WATER SUPPLY AND RETURN PIPING, FITTINGS, AND ACCESSORIES BACK TO HW PIPING HEADERS
   - C. ELECTRICAL COMPONENTS
   - D. THERMOSTAT AND CONTROLS
3. ALL PENETRATIONS FOR DUCTWORK, PIPING, ELECTRICAL AND OTHER UTILITIES SPECIFIED TO BE DEMOLISHED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
4. SEE SHEET D-501, FOR ADDITIONAL INFORMATION ON EXISTING CONDITIONS AND COMPONENTS TO BE REMOVED.

ELECTRICAL DEMO KEYED NOTES

D5	MECHANICAL EQUIPMENT TO BE DEMOED (DIV 15). DIV 16 TO REMOVE ALL ASSOCIATED WIRING, CONDUIT, BOXES AND DISCONNECTS BACK TO SOURCE. IF UNIT IS BEING REPLACED, AND EXISTING CONDUIT IS IN GOOD CONDITION AND SIZED APPROPRIATELY, EXISTING CONDUIT MAY BE RE-USED FOR NEW CONDUCTORS TO PROPOSED EQUIPMENT.



MIDDLE SCHOOL BUILDING KEY PLAN

DEMO MECHANICAL & ELECTRICAL PLAN - AREA A
1/8" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

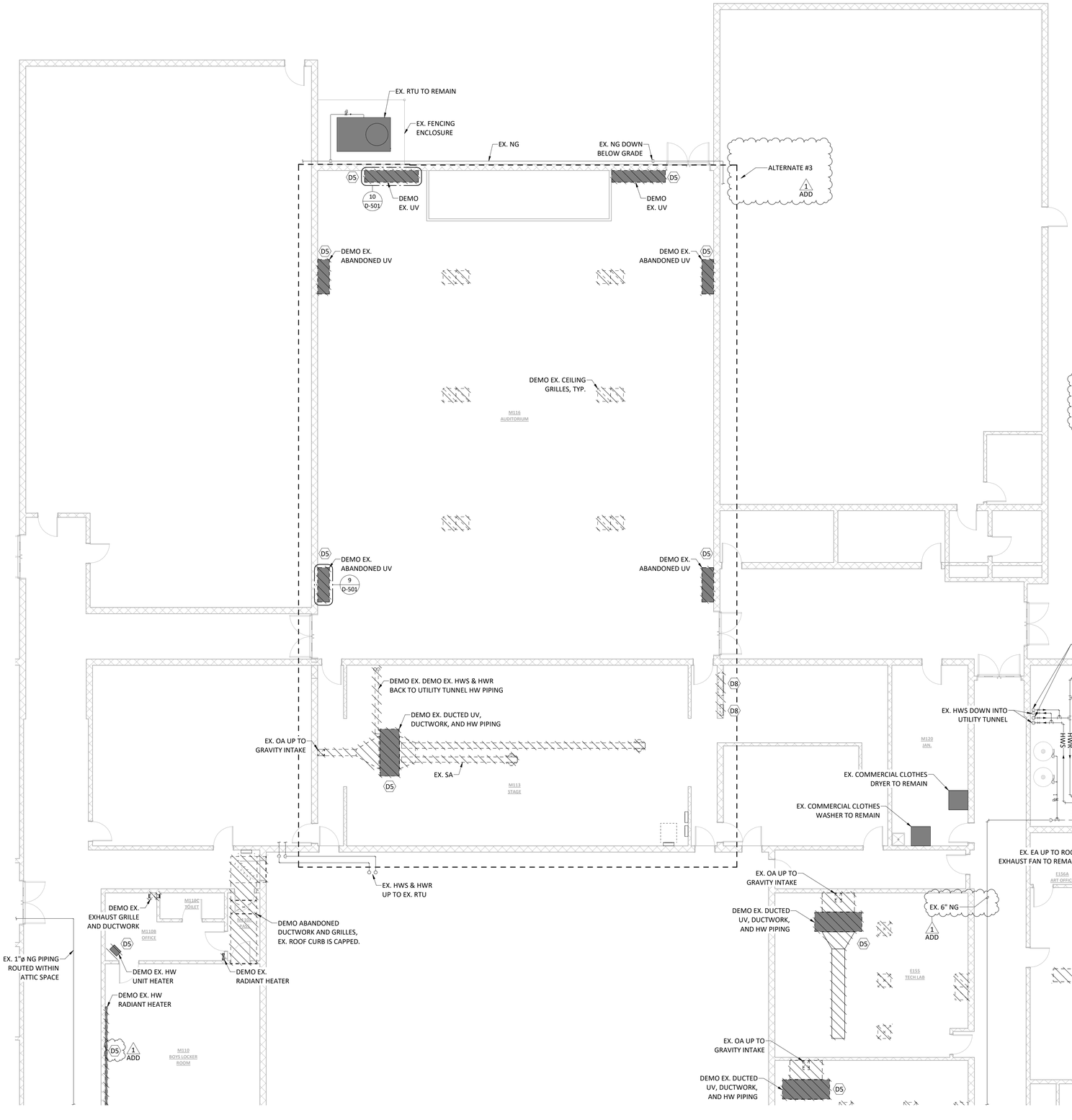
DATE	02/20/2026

DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

DRAWN BY	JJR/DMS
CHECKED BY	JCL/KDM
PROJECT NO.	9166-10000

SHEET NAME
DEMO MECHANICAL & ELECTRICAL PLAN - AREA A

D-101A



MIDDLE SCHOOL BUILDING KEY PLAN

DEMO MECHANICAL & ELECTRICAL PLAN - AREA B
1/8" = 1'-0"

GENERAL DEMO NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. EQUIPMENT SPECIFIED TO BE DEMOLISHED SHALL HAVE THE EQUIPMENTS'S ASSOCIATED COMPONENTS REMOVED AND TERMINATED BACK TO THE RESPECTIVE SOURCE WITHOUT DISRUPTING EXISTING SYSTEMS SPECIFIED TO REMAIN. ASSOCIATED EQUIPMENT COMPONENTS TO BE DEMOLISHED INCLUDE BUT ARE NOT LIMITED TO:
   - A. DUCTWORK (SA/RA/EA/OA)
   - B. HOT WATER SUPPLY AND RETURN PIPING, FITTINGS, AND ACCESSORIES BACK TO HW PIPING HEADERS
   - C. ELECTRICAL COMPONENTS
   - D. THERMOSTAT AND CONTROLS
3. ALL PENETRATIONS FOR DUCTWORK, PIPING, ELECTRICAL AND OTHER UTILITIES SPECIFIED TO BE DEMOLISHED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
4. SEE SHEET D-501, FOR ADDITIONAL INFORMATION ON EXISTING CONDITIONS AND COMPONENTS TO BE REMOVED.

1 ADD

ELECTRICAL DEMO KEYED NOTES

D4	EXISTING PAD MOUNTED TRANSFORMER IN DETERIORATED CONDITION AND SHALL BE COMPLETELY REMOVED INCLUDING ALL ASSOCIATED WIRING AND GROUNDING COMPONENTS. THE EXISTING CONCRETE PAD IS UNDERSIZED AND DOES NOT MEET CURRENT UTILITY OR CODE REQUIREMENTS. CONTRACTOR SHALL DEMOLISH AND DISPOSE OF THE EXISTING CONCRETE PAD IN ITS ENTIRETY. EC TO MAINTAIN ALL SAFETY MEASURES AND PROVIDE TEMPORARY PROTECTION, BARRICADES AND REQUIRED NOTICES DURING TRANSFORMER REMOVAL AND PAD REPLACEMENT. EC TO COORDINATE WITH OWNER PRIOR TO ANY DEMOLITION OR TERMINATION OF SERVICE TO BUILDING.
D5	MECHANICAL EQUIPMENT TO BE DEMOED (DIV 15). DIV 16 TO REMOVE ALL ASSOCIATED WIRING, CONDUIT, BOXES AND DISCONNECTS BACK TO SOURCE. IF UNIT IS BEING REPLACED, AND EXISTING CONDUIT IS IN GOOD CONDITION AND SIZED APPROPRIATELY, EXISTING CONDUIT MAY BE RE-USED FOR NEW CONDUCTORS TO PROPOSED EQUIPMENT.
D8	DEMO EXISTING PANEL. DE-ENERGIZE ALL FEEDERS AND BRANCH CIRCUITS SERVING THE EXISTING FLUSH-MOUNTED PANEL PRIOR TO WORK. COORDINATE OUTAGES WITH OWNER. IDENTIFY, TAG, AND DOCUMENT ALL EXISTING CIRCUITS PRIOR TO DISCONNECTION FOR RECONNECTION TO NEW SURFACE-MOUNTED PANEL. REMOVE EXISTING PANEL, BREAKERS, TRIM, GROUNDING/BONDING, AND ASSOCIATED CONDUITS. REMOVE ABANDONED CONDUCTORS IN COMPLIANCE WITH NEC. MAINTAIN GROUNDING AND BONDING CONTINUITY AND PROTECT ADJACENT SYSTEMS DURING DEMOLITION. PROVIDE TEMPORARY POWER AS REQUIRED. PATCH AND RESTORE WALL SURFACES TO MATCH EXISTING CONDITIONS.

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

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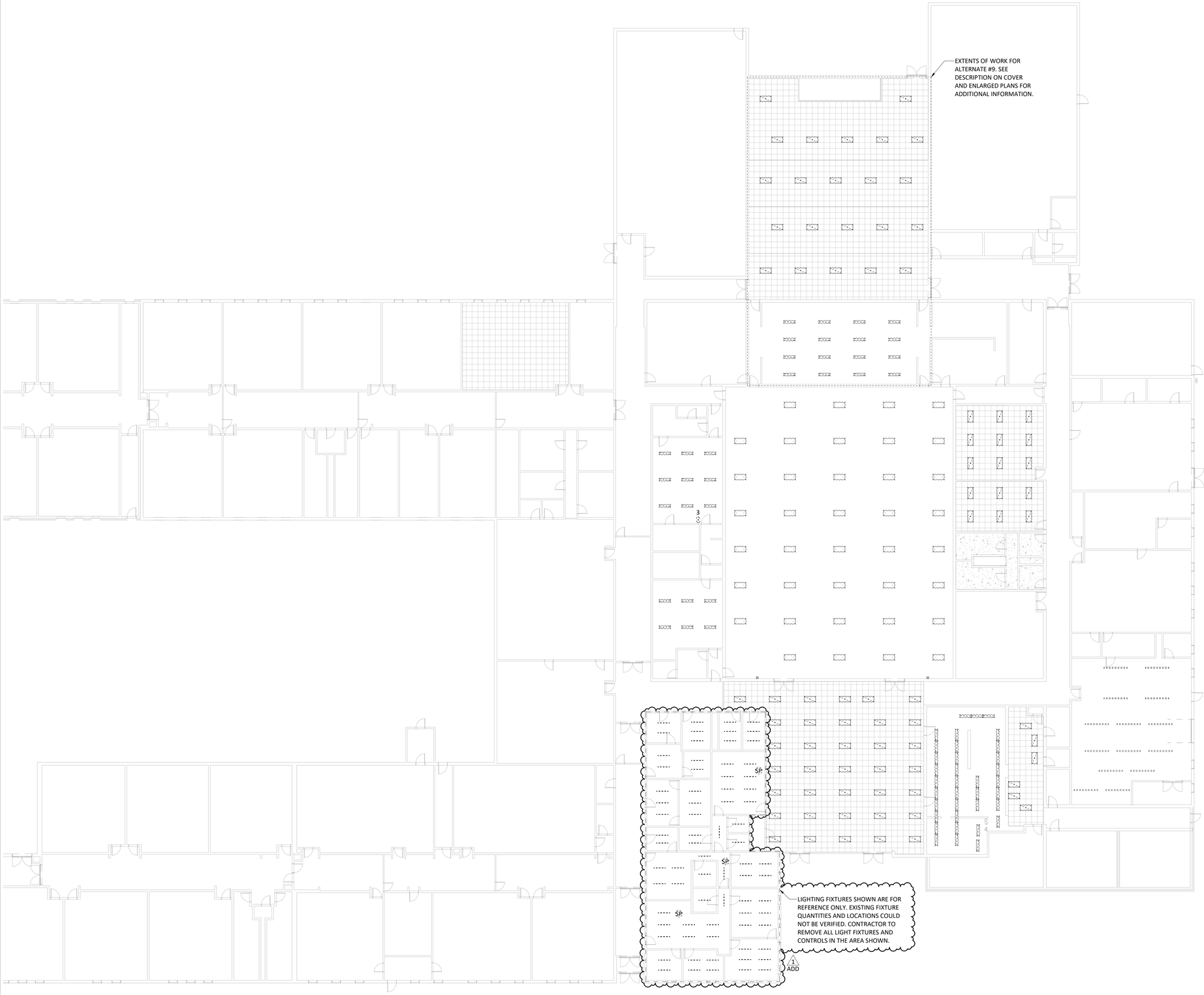
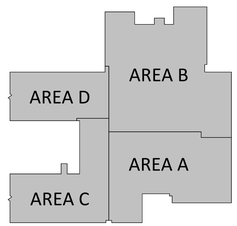
SHEET NAME
DEMO MECHANICAL & ELECTRICAL PLAN - AREA B

D-101B



LIGHTING DEMO NOTES

1. REMOVE ALL EXISTING LIGHT FIXTURES IN AREAS INDICATED ON THE DEMOLITION PLANS. FIXTURES SHALL BE REMOVED IN THEIR ENTIRETY UNLESS NOTED TO REMAIN OR BE RELOCATED.
2. DISCONNECT AND REMOVE ASSOCIATED BRANCH CIRCUIT WIRING BACK TO THE NEAREST ACCESSIBLE JUNCTION BOX. CAP AND LABEL REMAINING CONDUCTORS APPROPRIATELY PER CODE.
3. REMOVE ALL EXISTING LIGHTING CONTROL DEVICES, INCLUDING WALL SWITCHES, DIMMERS, OCCUPANCY SENSORS, DAYLIGHT SENSORS, AND RELATED CONTROL WIRING UNLESS SPECIFICALLY NOTED OTHERWISE.
4. COORDINATE ALL FIXTURE AND CONTROL REMOVALS WITH THE NEW LIGHTING LAYOUT TO ENSURE COMPATIBILITY WITH THE NEW SWITCHING AND CONTROL SYSTEM.
5. MAINTAIN SAFE AND ADEQUATE TEMPORARY LIGHTING DURING DEMOLITION AND CONSTRUCTION.
6. RETURN ALL CEILINGS TO A SAFE CONDITION AFTER DEVICE REMOVAL. PROVIDE BLANK PLATES OR TEMPORARY COVERS AT ANY BOX OPENINGS UNTIL NEW DEVICES ARE INSTALLED.
7. VERIFY ALL CIRCUITS FEEDING REMOVED FIXTURES AND IDENTIFY MULTI-WIRE BRANCH CIRCUITS PRIOR TO DEMOLITION. ENSURE CIRCUITS ARE FULLY DE-ENERGIZED.
8. ALL REMOVED FIXTURES AND CONTROLS SHALL BE DISPOSED OF OFF-SITE UNLESS REQUESTED BY OWNER TO BE SALVAGED.
9. IDENTIFY AND REPORT UNFORESEEN CONDITIONS, SUCH AS CONCEALED JUNCTION BOXES, UNDOCUMENTED WIRING, INACCESSIBLE CONDUITS, OR DAMAGED CEILINGS, BEFORE PROCEEDING.
10. MAINTAIN EMERGENCY AND EGRESS LIGHTING UNTIL THE NEW SYSTEM IS INSTALLED AND ACCEPTED. DO NOT INTERRUPT LIFE-SAFETY LIGHTING WITHOUT OWNER/ENGINEER APPROVAL.
11. COORDINATE DEMOLITION WORK WITH SCHOOL OPERATIONS TO AVOID DISRUPTION DURING OCCUPIED HOURS AND COMPLY WITH DISTRICT SAFETY PROTOCOLS.
12. WHERE EXISTING CEILING TILES, GRIDS, OR ACCESS PANELS ARE REMOVED OR DAMAGED, PROVIDE TEMPORARY PROTECTION AND COORDINATE WITH CEILING CONTRACTOR FOR FINAL RESTORATION.
13. OTHER CEILING-MOUNTED EQUIPMENT:
    - A. NOTE THAT NOT ALL DEVICES MAY BE SHOWN, IT IS THE INTENT TO RE-INSTALL ALL EXISTING CEILING MOUNTED DEVICES UNLESS OTHERWISE NOTED. REMOVE AND RE-INSTALL CEILING-MOUNTED DEVICES INCLUDING FIRE ALARM DEVICES, WIRELESS ACCESS POINTS, PAGING SYSTEMS, SPEAKERS, PROJECTORS, AND CEILING MOUNTED RECEPTACLES.
    - B. COORDINATE REMOVAL WITH APPROPRIATE TRADES (FIRE ALARM, IT, SECURITY, A/V, ETC.) TO ENSURE PROPER DISCONNECTION, LABELING AND RELOCATION.
    - C. PROTECT ALL DEVICES NOTED TO REMAIN DURING DEMOLITION PROCESS.
    - D. DO NOT DISTURB EXISTING FIRE ALARM, SECURITY, PAGING, DATA, OR OTHER COMMUNICATION CABLING. ANY ACCIDENTAL DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. DEVICES REMOVED AS PART OF CEILING WORK SHALL BE RE-INSTALLED AFTER NEW CEILING HAS BEEN INSTALLED. THIS INCLUDES FIRE ALARM, WIRELESS ACCESS POINTS, PAGING SYSTEMS, SPEAKERS, CLOCKS, PROJECTORS AND CEILING MOUNTED RECEPTACLES.
    - E. ITEMS BEING REMOVED AND RE-INSTALLED SHALL BE LOCATED AS CLOSE TO ORIGINAL POSITION AS POSSIBLE.



MIDDLE SCHOOL BUILDING KEY PLAN

DEMO LIGHTING PLAN - OVERALL
1/16" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

ALLAMAKEE CSD

ISSUED FOR

BIDDING

DATE	02/20/2026

DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

DRAWN BY	SMF
CHECKED BY	KDM
PROJECT NO.	9166-10000

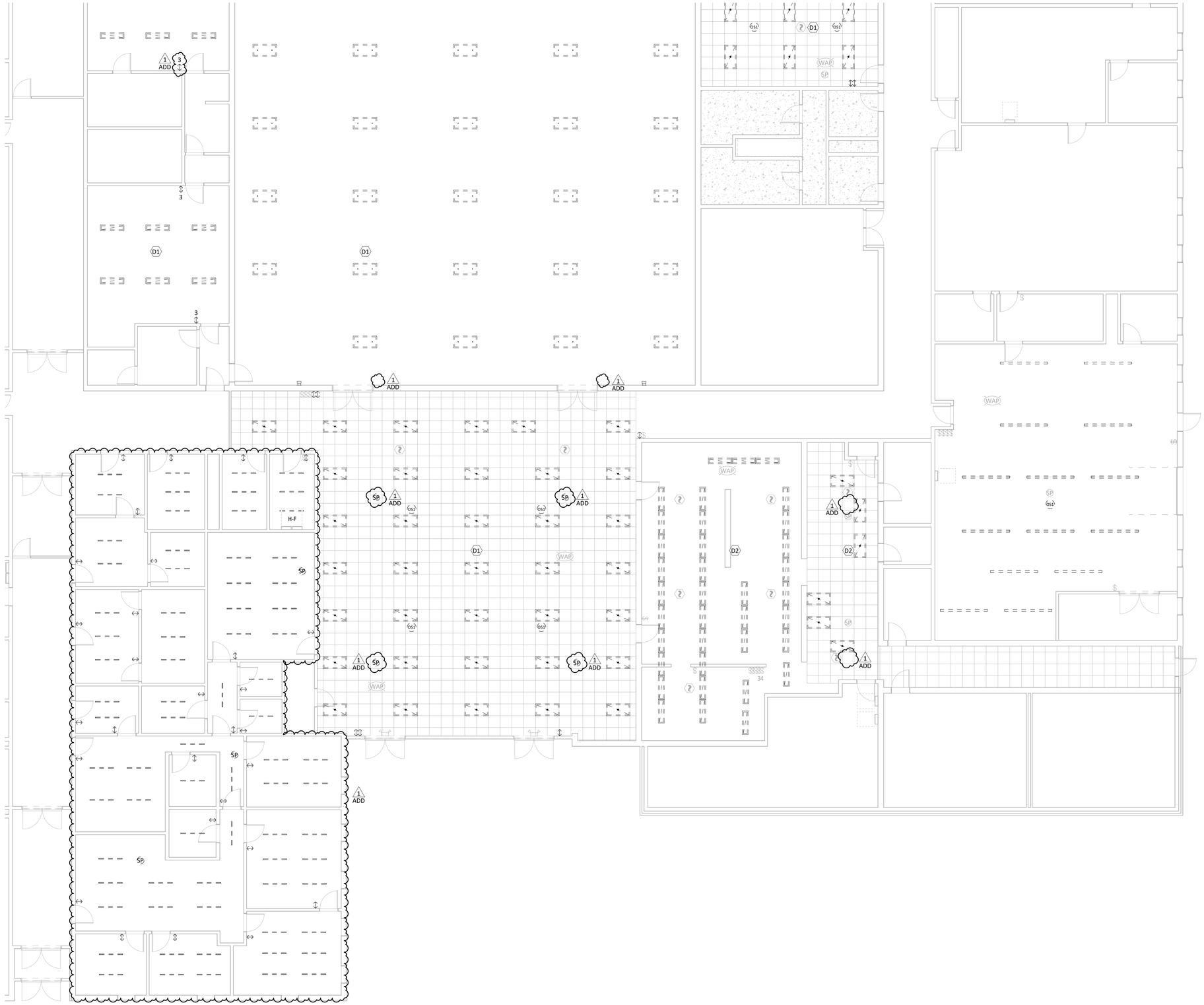
SHEET NAME

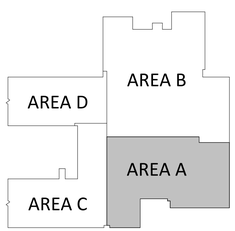
DEMO LIGHTING PLAN - OVERALL

D-110

ELECTRICAL DEMO KEYED NOTES

D1	REMOVE AND RE-INSTALL CEILING MOUNTED DEVICES IN THIS AREA. NOTE THAT ALL DEVICES REQUIRING RE-INSTALLATION MAY NOT BE SHOWN. CONTRACTOR TO VERIFY CEILING MOUNTED DEVICES PRIOR TO BIDDING. RE-INSTALLED DEVICES AS CLOSE TO ORIGINAL LOCATION AS POSSIBLE.
D2	EXISTING CEILING AND CEILING MOUNTED DEVICE TO REMAIN. DEMO EXISTING LIGHTING IN THIS ROOM. NEW LIGHTS TO CONNECT TO EXISTING CIRCUITING AND CONTROLS.





MIDDLE SCHOOL BUILDING KEY PLAN

DEMO LIGHTING PLAN - AREA A
1/8" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
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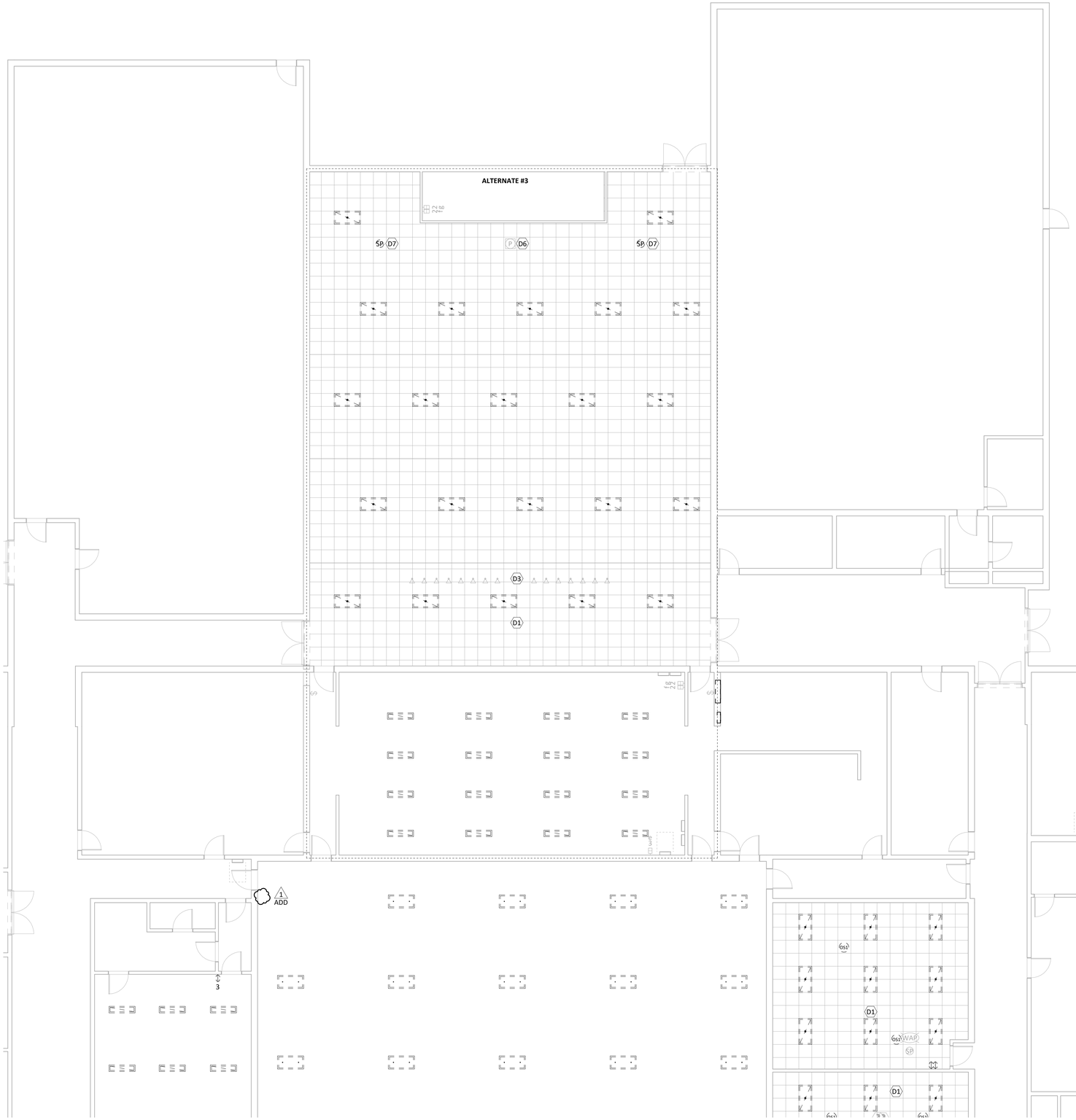
SHEET NAME
DEMO LIGHTING PLAN - AREA A

D-110A

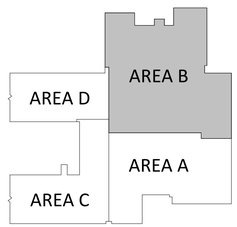


ELECTRICAL DEMO KEYED NOTES

D1	REMOVE AND RE-INSTALL CEILING MOUNTED DEVICES IN THIS AREA. NOTE THAT ALL DEVICES REQUIRING RE-INSTALLATION MAY NOT BE SHOWN. CONTRACTOR TO VERIFY CEILING MOUNTED DEVICES PRIOR TO BIDDING. RE-INSTALLED DEVICES AS CLOSE TO ORIGINAL LOCATION AS POSSIBLE.
D3	EXISTING STAGE LIGHTING AND ASSOCIATED WIRING TO BE REMOVED AND RE-INSTALLED ONCE CEILING WORK IS COMPLETED
D6	REMOVE AND RE-INSTALL EXISTING PROJECTOR AND ASSOCIATED RECEPTACLE. - **ALT. #3**
D7	DEMO EXISTING SPEAKER. SEE ELECTRICAL PLANS FOR NEW SPEAKER TO BE PROVIDED. - **ALT. #3**

ALTERNATE DEMO NOTES

ALT-#3	1. DEMO ALL LIGHTING IN AUDITORIUM AND STAGE EXCEPT STAGE LIGHTING, STAGE LIGHTING TO BE REMOVED AND REINSTALLED. 2. REMOVE LIGHTING CONTROLS IN AUDITORIUM, TO BE REPLACED WITH NEW. 3. REMOVE ALL FIRE ALARM , SPEAKERS, WAPS AND OTHER CEILING MOUNTED EQUIPMENT. EQUIPMENT TO BE RE-INSTALLED ONCE CEILING WORK IS COMPLETED. 4. NOT ALL DEVICES AND EQUIPMENT MAY BE SHOWN, CONTRACTOR TO FAMILIARIZE THEMSELVES WITH SITE PRIOR TO BIDDING TO ACCOUNT FOR DEVICES TO BE RE-INSTALLED. 5. SEE PROPOSED PLANS FOR ADDITIONAL INFORMATION FOR NEW LIGHTING, LIGHTING CONTROLS AND HVAC EQUIPMENT ASSOCIATED WITH THIS ALTERNATE.



MIDDLE SCHOOL BUILDING KEY PLAN

DEMO LIGHTING PLAN - AREA B
1/8" = 1'-0"

N

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AXIOM CONSULTANTS
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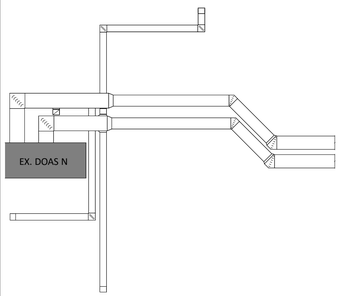
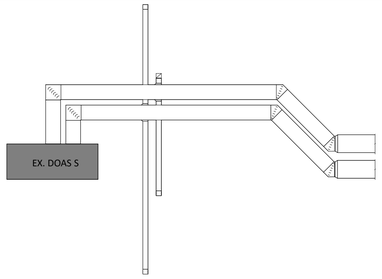
DEMO LIGHTING PLAN - AREA B

D-110B





DEMO MECHANICAL & ELECTRICAL ROOF PLAN - OVERALL
1/16" = 1'-0"

N

GENERAL DEMO NOTES:

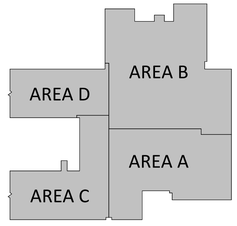
1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. EQUIPMENT SPECIFIED TO BE DEMOLISHED SHALL HAVE THE EQUIPMENTS'S ASSOCIATED COMPONENTS REMOVED AND TERMINATED BACK TO THE RESPECTIVE SOURCE WITHOUT DISRUPTING EXISTING SYSTEMS SPECIFIED TO REMAIN. ASSOCIATED EQUIPMENT COMPONENTS TO BE DEMOLISHED INCLUDE BUT ARE NOT LIMITED TO:
   - A. DUCTWORK (SA/RA/EA/OA)
   - B. HOT WATER SUPPLY AND RETURN PIPING, FITTINGS, AND ACCESSORIES
   - C. ELECTRICAL COMPONENTS
   - D. THERMOSTAT AND CONTROLS
3. ALL PENETRATIONS FOR DUCTWORK, PIPING, ELECTRICAL AND OTHER UTILITIES SPECIFIED TO BE DEMOLISHED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
4. SEE SHEETS D-501 FOR ADDITIONAL INFORMATION ON EXISTING CONDITIONS AND COMPONENTS TO BE REMOVED.

ELECTRICAL DEMO NOTES:

1. EXTREME CARE SHALL BE TAKEN NOT TO DISRUPT ANY ELECTRICAL SERVICES WHICH EXTEND BEYOND BOUNDARIES OF WORK AREA AND ARE TO REMAIN DURING DEMOLITION. POWER TO EQUIPMENT OUTSIDE AREA OF DEMOLITION SHALL NOT BE TURNED OFF WITHOUT PROPER PERMISSION FROM OWNER. ANY CIRCUITS AFFECTED BY THIS DEMOLITION, WHICH ARE SCHEDULED TO REMAIN, SHALL BE PROPERLY REWIRED TO MAINTAIN SERVICE AND COMPLIANCE WITH ALL NATIONAL, STATE, AND LOCAL CODES.
2. THE PLANS INDICATE ONLY AFFECTED EQUIPMENT IN THE DESIGNATED DEMOLITION AREAS OF THIS PROJECT ALTHOUGH NOT EVERY ITEM MAY HAVE BEEN SHOWN. REMOVE NECESSARY ITEMS AS REQUIRED BY THIS DEMOLITION WHETHER OR NOT SHOWN ON PLANS.
3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE PREMISES AND VERIFYING ALL EXISTING CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC IN NATURE. THE CONTRACTOR SHALL COORDINATE AND ADJUST THE WORK AS REQUIRED TO ENSURE PROPER OPERATION OF ALL INSTALLED EQUIPMENT AND SHALL COORDINATE WITH ALL OTHER TRADES.
4. REMOVE ALL EXISTING WIRING DEVICES, WIRING, CONDUIT, AND RELATED MATERIALS AS NOTED OR INDICATED WITHIN DEMOLITION AREAS. NOT ALL ITEMS MAY BE SHOWN. MODIFY AND REWORK EXISTING CIRCUITRY AS REQUIRED TO MAINTAIN CONTINUITY THROUGH AFFECTED AREAS.
5. REMOVED OR DAMAGED CONDUIT, WIRING, AND FITTINGS SHALL NOT BE REUSED OR RELOCATED FOR NEW INSTALLATIONS.
6. PROVIDE COMPLETE AS-BUILT DRAWINGS AND NEW TYPED PANELBOARD DIRECTORIES IDENTIFYING CIRCUIT NUMBERS AND DESCRIPTIONS.
7. WORK INCLUDED FOR EXISTING EQUIPMENT NOTED TO BE REMOVED SHALL INCLUDE:
   - A. SALVAGING OR DISPOSING OF ALL EQUIPMENT AS DIRECTED BY OWNER OR OWNER'S REPRESENTATIVE.
   - B. REMOVAL OF FEEDER FROM EQUIPMENT TO POINT OF FEED.
   - C. REMOVAL OR RE-CIRCUITING OF ALL BRANCH CIRCUITING AS NOTED ON PLANS.
   - D. REMOVAL OF ALL FITTINGS, SUPPORTS, BRACKETS, ETC.
   - E. PATCHING OF WALLS, FLOORS AND CEILINGS.
   - F. REMOVAL OF FEEDER CONDUIT IF FOUND TO BE UNSALVAGEABLE BY ENGINEER OR OWNER'S REPRESENTATIVE.
8. EXISTING EQUIPMENT NOT SHOWN ON DRAWINGS IS INTENDED TO REMAIN UNLESS OTHERWISE NOTED.
9. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AND REMOVING ALL ELECTRICAL CONNECTIONS AND EQUIPMENT REQUIRED FOR THE INSTALLATION OF NEW EQUIPMENT PROVIDED BY THE MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR TO CONFIRM AND AGREE UPON THIS SCOPE OF WORK PRIOR TO BID SUBMISSION.
10. ANY SPARES MAY BE RE-USED FOR INSTALLATION OF NEW CIRCUITS OR ADDITIONAL LOADS.

ELECTRICAL DEMO KEYED NOTES

D5	MECHANICAL EQUIPMENT TO BE DEMOED (DIV 15). DIV 16 TO REMOVE ALL ASSOCIATED WIRING, CONDUIT, BOXES AND DISCONNECTS BACK TO SOURCE. IF UNIT IS BEING REPLACED, AND EXISTING CONDUIT IS IN GOOD CONDITION AND SIZED APPROPRIATELY, EXISTING CONDUIT MAY BE RE-USED FOR NEW CONDUCTORS TO PROPOSED EQUIPMENT.



MIDDLE SCHOOL BUILDING KEY PLAN

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

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ALLAMAKEE CSD

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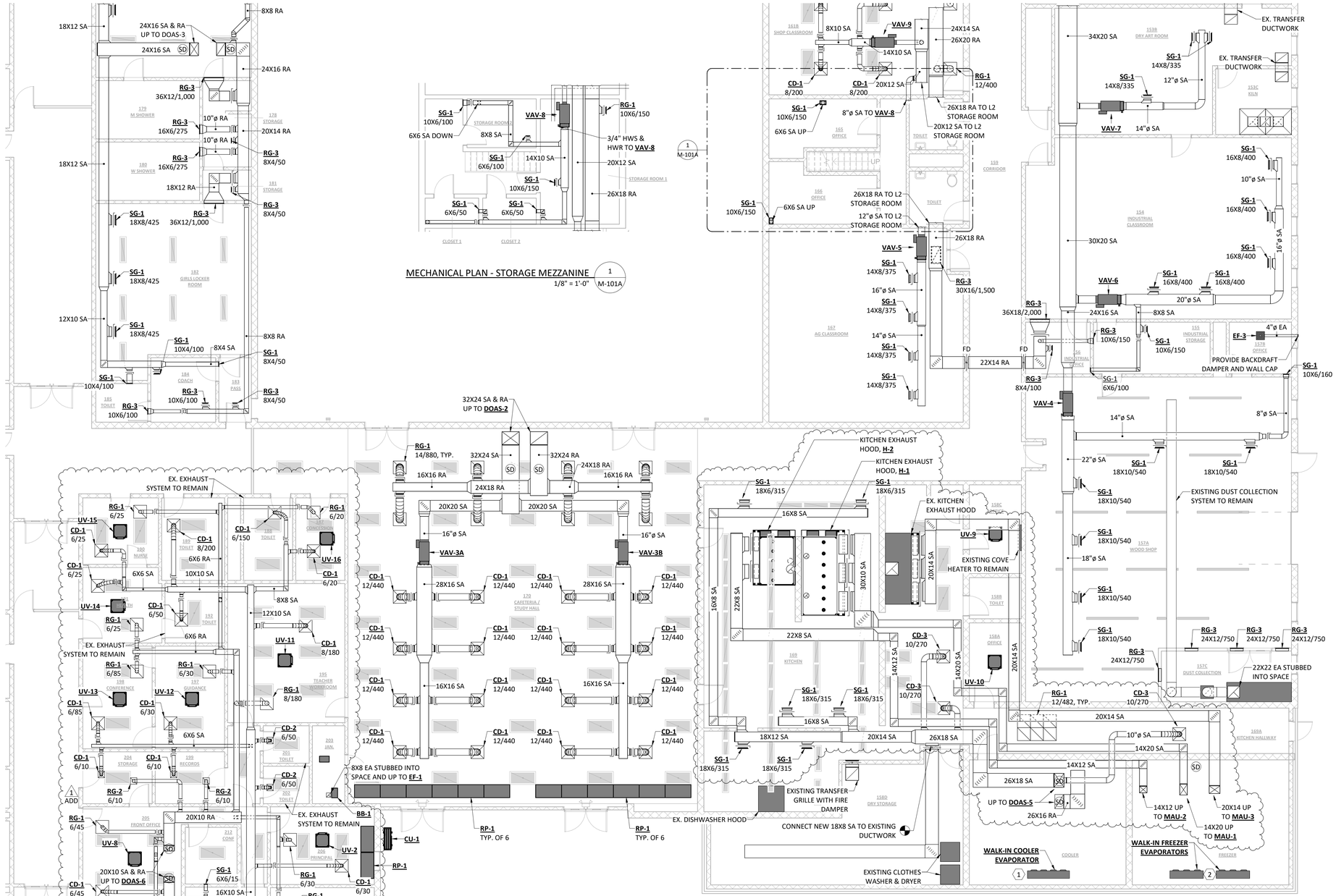
CHECKED BY	JCL/KDM
PROJECT NO.	9166-10000

SHEET NAME

DEMO MECHANICAL & ELECTRICAL ROOF PLAN - OVERALL

D-201



GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
3. MAINTAIN SERVICE CLEARANCE REQUIREMENTS AROUND ALL MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR DUCTWORK IN CLEARANCE SPACE.
4. M.C. COORDINATE REFRIGERANT LINE ROUTING FROM CONDENSING UNITS TO THE RESPECTIVE UNITS.
5. MANUAL VOLUME DAMPERS SHALL BE PROVIDED ON ALL SUPPLY, RETURN, AND EXHAUST BRANCH DUCTS.
6. M.C. SHALL COORDINATE ANY AREA WHERE ACCESS TO EQUIPMENT OR HVAC COMPONENTS ARE REQUIRED TO ALLOW ACCESS FOR MAINTENANCE, OR INSPECTION WITH G.C.
7. VAV BOXES WITH MULTIPLE SUPPLY BRANCH DUCTS SHALL BE PROVIDED WITH A MANUAL VOLUME DAMPER ON ALL BRANCHES.
8. VAV BOXES SERVING A SINGLE SUPPLY DIFFUSER SHALL HAVE NO MANUAL VOLUME DAMPERS INSTALLED.
9. NO MANUAL VOLUME DAMPERS SHALL BE INSTALLED UPSTREAM OF VAV BOXES.
10. ALL MANUAL VOLUME DAMPERS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS FOR PURPOSES OF BALANCING THE AIRFLOW OF THE SYSTEM.
11. IF DUCT SIZE REVISIONS ARE NECESSARY FOR COORDINATION PURPOSES ETC. NEW DUCT SIZE SHALL BE EQUIVALENT TO THE DUCT SIZE INDICATED ON PLANS.
12. REFER TO VARIABLE VOLUME TERMINALS SCHEDULE FOR VAV TERMINAL INLET DUCT SIZES ON SHEET M-601.
13. THE SIZE OF EACH BRANCH DUCT TO A VAV SHALL MATCH THE VAV'S INLET SIZE UNLESS THE BRANCH IS GREATER THAN 6'-0" IN LENGTH, THEN THE BRANCH SHOULD BE INCREASED ONE DUCT SIZE, OR NOTED OTHERWISE.
14. VAV INLET DUCTWORK REQUIREMENTS AS FOLLOWS:
    - A. MINIMUM 3X DIAMETER STRAIGHT INLET DUCT TO EACH VAV BOX.
    - B. IF BRANCH DUCT IS LONGER THAN 3X DIAMETER, BRANCH DUCT SHALL BE SIZED TO ACCOMMODATE AIRFLOW RATE UNTIL THE 3X DIAMETER STRAIGHT DUCT INLET.
    - C. VAV BOX DISCHARGE SHALL INCLUDE A SOUND ATTENUATOR, 3'-0" IN LENGTH.

MECHANICAL KEYNOTES:

1. WALK-IN COOLER REFRIGERATION SYSTEM - EVAPORATOR:
   ONE (1) EVAPORATIVE COIL INSTALLED IN WALK-IN COOLER
   COOLING CAPACITY: 25MBH
   FOUR (4) FANS, 2-SPEED EC
   ELECTRICAL: 15.2A, 120V, 1-PHASE, 60Hz
   REFER TO M-201 FOR ROOF MOUNTED CONDENSING UNIT INFORMATION
   BASIS OF DESIGN: BOHN MODEL BEL0250AS6AMAB0200 LOW P/AIR
2. WALK-IN FREEZER REFRIGERATION SYSTEM - EVAPORATOR:
   TWO (2) EVAPORATIVE COIL INSTALLED IN WALK-IN COOLER
   COOLING CAPACITY: 13.5 MBH
   THREE (3) FANS, 2-SPEED EC
   ELECTRICAL: 15.2A, 208V, 1-PHASE, 60 Hz
   REFER TO M-201 FOR ROOF MOUNT CONDENSING UNIT INFORMATION
   BASIS OF DESIGN: BOHN MODEL BEL0130BS6EMAB0200 P/ELEC

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

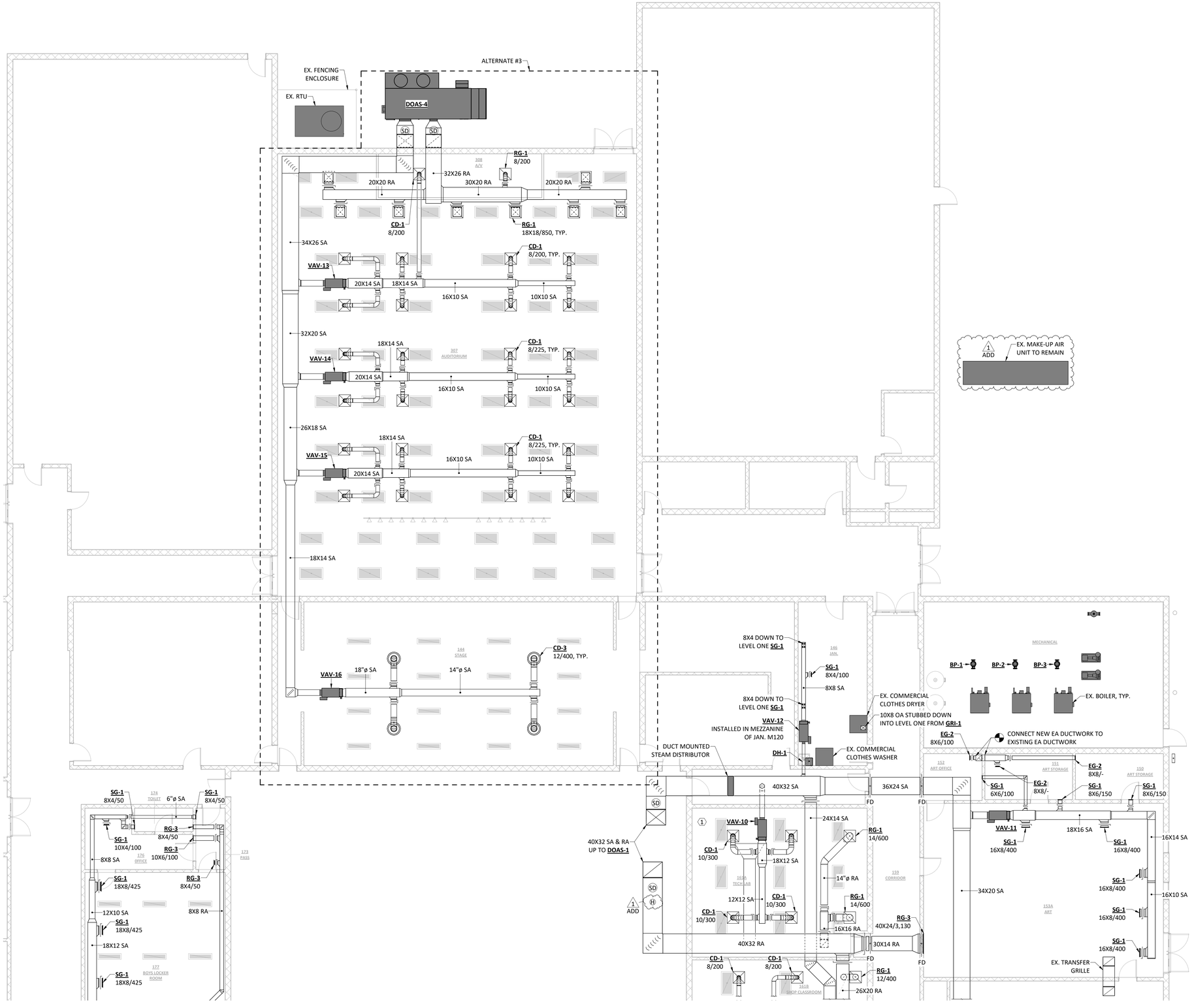
DATE	02/20/2026

DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

DRAWN BY	JJR
CHECKED BY	JCL
PROJECT NO.	9166-10000

SHEET NAME
MECHANICAL PLAN - AREA A

M-101A



GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
3. MAINTAIN SERVICE CLEARANCE REQUIREMENTS AROUND ALL MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR DUCTWORK IN CLEARANCE SPACE.
4. M.C. COORDINATE REFRIGERANT LINE ROUTING FROM CONDENSING UNITS TO THE RESPECTIVE UNITS.
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11. IF DUCT SIZE REVISIONS ARE NECESSARY FOR COORDINATION PURPOSES ETC. NEW DUCT SIZE SHALL BE EQUIVALENT TO THE DUCT SIZE INDICATED ON PLANS.
12. REFER TO VARIABLE VOLUME TERMINALS SCHEDULE FOR VAV TERMINAL INLET DUCT SIZES ON SHEET **M-601**.
13. THE SIZE OF EACH BRANCH DUCT TO A VAV SHALL MATCH THE VAV'S INLET SIZE UNLESS THE BRANCH IS GREATER THAN 6'-0" IN LENGTH, THEN THE BRANCH SHOULD BE INCREASED ONE DUCT SIZE, OR NOTED OTHERWISE.
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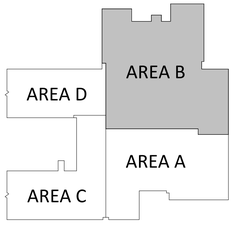
    - C. VAV BOX DISCHARGE SHALL INCLUDE A SOUND ATTENUATOR, 3'-0" IN LENGTH.

MECHANICAL KEYNOTES:

(1) PROVIDE CO & GAS SENSOR IN ROOM TECH LAB ROOM E155.



MIDDLE SCHOOL BUILDING KEY PLAN

MECHANICAL PLAN - AREA B
1/8" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

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SHEET NAME

MECHANICAL PLAN - AREA B

M-101B

GENERAL MECHANICAL NOTES:

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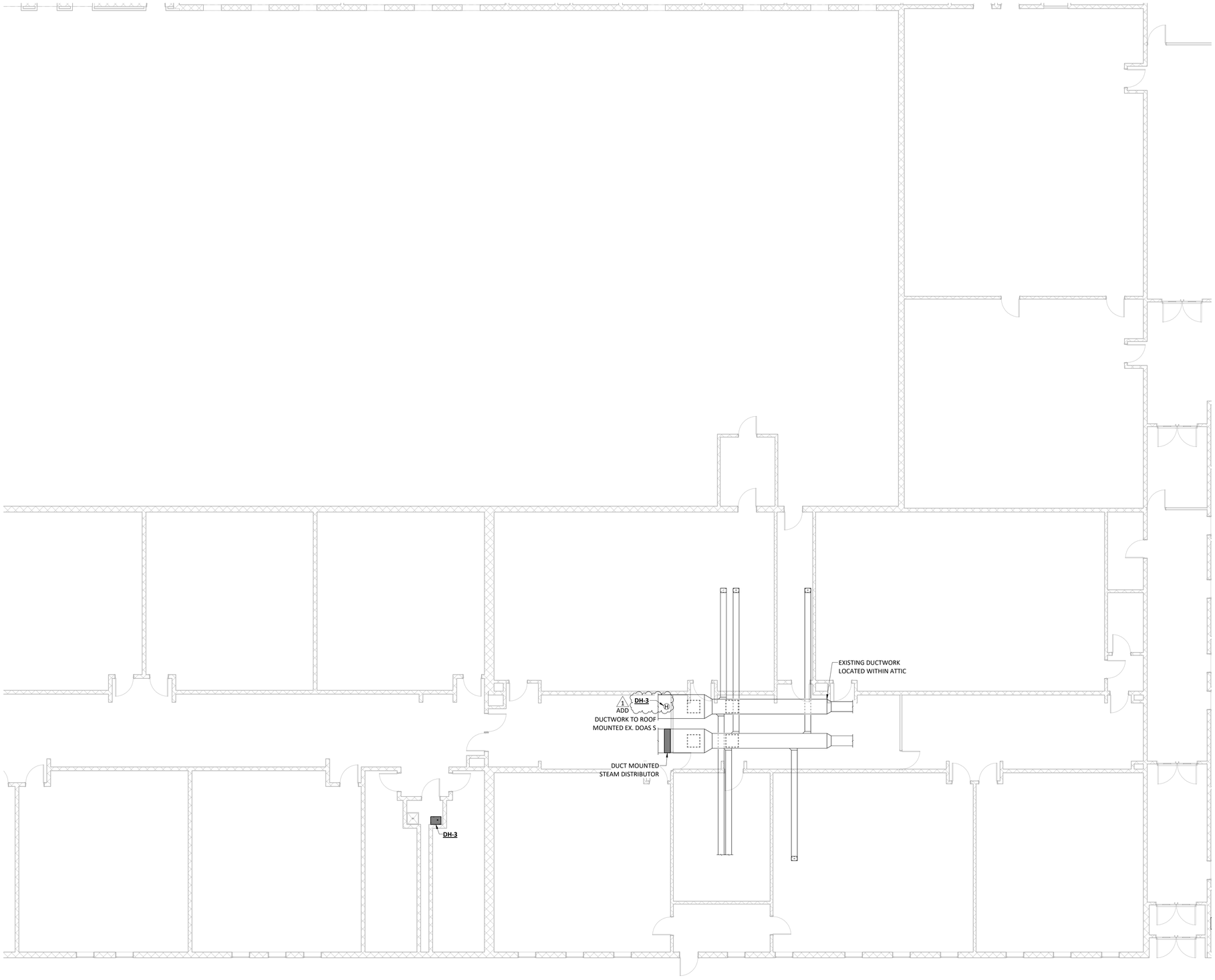

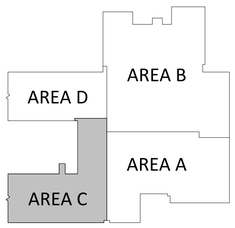

MIDDLE SCHOOL
BUILDING KEY PLAN

MECHANICAL PLAN - AREA C
1/8" = 1'-0"

N

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AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

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MECHANICAL PLAN - AREA C

M-101C

GENERAL MECHANICAL NOTES:

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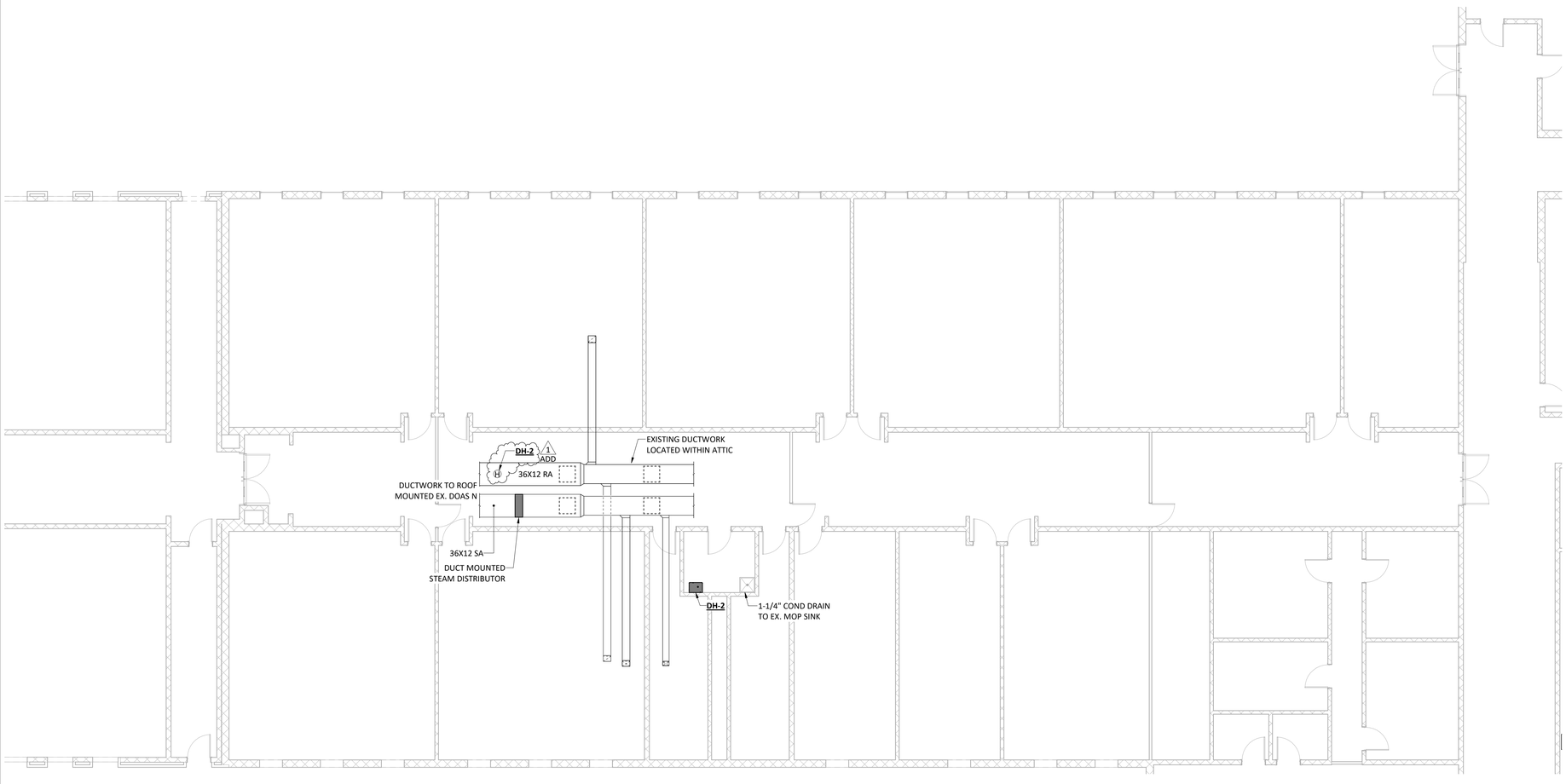

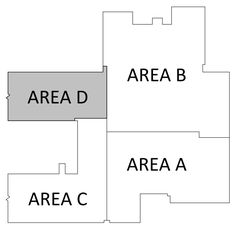

MIDDLE SCHOOL BUILDING KEY PLAN

MECHANICAL PLAN - AREA D
1/8" = 1'-0"

N

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MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

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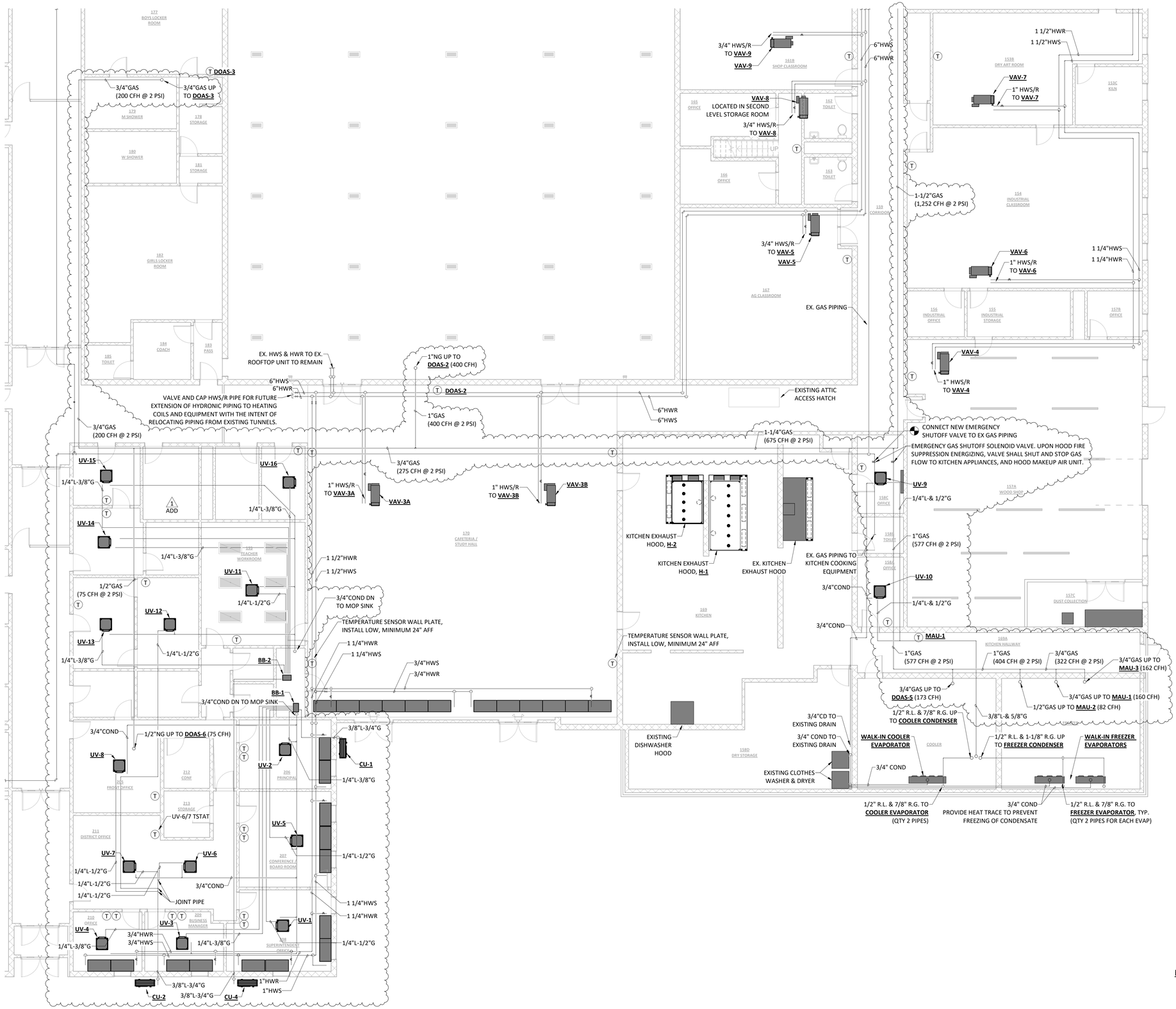
SHEET NAME

MECHANICAL PLAN - AREA D

M-101D



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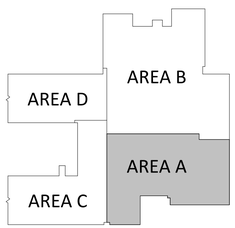

MIDDLE SCHOOL BUILDING KEY PLAN

MECHANICAL PIPING & CONTROLS PLAN - AREA A

1/8" = 1'-0"

N

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A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

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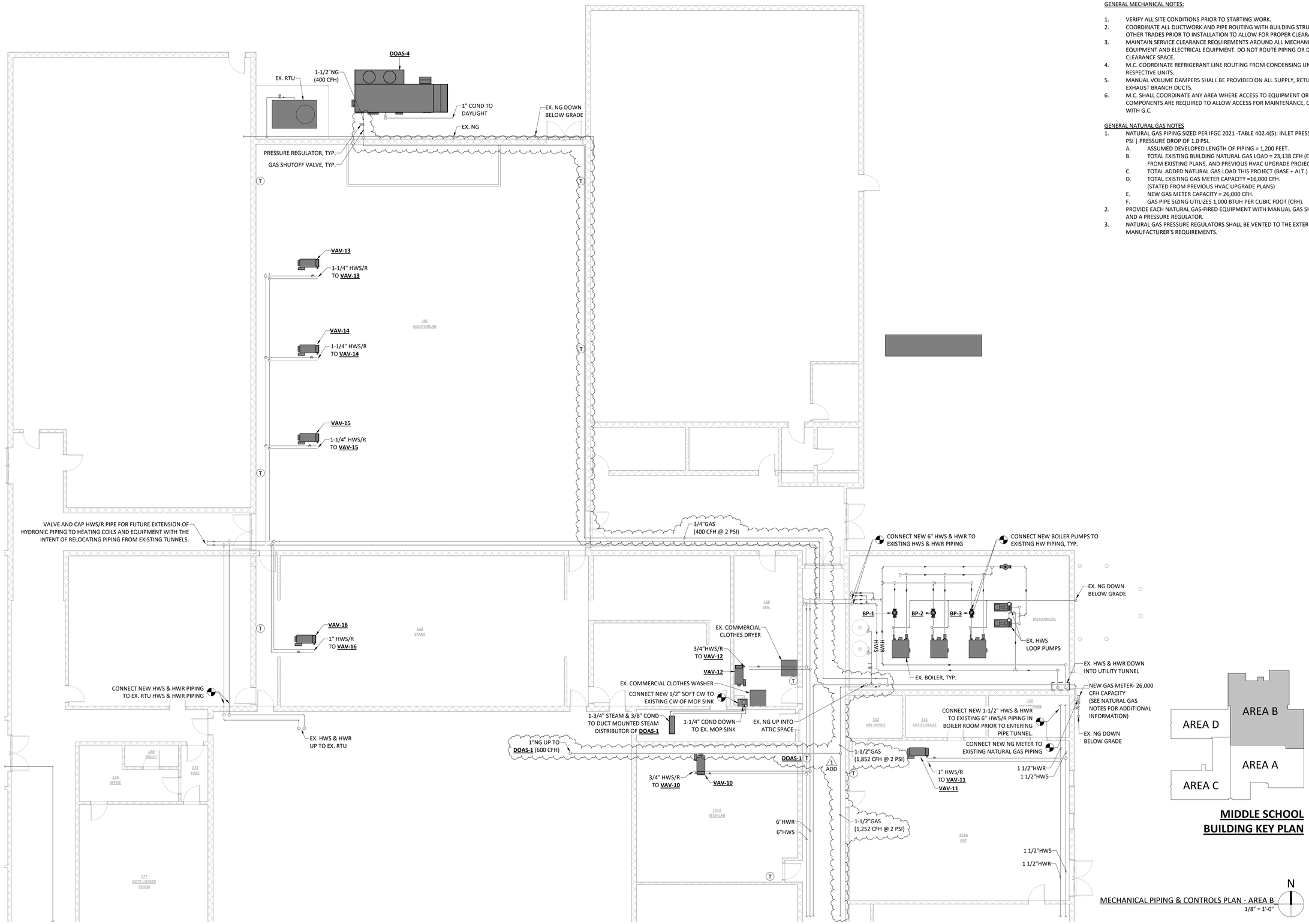
MECHANICAL PIPING & CONTROLS PLAN - AREA A

M-111A



MIDDLE SCHOOL
BUILDING KEY PLAN

MECHANICAL PIPING & CONTROLS PLAN - AREA B
1/8" = 1'-0"

N

GENERAL MECHANICAL NOTES:

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GENERAL NATURAL GAS NOTES

1. NATURAL GAS PIPING SIZED PER IFGC 2021 -TABLE 402.4(5): INLET PRESSURE AT 2.0 PSI | PRESSURE DROP OF 1.0 PSI.
   - A. ASSUMED DEVELOPED LENGTH OF PIPING = 1,200 FEET.
   - B. TOTAL EXISTING BUILDING NATURAL GAS LOAD = 23,138 CFH (ESTIMATED FROM EXISTING PLANS, AND PREVIOUS HVAC UPGRADE PROJECT).
   - C. TOTAL ADDED NATURAL GAS LOAD THIS PROJECT (BASE + ALT.) = 2,683 CFH
   - D. TOTAL EXISTING GAS METER CAPACITY =16,000 CFH. (STATED FROM PREVIOUS HVAC UPGRADE PLANS)
   - E. NEW GAS METER CAPACITY = 26,000 CFH.
   - F. GAS PIPE SIZING UTILIZES 1,000 BTUH PER CUBIC FOOT (CFH).
2. PROVIDE EACH NATURAL GAS-FIRED EQUIPMENT WITH MANUAL GAS SHUTOFF VALVE AND A PRESSURE REGULATOR.
3. NATURAL GAS PRESSURE REGULATORS SHALL BE VENTED TO THE EXTERIOR PER MANUFACTURER'S REQUIREMENTS.

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MECHANICAL PIPING & CONTROLS PLAN - AREA B

M-111B

NOT FOR CONSTRUCTION

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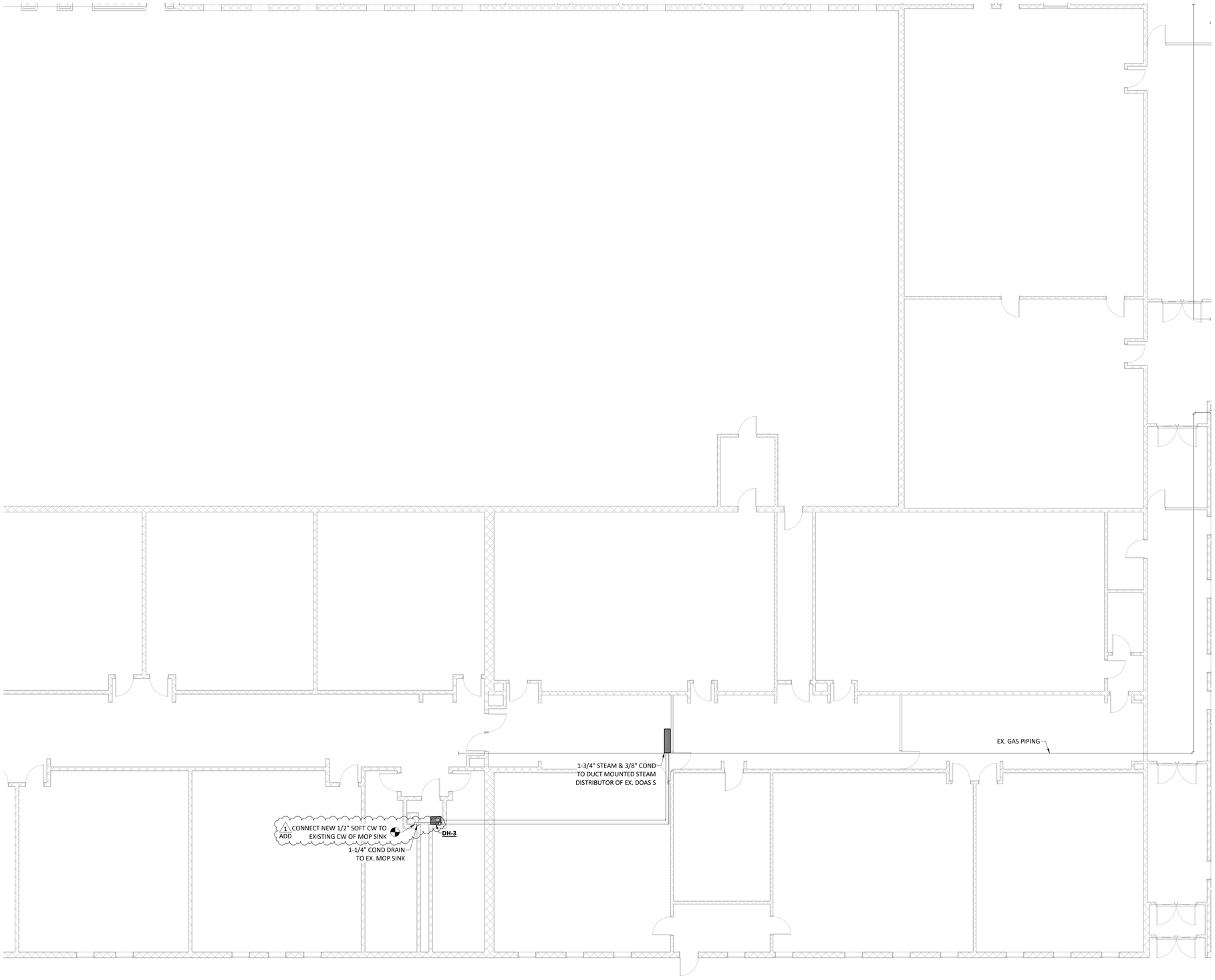
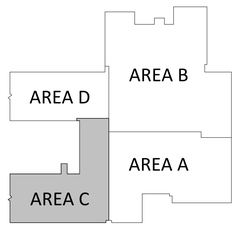


MECHANICAL PIPING & CONTROLS PLAN - AREA C
1/8" = 1'-0"



MIDDLE SCHOOL BUILDING KEY PLAN

N

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A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

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SHEET NAME

MECHANICAL PIPING & CONTROLS PLAN - AREA C

M-111C

GENERAL MECHANICAL NOTES:

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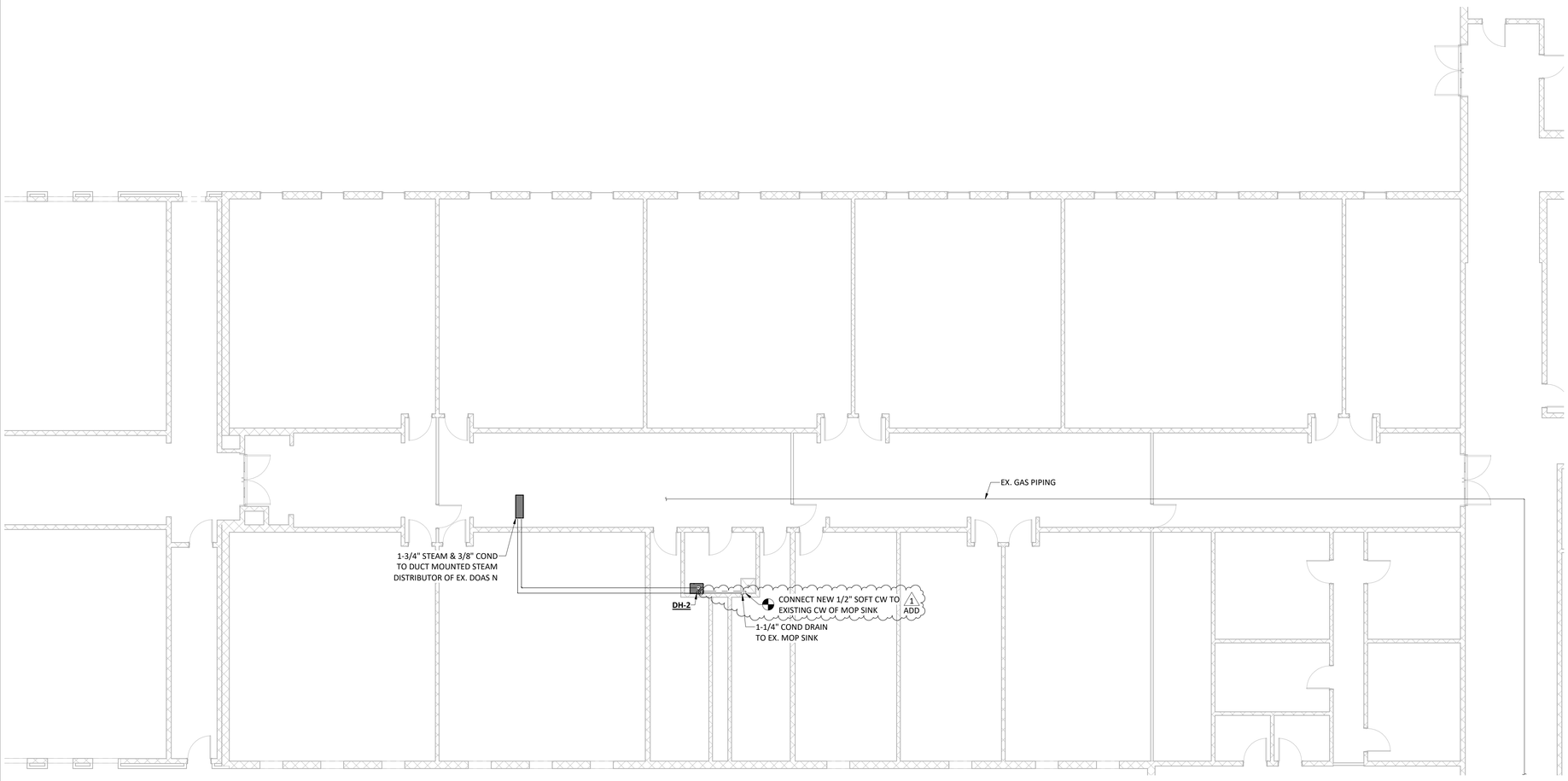

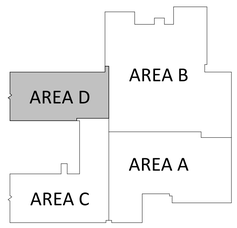

MIDDLE SCHOOL BUILDING KEY PLAN

MECHANICAL PIPING & CONTROLS PLAN - AREA D
1/8" = 1'-0"

N

NOT FOR CONSTRUCTION

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A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

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SHEET NAME

MECHANICAL PIPING & CONTROLS PLAN - AREA D

M-111D

GENERAL MECHANICAL NOTES:

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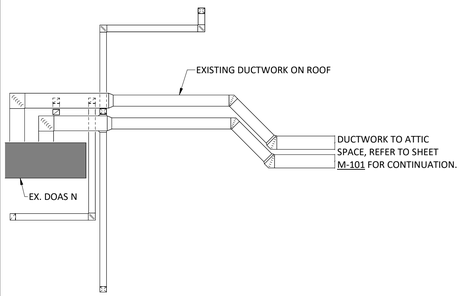
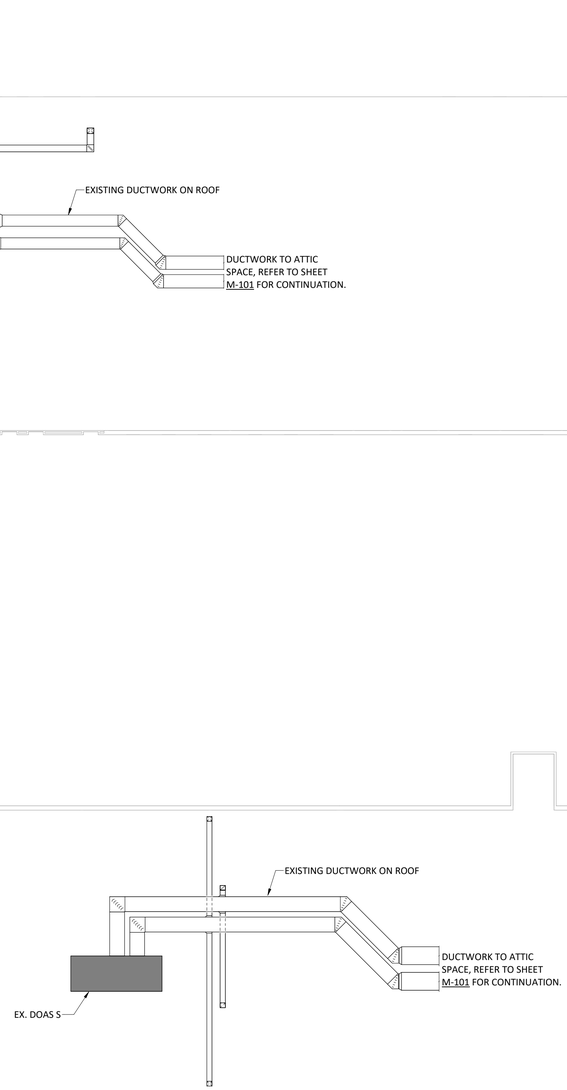
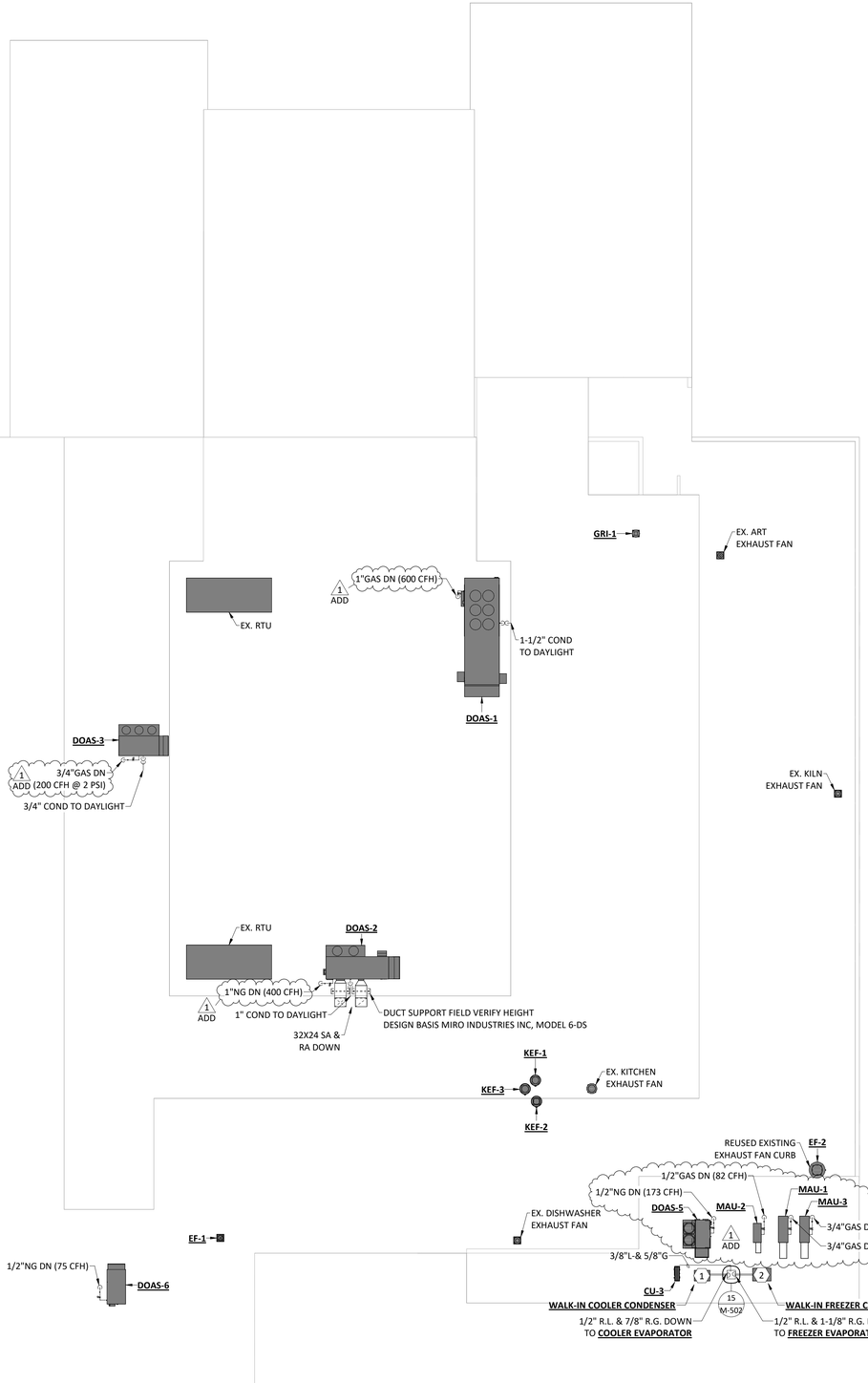
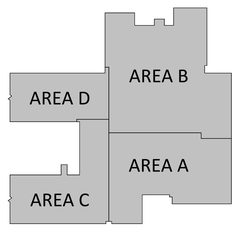
MECHANICAL KEYNOTES:

1. WALK-IN COOLER REFRIGERATION SYSTEM - CONDENSING:
   ONE (1) CONDENSING UNIT INSTALLED ON FLAT ROOF
   ONE (1) EVAPORATIVE COIL INSTALLED IN WALK-IN COOLER
   COOLING CAPACITY: 25.0 MBH
   ELECTRICAL: 2.0 HP, 208V, 3-PHASE, 60Hz
   BASIS OF DESIGN: BOHN MODEL BCH0027MCACZA0000
2. WALK-IN FREEZER REFRIGERATION SYSTEM - CONDENSING:
   ONE (1) CONDENSING UNIT INSTALLED ON FLAT ROOF
   TWO (2) EVAPORATIVE COIL INSTALLED IN WALK-IN COOLER
   COOLING CAPACITY: 24.3 MBH
   ELECTRICAL: 7.5 HP, 208V, 3-PHASE, 60 Hz
   BASIS OF DESIGN: BOHN MODEL BCH0075LCACZ









MIDDLE SCHOOL BUILDING KEY PLAN

MECHANICAL ROOF PLAN
1/16" = 1'-0"

N

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ALLAMAKEE CSD

ISSUED FOR

BIDDING

DATE	02/20/2026
DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

DRAWN BY	JJR
CHECKED BY	JCL
PROJECT NO.	9166-10000

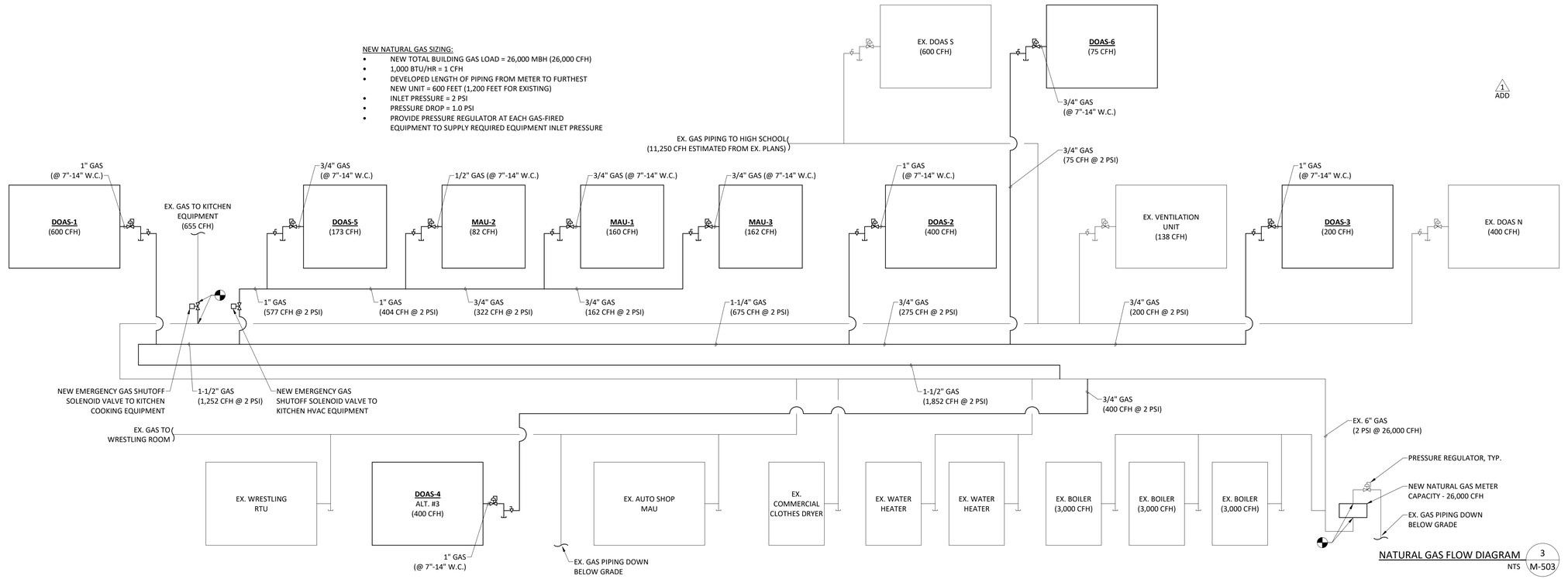
SHEET NAME

MECHANICAL ROOF PLAN

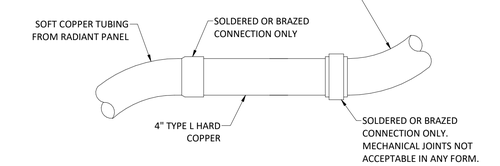
M-201

NEW NATURAL GAS SIZING:

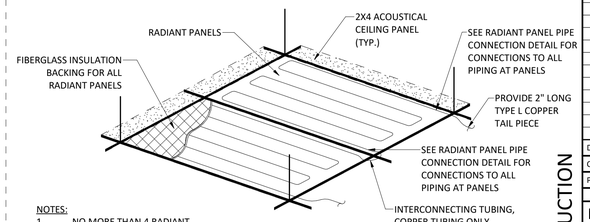
- NEW TOTAL BUILDING GAS LOAD = 26,000 MBH (26,000 CFH)
- 1,000 BTU/HR = 1 CFH
- DEVELOPED LENGTH OF PIPING FROM METER TO FURTHEST NEW UNIT = 600 FEET (1,200 FEET FOR EXISTING)
- INLET PRESSURE = 2 PSI
- PRESSURE DROP = 1.0 PSI
- PROVIDE PRESSURE REGULATOR AT EACH GAS-FIRED EQUIPMENT TO SUPPLY REQUIRED EQUIPMENT INLET PRESSURE



NATURAL GAS FLOW DIAGRAM — 3 — NTS — M-503



RADIANT PANEL PIPE CONNECTION DETAIL — 2 — NTS — M-503



NOTES:

1. NO MORE THAN 4 RADIANT PANELS SHALL BE PIPED IN SERIES EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.

MODULAR RADIANT HEATING PANEL DETAIL — 1 — NTS — M-503

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
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MECHANICAL DETAILS

M-503

VARIABLE AIR VOLUME TERMINALS SCHEDULE

PLAN MARK	MAX. COOLING AIRFLOW (CFM)	INLET SIZE (INCH Ø)	STATIC PRESSURE (IN. W.G.) (1)	HEATING CONDITIONS		HEATING COIL DATA						NC RATING	MANUFACTURER | MODEL	WEIGHT (LBS.)	NOTES
				AIRFLOW (CFM)	APD (IN. W.G.)	ROWS	MBH	FLOW RATE (GPM)	WPD (FT. HD.)	EAT (°F)	LAT (°F)				
VAV-1															1 ADD
VAV-2															
VAV-3A	3,500	16	0.75	2,600	0.45	2	98.3	5	1.1	61	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF16	94	ALL
VAV-3B	3,500	16	0.75	2,600	0.45	2	98.3	5	1.1	61	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF16	94	ALL
VAV-4	3,400	16	0.75	2,200	0.35	2	83.2	5	1.1	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF16	94	ALL
VAV-5	1,500	12	0.42	900	0.20	2	34.1	3.5	0.7	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF12	66	ALL
VAV-6	2,250	14	0.45	1,400	0.25	2	69.4	5	1.1	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF12	66	ALL
VAV-7	1,000	10	0.65	700	0.25	2	41.3	2.5	1.0	55.0	90.0	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF10	52	ALL
VAV-8	750	8	0.56	500	0.47	2	18.9	2.5	0.5	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF08	39	ALL
VAV-9	800	8	0.68	600	0.38	2	30.8	2.5	0.5	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF08	39	ALL
VAV-10	1,200	10	0.30	600	0.15	1	23.3	1.5	6.3	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF10	48	ALL
VAV-11	2,400	14	0.28	1,800	0.20	1	54.8	3.0	2.4	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF14	75	ALL
VAV-12	300	6	0.17	200	0.12	1	9.5	1.0	1.7	55	90	(2)	TRANE SINGLE-DUCT HW VAV BOX MODEL VCWF06	32	ALL

1. STATIC PRESSURE DROP AT LISTED AIRFLOW RATE THROUGH VAV BOX (DAMPER 100% OPEN).
2. NC RATING IS MAXIMUM DISCHARGE OR RADIATED RATING ALLOWED. NC RATINGS TO BE CALCULATED IN ACCORDANCE WITH AHRI-885.
3. PROVIDE VARIABLE VOLUME TERMINALS WITH SOUND ATTENUATION.
4. HEATING COIL SHALL BE INSTALLED UPSTREAM OF SOUND ATTENUATOR.

MINI-SPLIT MULTI-ZONE HEAT PUMP SCHEDULE

PLAN MARK	AREA SERVED / CONNECTED SYSTEM (INDOOR/OUTDOOR UNIT)	AIRFLOW (CFM)	COOLING CAPACITY (MBH)	REFRIGERANT TYPE	SEER2 / HSPF	HEATING CAPACITY @ 47°F (MBH)	HEATING CAPACITY @ -13°F (MBH)	ELECTRICAL			DIMENSIONS (INCH)			REFRIG (LBS, OZ)	WEIGHT (LBS.)	MANUFACTURER | MODEL	NOTES
								AMP (MCA)	VOLTAGE	Ø	WIDTH	DEPTH	HEIGHT				
UNIT VENTILATOR (INDOOR UNIT)																	
UV-1	SUPERINTENDENT OFFICE (M100C) / CU-1	530	12	(4)	--	14	--	1	208	1	33	33	10	--	46	TRANE CEILING CASSETTE UNIT MODEL PLA-AE12NL	1, 2, 3
UV-2	PRINCIPAL OFFICE (M102B) / CU-1	300	9	(4)	--	11	--	1	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL SLZ-AF09NL	1, 2, 3
UV-3	BUSINESS MGR OFFICE (M100B) / CU-1	300	9	(4)	--	11	--	1	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL SLZ-AF09NL	1, 2, 3
UV-4	OFFICE (M100A) / CU-1	300	9	(4)	--	11	--	1	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL SLZ-AF09NL	1, 2, 3
UV-5	CONF & BOARD ROOM (M100D) / CU-1	335	12	(4)	--	13.5	--	0.36	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL PLFY-L12NFMU-A	1, 2, 3
UV-6	DISTRICT OFFICE (M100) / CU-2	335	12	(4)	--	13.5	--	0.36	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL PLFY-L12NFMU-A	1, 2, 3
UV-7	DISTRICT OFFICE (M100) / CU-2	335	12	(4)	--	13.5	--	0.36	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL PLFY-L12NFMU-A	1, 2, 3
UV-8	FRONT OFFICE (M102) / CU-2	335	12	(4)	--	13.5	--	0.36	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL PLFY-L12NFMU-A	1, 2, 3
UV-9	KITCHEN OFFICE (M107C) / CU-3	335	12	(4)	--	13.5	--	0.36	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL PLFY-L12NFMU-A	1, 2, 3
UV-10	KITCHEN OFFICE (M107A) / CU-3	335	12	(4)	--	13.5	--	0.36	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL PLFY-L12NFMU-A	1, 2, 3
UV-11	TEACHER WORKROOM / CU-4	600	18	(4)	--	19	--	1	208	1	33	33	10	--	46	TRANE CEILING CASSETTE UNIT MODEL PLA-AE12NL	1, 2, 3
UV-12	GUIDANCE / CU-2	335	12	(4)	--	13.5	--	0.36	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL PLFY-L12NFMU-A	1, 2, 3
UV-13	CONFERENCE / CU-4	300	9	(4)	--	11	--	1	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL SLZ-AF09NL	1, 2, 3
UV-14	HEALTH / CU-4	300	9	(4)	--	11	--	1	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL SLZ-AF09NL	1, 2, 3
UV-15	NURSE / CU-4	300	9	(4)	--	11	--	1	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL SLZ-AF09NL	1, 2, 3
UV-16	CONCESSION / CU-4	300	9	(4)	--	11	--	1	208	1	23	23	9	--	31	TRANE CEILING CASSETTE UNIT MODEL SLZ-AF09NL	1, 2, 3
HEAT PUMP (OUTDOOR UNIT)																	
CU-1	ADMIN PERIMETER OFFICES / UV-1 THRU UV-5	--	60	R454B (4)	20/10.5	65	30	55	208	1	42	13	53	6, 10	280	TRANE AIR-COOLED HEAT PUMP MODEL MXZ-SM60NL	3, 5, 6, 7, 8, 9, 10
CU-2	ADMIN INTERIOR OFFICES / UV-6 THRU UV-8, UV-12	--	60	R454B (4)	20/10.5	65	30	55	208	1	42	13	53	6, 10	280	TRANE AIR-COOLED HEAT PUMP MODEL MXZ-SM60NL	3, 5, 7, 8, 9, 10
CU-3	KITCHEN OFFICES / UV-9 AND UV-10	--	36	R454B (4)	23/12	42	42	55	208	1	42	13	53	6, 10	280	TRANE AIR-COOLED HEAT PUMP MODEL MXZ-SM36NLHZ	3, 5, 7, 8, 9, 10
CU-4	ADMIN INTERIOR OFFICES / UV-11 AND UV-16 (NO UV-12)	--	60	R454B (4)	20/10.5	65	30	55	208	1	42	13	53	6, 10	280	TRANE AIR-COOLED HEAT PUMP MODEL MXZ-SM60NL	3, 5, 6, 7, 8, 9, 10

1. PROVIDE UNIT VENTILATORS WITH BUILT-IN CONDENSATE LIFT MECHANISM. ROUTE CONDENSATE TO NEAREST ACCEPTABLE DRAIN LOCATION, OR TERMINATE ON EXTERIOR OF BUILDING. DIVISION 16 CONTRACTOR SHALL WIRE THE CONDENSATE LIFT PUMPS.
2. PROVIDE CONTROLLER MODEL PAR-42MAAUB WHICH PROVIDES REFRIGERANT LEAK ALARMS. BUILDING AUTOMATION CONTRACTOR SHALL PROVIDE COMBINATION HUMIDITY, AND CO2 SENSOR.
3. REFRIGERANT LINESETS SHALL BE ROUTED IN MOST EFFICIENT PATH AND MINIMAL REFRIGERANT PIPE SHALL BE EXPOSED. ALL REFRIGERANT LINESET SHALL BE INSULATED PER ENERGY CODE REQUIREMENTS. PRE-INSULATED LINESETS ARE ACCEPTABLE.
4. MINI-SPLIT MANUFACTURER SHALL PROVIDE REFRIGERANT TYPE THAT MEETS ALL NEW FEDERAL REQUIREMENTS. REFER TO INTERNATIONAL MECHANICAL CODE, CHAPTER 11 REFRIGERANTS FOR MAXIMUM ALLOWABLE QUANTITY FOR SUBMITTED REFRIGERANT.
5. REFER TO SUBMITTED MANUFACTURER PIPING LENGTH AND ROUTING RESTRICTIONS.
6. PROVIDE WITH 5 PORT BRANCH BOX, MODEL PAC-LMA50BC. BRANCH BOX SHALL BE POWERED THROUGH THE ASSOCIATED HEAT PUMP (OUTDOOR UNIT). ELECTRICAL REQUIREMENTS: 208V, 1-PHASE, 0.003 kW INPUT, 0.15 AMP RUNNING CURRENT.
7. PROVIDE HAIL GUARD.
8. PROVIDE WIND BAFFLE.
9. PROVIDE WALL BRACKET FOR INSTALLATION, MINIMUM 18" ABOVE GRADE.
10. PROVIDE LINE-HIDE COVER ON ALL PIPING EXPOSED ON THE EXTERIOR WALL OF THE BUILDING PRIOR TO PENETRATING INTO INTERIOR SPACE.

DEDICATED OUTSIDE AIR SYSTEM (DOAS) SCHEDULE

PLAN MARK	SUPPLY FAN(S)					EXHAUST FAN(S)					COOLING CAPACITY			SUMMER ENERGY RECOVERY				REFRIGERANT	ELECTRIC PRE-HEAT		GAS HEATING		WINTER DESIGN ENERGY RECOVERY				LAT (°F)	HEAT EXCHANGER MATERIAL	FUEL - NATURAL GAS			DIMENSIONS (INCH)			ELECTRICAL			WEIGHT (LBS.)	MANUFACTURER | MODEL NO.	NOTES
	DESIGN AIRFLOW	ESP / TSP	DRIVE TYPE	MOTOR		DESIGN AIRFLOW	ESP / TSP	DRIVE TYPE	MOTOR		TOTAL (MBH)	SENSIBLE (MBH)	LATENT (MBH)	OUTSIDE AIR (°F)		FRESH AIR (°F)			CAPACITY (KW)	EAT / LAT (DB°F)	INPUT (MBH)	OUTPUT (MBH)	OUTSIDE AIR (°F)		FRESH AIR (°F)				AFUE	GAS SIZE (ø)	MIN.-MAX. INLET PRESSURE	LENGTH	WIDTH	HEIGHT (NOTE 16)	AMPS	VOLTAGE	ø			
				QTY	HP				QTY	HP				EAT (DB)	EAT (WB)	LAT (DB)	LAT (WB)							EAT (DB)	EAT (WB)	LAT (DB)	LAT (WB)												
DOAS-1	13,500	1.7 / 3.4	DIRECT/ VFD	1	10	3,000	1.0 / 1.7	DIRECT/ VFD	1	3	562	371	191	95	78	80	68	R454B	20	-10 / 11	600	486	11	--	46	41	97	STAINLESS STEEL	81%	1"	7"-14" W.C.	338	278	108	268	208	3	10,400	TRANE HORIZON DOAS MODEL OANG055C1	ALL
DOAS-2	7,000	1.0 / 3.35	DIRECT/ VFD	1	10	2,000	1.2 / 2.1	DIRECT/ VFD	1	1.5	215	154	61	95	78	80	69	R454B	15	-10 / 13	400	324	13	--	45	40	105	STAINLESS STEEL	81%	1"	7"-14" W.C.	213	100	62	109	208	3	4,392	TRANE HORIZON DOAS MODEL OADG020C1	ALL
DOAS-3	3,000	1.4 / 3.0	DIRECT/ VFD	1	3	3,000	1.2 / 2.4	DIRECT/ VFD	1	2	203	108	95	95	78	80	69	R454B	20	-10 / 11	200	160	11	NA	NA	NA	101	STAINLESS STEEL	81%	1"	7"-14" W.C.	183	95	68	108	208	3	4,223	TRANE HORIZON DOAS OADGD020C1	1,2,3,4,5,6,7,8,9, 10,13,14,15,16
DOAS-4	*ALTERNATE 3 - REFER TO MECHANICAL SCHEDULES M-603*																	*ALTERNATE 3 - REFER TO MECHANICAL SCHEDULES M-603*											*ALTERNATE 3 - REFER TO MECHANICAL SCHEDULES M-603*									
DOAS-5	3,400	0.5 / -	DIRECT/ VFD	1	3	2,890	N/A	N/A	N/A	N/A	139	94	45	85	78	N/A	N/A	R454B	N/A	N/A	173	140	-10	NA	NA	NA	90	STAINLESS STEEL	81%	3/4"	7"-14" W.C.	108	81	61	62	208	3	2,036	ECON-AIR RTU MODEL EARTU2-I 200-18-10T	1,2,3,4,5,6,7,8,9, 10,13,14,15,16
DOAS-6	1,200	1.7 / 2.96	DIRECT/ VFD	1	1	650	1.2 / 1.72	DIRECT/ VFD	1	2	45	30	15	95	78	80	68	R454B	5.0	-10 / 7	75	60	7	4	54	46	92	STAINLESS STEEL	81%	3/4"	7"-14" W.C.	161	52	55	34	208	3	1,964	TRANE HORIZON DOAS MODEL OABD048A3-C1	ALL
MAU-1	*REFER TO MECHANICAL SCHEDULES M-604*															1 ADD		*REFER TO MECHANICAL SCHEDULES M-604*										*REFER TO MECHANICAL SCHEDULES M-604*									

1. SUPPLY FAN AND EXHAUST FAN MOTORS SHALL BE DIRECT-DRIVE WITH FACTORY INSTALLED VARIABLE FREQUENCY DRIVES.
2. UNITS SHALL BE MULTI-ZONE VAV CONTROLS.
3. PROVIDE THE FOLLOWING MOTORIZED CONTROL DAMPERS: OUTSIDE AIR, EXHAUST AIR, ENERGY RECOVERY WHEEL BYPASS, AND RECIRCULATION AIRSTREAMS.
4. DIRECT EXPANSION (DX) COOLING COIL: SHALL BE TYPE 6-ROW.
5. PROVIDE UNITS WITH MODULATING HOT GAS REHEAT (HGRH) COIL DOWNSTREAM OF DX COOLING COIL TO PROVIDE DEHUMIDIFICATION.
6. PROVIDE UNITS WITH FACTORY MOUNTED AND WIRED UV LIGHTS BETWEEN EVAPORATOR COIL AND THE HGRH COIL.
7. PROVIDE 2-INCH MERV8 PRE-FILTER UPSTREAM OF THE ENERGY RECOVERY WHEEL.
8. PROVIDE 2-INCH MERV13 PRIMARY FILTER UPSTREAM OF DX COOLING COIL DOWNSTREAM OF THE RECIRCULATING MODULATING DAMPER.
9. COMPRESSORS SHALL BE DIGITAL-SCROLL, MINIMUM OF 2-CIRCUITS.
10. PRIMARY HEATING SECTION SHALL BE INDIRECT-FIRED GAS BURNER AND SHALL BE STAINLESS STEEL, INDUCED DRAFT COMBUSTION AND USE A DIRECT SPARK IGNITION SYSTEM.
11. SECONDARY HEATING SHALL BE STAGED ELECTRIC HEATING COIL UPSTREAM OF THE ENERGY RECOVERY WHEEL ON THE OUTSIDE AIRSTREAM. CONTROL SHALL BE ON/OFF.
12. ENERGY RECOVERY SECTION SHALL BE A TOTAL ENERGY RECOVERY WHEEL WITH FROST PROTECTION AND VARIABLE FREQUENCY DRIVE.
13. PROVIDE FACTORY MOUNT NON-FUSED DISCONNECT.
14. PROVIDE POWERED CONVENIENCE OUTLET.
15. PROVIDE UNITS WITH HAIL GUARDS ON THE CONDENSER COIL.
16. PROVIDE UNITS WITH ROOF CURB. CURB SHALL MAINTAIN MINIMUM 18" CLEAR ABOVE ROOF AND INSULATION FINISHED ELEVATION.

NOT FOR CONSTRUCTION

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SHEET NAME

MECHANICAL SCHEDULES

M-601

AIRFLOW MATRIX

ROOM NAME	ROOM #	AREA (FT2)	SUPPLY	RETURN	MIN. VENTILATION RATES				ZONE DISTRIBUTION EFFECTIVENESS (Ez)	IMC CALCULATED VENTILATION (CFM)	TOTAL EXHAUST (CFM)	SYSTEM
					OCCUPANCY	CFM/PERSON	CFM/FT2	EXHAUST				
AG CLASSROOM	167	882 SF	1500 CFM	1500 CFM	30	10.0 CFM	0.12 CFM	0 CFM	0.8	507 CFM	0 CFM	DOAS-1
ART	153A	1225 SF	2000 CFM	2000 CFM	20	10.0 CFM	0.12 CFM	0 CFM	0.8	434 CFM	0 CFM	DOAS-1
ART OFFICE	152	81 SF	100 CFM	0 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	19 CFM	100 CFM	DOAS-1
ART STORAGE	151	118 SF	150 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	9 CFM	150 CFM	DOAS-1
ART STORAGE	150	119 SF	150 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	9 CFM	150 CFM	DOAS-1
CLOSET 1		33 SF	50 CFM	0 CFM	0	0.0 CFM	0.00 CFM	0 CFM	0.8	0 CFM	0 CFM	DOAS-1
CLOSET 2		33 SF	50 CFM	0 CFM	0	0.0 CFM	0.00 CFM	0 CFM	0.8	0 CFM	0 CFM	DOAS-1
CORRIDOR	159	1507 SF	800 CFM	800 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	113 CFM	0 CFM	DOAS-1
DRY ART ROOM	153B	587 SF	1000 CFM	1000 CFM	10	10.0 CFM	0.12 CFM	0 CFM	0.8	213 CFM	0 CFM	DOAS-1
DUST COLLECTION	157C	158 SF	50 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	12 CFM	50 CFM	DOAS-1
INDUSTRIAL CLASSROOM	154	1132 SF	2000 CFM	2000 CFM	25	10.0 CFM	0.12 CFM	0 CFM	0.8	482 CFM	0 CFM	DOAS-1
INDUSTRIAL OFFICE	156	80 SF	100 CFM	100 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	19 CFM	0 CFM	DOAS-1
INDUSTRIAL STORAGE	155	144 SF	150 CFM	150 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	11 CFM	0 CFM	DOAS-1
JAN.	146	332 SF	300 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	25 CFM	0 CFM	DOAS-1
KILN	153C	119 SF	0 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	9 CFM	800 CFM	DOAS-1
OFFICE	157B	77 SF	250 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	6 CFM	0 CFM	DOAS-1
OFFICE	166	137 SF	150 CFM	150 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	23 CFM	0 CFM	DOAS-1
OFFICE	165	135 SF	150 CFM	150 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	23 CFM	0 CFM	DOAS-1
SHOP CLASSROOM	161B	511 SF	800 CFM	800 CFM	20	10.0 CFM	0.12 CFM	0 CFM	0.8	327 CFM	0 CFM	DOAS-1
STORAGE ROOM 1		236 SF	150 CFM	150 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	18 CFM	0 CFM	DOAS-1
STORAGE ROOM 2		81 SF	100 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	6 CFM	0 CFM	DOAS-1
TECH LAB	161A	753 SF	1200 CFM	1200 CFM	20	10.0 CFM	0.12 CFM	0 CFM	0.8	363 CFM	0 CFM	DOAS-1
WOOD SHOP	157A	1892 SF	3400 CFM	0 CFM	20	10.0 CFM	0.12 CFM	0 CFM	0.8	534 CFM	3400 CFM	DOAS-1
CAFETERIA / STUDY HALL	170	3134 SF	7000 CFM	7000 CFM	130	7.5 CFM	0.18 CFM	0 CFM	0.8	1924 CFM	0 CFM	DOAS-2
OFFICE	176	148 SF	100 CFM	100 CFM	1	5.0 CFM	0.06 CFM	0 CFM	0.8	17 CFM	70 CFM	DOAS-3
BOYS LOCKER ROOM	177	705 SF	1275 CFM	1000 CFM	0	0.0 CFM	0.00 CFM	450 CFM	0.8	0 CFM	450 CFM	DOAS-3
COACH	184	100 SF	100 CFM	100 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	20 CFM	0 CFM	DOAS-3
GIRLS LOCKER ROOM	182	593 SF	1275 CFM	1000 CFM	0	0.0 CFM	0.00 CFM	375 CFM	0.8	0 CFM	375 CFM	DOAS-3
M SHOWER	179	145 SF	0 CFM	275 CFM	0	0.0 CFM	0.00 CFM	200 CFM	0.8	0 CFM	250 CFM	DOAS-3
PASS	173	53 SF	50 CFM	50 CFM	0	0.0 CFM	0.00 CFM	0 CFM	0.8	0 CFM	0 CFM	DOAS-3
PASS	183	50 SF	50 CFM	50 CFM	0	0.0 CFM	0.00 CFM	0 CFM	0.8	0 CFM	0 CFM	DOAS-3
STORAGE	181	35 SF	0 CFM	50 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	3 CFM	0 CFM	DOAS-3
STORAGE	178	99 SF	0 CFM	50 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	7 CFM	0 CFM	DOAS-3
TOILET	174	40 SF	50 CFM	50 CFM	0	0.0 CFM	0.00 CFM	70 CFM	0.8	0 CFM	70 CFM	DOAS-3
TOILET	185	48 SF	100 CFM	100 CFM	0	0.0 CFM	0.00 CFM	70 CFM	0.8	0 CFM	70 CFM	DOAS-3
W SHOWER	180	145 SF	0 CFM	275 CFM	0	0.0 CFM	0.00 CFM	200 CFM	0.8	0 CFM	250 CFM	DOAS-3
A/V	308	210 SF	200 CFM	200 CFM	5	5.0 CFM	0.06 CFM	0 CFM	0.8	47 CFM	0 CFM	DOAS-4
AUDITORIUM	307	4438 SF	5400 CFM	7000 CFM	400	5.0 CFM	0.06 CFM	0 CFM	0.8	2833 CFM	0 CFM	DOAS-4
STAGE	144	1740 SF	1600 CFM	0 CFM	30	10.0 CFM	0.06 CFM	0 CFM	0.8	506 CFM	0 CFM	DOAS-4
BUSINESS MANAGER	209	139 SF	150 CFM	150 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	23 CFM	0 CFM	DOAS-6
CONCESSION	187	92 SF	150 CFM	150 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	20 CFM	0 CFM	DOAS-6
CONF	212	70 SF	100 CFM	100 CFM	1	5.0 CFM	0.06 CFM	0 CFM	0.8	12 CFM	0 CFM	DOAS-6
CONFERENCE	198	170 SF	300 CFM	300 CFM	10	5.0 CFM	0.06 CFM	0 CFM	0.8	75 CFM	0 CFM	DOAS-6
CONFERENCE / BOARD ROOM	207	268 SF	400 CFM	400 CFM	8	5.0 CFM	0.06 CFM	0 CFM	0.8	70 CFM	0 CFM	DOAS-6
DISTRICT OFFICE	211	451 SF	400 CFM	400 CFM	4	5.0 CFM	0.06 CFM	0 CFM	0.8	59 CFM	0 CFM	DOAS-6
FRONT OFFICE	205	318 SF	250 CFM	250 CFM	4	5.0 CFM	0.06 CFM	0 CFM	0.8	49 CFM	0 CFM	DOAS-6
GUIDANCE	197	170 SF	200 CFM	200 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	25 CFM	0 CFM	DOAS-6
HEALTH	191	142 SF	200 CFM	200 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	23 CFM	0 CFM	DOAS-6
NURSE	190	120 SF	150 CFM	150 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	22 CFM	0 CFM	DOAS-6
OFFICE	210	124 SF	150 CFM	150 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	22 CFM	0 CFM	DOAS-6
PRINCIPAL	206	193 SF	200 CFM	200 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	27 CFM	0 CFM	DOAS-6
RECORDS	199	86 SF	50 CFM	50 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	6 CFM	0 CFM	DOAS-6
STORAGE	213	65 SF	100 CFM	100 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	5 CFM	0 CFM	DOAS-6
STORAGE	204	86 SF	50 CFM	50 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	6 CFM	0 CFM	DOAS-6
SUPERINTENDENT OFFICE	208	247 SF	250 CFM	250 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	31 CFM	0 CFM	DOAS-6
TEACHER WORKROOM	195	389 SF	815 CFM	815 CFM	20	5.0 CFM	0.12 CFM	0 CFM	0.8	180 CFM	0 CFM	DOAS-6
TOILET	188	97 SF	150 CFM	0 CFM	0	0.0 CFM	0.00 CFM	210 CFM	0.8	0 CFM	210 CFM	DOAS-6
TOILET	189	124 SF	200 CFM	0 CFM	0	0.0 CFM	0.00 CFM	280 CFM	0.8	0 CFM	280 CFM	DOAS-6
TOILET	192	85 SF	50 CFM	0 CFM	0	0.0 CFM	0.00 CFM	70 CFM	0.8	0 CFM	70 CFM	DOAS-6
TOILET	201	41 SF	50 CFM	0 CFM	0	0.0 CFM	0.00 CFM	70 CFM	0.8	0 CFM	70 CFM	DOAS-6
TOILET	202	41 SF	50 CFM	0 CFM	0	0.0 CFM	0.00 CFM	70 CFM	0.8	0 CFM	70 CFM	DOAS-6
JAN.	203	60 SF	0 CFM	0 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	5 CFM	70 CFM	EF-1
DRY STORAGE	158D	573 SF	400 CFM	400 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	43 CFM	0 CFM	MAU-1
KITCHEN	169	1839 SF	3400 CFM	3400 CFM	10	7.5 CFM	0.12 CFM	1290 CFM	0.8	370 CFM	5470 CFM	MAU-1
KITCHEN HALLWAY	169A	353 SF	300 CFM	300 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	26 CFM	0 CFM	MAU-1
OFFICE	158C	110 SF	100 CFM	100 CFM	0	0.0 CFM	0.06 CFM	0 CFM	0.8	8 CFM	0 CFM	MAU-1
OFFICE	158A	98 SF	100 CFM	100 CFM	2	5.0 CFM	0.06 CFM	0 CFM	0.8	20 CFM	0 CFM	MAU-1
TOILET	158B	51 SF	50 CFM	0 CFM	0	0.0 CFM	0.00 CFM	70 CFM	0.8	0 CFM	70 CFM	MAU-1
TOILET	162	66 SF	50 CFM	0 CFM	0	0.0 CFM	0.00 CFM	70 CFM	0.8	0 CFM	70 CFM	RTU-1
TOILET	163	68 SF	50 CFM	0 CFM	0	0.0 CFM	0.00 CFM	70 CFM	0.8	0 CFM	70 CFM	RTU-1

1 ADD
1 ADD
1 ADD
1 ADD
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1 ADD

GRAVITY ROOF INTAKE VENTILATOR SCHEDULE

PLAN MARK	AIRFLOW (CFM)	EXTERNAL STATIC PRESSURE	APPLICATION	MOUNTING	DUCT CONNECTION SIZE (W" X D")	OVERALL HOOD SIZE (W" X L" X H")	MANUFACTURER | MODEL	NOTES
GRI-1	400	0.13	INTAKE	ROOF	10" X 10"	18.75" X 18.75" X 10.25"	LOREN COOK GRAVITY INTAKE VENTILATOR | 8 PR	ALL

1. INSTALL INTAKE VENTILATOR, GRI-1 ON MANUFACTURER'S PROVIDED CURB CAP.

RADIANT HEATING PANEL SCHEDULE

PLAN MARK	HEATING PERFORMANCE (BTUH / LF)	HW SUPPLY SIZE	FLOWRATE (GPM)	WATER PD / 100 FT OF 0.505 ID TUBE (FT HEAD)	MEAN WATER TEMP MWT (°F)	ΔT °F	NUMBER OF PASSES	DIMENSIONS (INCH)				MOUNTING / INSTALLATION	AREA SERVED	MANUFACTURER | MODEL	NOTES
								LENGTH	WIDTH	THICKNESS	TUBE ID				
RP-1	430	3/4"	2.05	12.9	180	20	4	48	24	0.08	0.505	LAY-IN 2X4 ACT CEILING	REFER TO PLANS	AERO TECH RADIANT LINEAR EXTRUDED PANELS - MODEL AXO	ALL

1. HEATING PERFORMANCE BASED ON PERIMETER RADIANT PANELS.
2. PROVIDE WALL-MOUNTED THERMOSTATS, SEE PLANS FOR LOCATIONS AND PAIRING.
3. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION REQUIREMENTS IN ARCHITECT'S CEILING TYPE.

VIBRATION ISOLATION SCHEDULE

PLAN MARK	EQUIPMENT DESCRIPTION	BASE TYPE	ISOLATION TYPE	MINIMUM DEFLECTION	NOTES
DOAS	DEDICATED OUTSIDE AIR SYSTEM	A	3	2"	1, 2, 3
BP	INLINE CIRCULATING PUMPS	A	3	0.75"	1, 2
CONDENSER	CONDENSING UNITS	A	4	1.5"	1, 2

1. SEE SPECIFICATION SECTION 15 240 FOR BASE TYPE AND ISOLATOR TYPE DESCRIPTIONS.
2. TYPICAL FOR ALL UNITS OF THIS TYPE.
3. FOR UNITS WITH FANS INTERNALLY ISOLATED WITH SPRING ISOLATORS, EXTERNAL ISOLATORS MAY BE OMITTED. INTERNAL FAN ISOLATION SHALL BE MINIMUM 2" DEFLECTION.
4. PROVIDE ISOLATORS FOR THE FIRST THREE PIPE SUPPORTS.

CIRCULATING PUMP SCHEDULE

PLAN MARK	FLOW RATE (GPM)	HEAD LOSS (FT. HEAD)	INLET SIZE (DIA.)	ELECTRICAL			MOUNT TYPE	MANUFACTURER/ MODEL NO.	SYSTEM	NOTES
				HP	VOLTAGE	ø				
BP-1	135.0	30.0	3"	1-1/2	208	3	IN-LINE	TACO CIRCULATING PUMP MODEL KV3006	BOILER CIRCULATOR	ALL
BP-2	135.0	30.0	3"	1-1/2	208	3	IN-LINE	TACO CIRCULATING PUMP MODEL KV3006	BOILER CIRCULATOR	ALL
BP-3	135.0	30.0	3"	1-1/2	208	3	IN-LINE	TACO CIRCULATING PUMP MODEL KV3006	BOILER CIRCULATOR	ALL

1. BOILER PUMPS SHALL BE CAPABLE OF CIRCULATING 30% PROPYLENE GLYCOL / 70% WATER MIXTURE WORKING FLUID.
2. PUMP SELECTIONS SHALL HAVE THE ABILITY FOR AT LEAST ONE (1) IMPELLER SIZE INCREASE.
3. PUMPS SHALL BE PROVIDED WITH CHECK VALVE DOWN STREAM OF PUMP.

EXHAUST FAN SCHEDULE

PLAN MARK	AIRFLOW (CFM)	STATIC PRESSURE	EXHAUST TYPE	ELECTRICAL				MOUNTING	MANUFACTURER | MODEL	NOTES
				HP	AMPS	VOLTAGE	Ø			
EF-1	70	0.15	GENERAL	0.04	0.3	120	1	ROOF	LOREN COOK ROOF EXHAUST FAN MODEL 70C10DH	1 & 5
EF-2	3,400	0.20	INDUSTRIAL	1.25	11.0	208	1	ROOF	LOREN COOK ROOF INDUSTRIAL EF MODEL 225 VCRD-XP	2, 3, & 5
EF-3	180	0.15	GENERAL	0.06	0.4	120	1	CEILING	LOREN COOK CEILING EXHAUST FAN MODEL GC-148	1 & 5
KEF-1	1,010	0.73	TYPE I	0.5	6.3	115	1	ROOF	ECON-AIR ROOF KITCHEN EF MODEL EADU50H	4 & 5
KEF-2	1,010	0.73	TYPE I	0.5	6.3	115	1	ROOF	ECON-AIR ROOF KITCHEN EF MODEL EADU50H	4 & 5
KEF-3	1,050	0.60	TYPE I	0.5	6.3	115	1	ROOF	ECON-AIR ROOF KITCHEN EF MODEL EADU50H	4 & 5

1. EXHAUST FAN EF-1 & EF-3 SHALL ENERGIZE WITH THE LIGHT SWITCH.
2. EXHAUST FAN EF-2 TO ENERGIZE WITH THE ASSOCIATED HVAC UNIT, DOAS-1.
3. EXHAUST FAN EF-2 SHALL BE INSTALLED ON THE EXISTING FAN ROOF CURB.
4. KITCHEN EXHAUST FANS KEF-1, KEF-2, & KEF-3 SHALL BE INSTALLED ON 18" TALL HINGED ROOF CURB.
5. SEE MANUFACTURER'S MANUALS FOR INSTALL AND MOUNTING REQUIREMENTS.

KITCHEN EXHAUST HOOD SCHEDULE

PLAN MARK	HOOD LENGTH	EXHAUST TYPE	APPLIANCE DUTY	DESIGN EXHAUST CFM/FT	TOTAL EXHAUST (CFM)	EXHAUST CONNECTION (ø)	TOTAL MAKEUP AIR (CFM)	DIMENSIONS			WEIGHT (LBS.)	MANUFACTURER | MODEL	NOTES
								LENGTH	WIDTH	HEIGHT			
H-1	12'-3"	TYPE I	HEAVY	165	2,020	10" (QTY. 2)	1,805	12'-3"	5'-6" + 14"	2'-0"	1,125	CAPTIVEAIRE | 6624 EX-2-PSP-F	ALL
H-2	7'-6"	TYPE I	HEAVY	140	1,050	10" (QTY. 1)	915	7'-6"	5'-6" + 12"	2'-0"	783	CAPTIVEAIRE | 6624 EX-2-PSP-F	ALL
EX. HOOD PLENUM	11'-0"	N/A	N/A	N/A	N/A	N/A	1,800	11'-0"	14"	1'-0"	100	CAPTIVEAIRE | 1412 MISC-PSP	ALL

1. MAKEUP AIR SHALL BE PROVIDED VIA MAU-1. KITCHEN EXHAUST HOODS, H-1, H-2, & EX. HOODS SHALL OPERATE WITH MAU-1.

DIFFUSER/REGISTER/GRILLE (DRG) SCHEDULE

PLAN MARK	FACE SIZE	INLET SIZE	BLADE DEFLECTION	INSTALLATION / MOUNTING	MATERIAL	COLOR / FINISH	MANUFACTURER/ MODEL	NOTES
CD-1	24" X 24"	SEE PLANS	--	DROP CEILING	ALUMINUM	WHITE (4)	PRICE INDUSTRIES CEILING DIFFUSER | MODEL SPD	1, 2, 3, 4, & 5
CD-2	12" X 12"	SEE PLANS	--	DROP CEILING	ALUMINUM	WHITE (4)	PRICE INDUSTRIES CEILING DIFFUSER | MODEL SPD	1, 2, 3, 4, & 5
CD-3	24" X 24"	SEE PLANS	--	DROP CEILING	ALUMINUM	WHITE (4)	PRICE INDUSTRIES PERFORATED CEILING DIFFUSER | MODEL PDS	1, 2, 3, 4, & 5
SG-1	INLET SIZE + 2"	SEE PLANS	0°	SIDEWALL/ EXPOSED	ALUMINUM	WHITE (4)	PRICE INDUSTRIES SUPPLY GRILLE | MODEL 610	1, 2, 3, 4, & 5
RG-1	24" X 24"	SEE PLANS	--	DROP CEILING	ALUMINUM	WHITE (4)	PRICE IND PERFORATED RETURN DIFFUSER | MODEL PDDR	1, 2, 3, 4, & 5
RG-2	12" X 12"	SEE PLANS	--	DROP CEILING	ALUMINUM	WHITE (4)	PRICE IND PERFORATED RETURN DIFFUSER | MODEL PDDR	1, 2, 3, 4, & 5
RG-3	INLET SIZE + 1-3/4"	SEE PLANS	45°	SIDEWALL/ EXPOSED	ALUMINUM	WHITE (4)	PRICE INDUSTRIES RETURN GRILLE | MODEL 610Z	1, 2, 3, 4, & 5
EG-1	24" X 24"	SEE PLANS	--	DROP CEILING	ALUMINUM	WHITE (4)	PRICE IND PERFORATED RETURN DIFFUSER | MODEL PDDR	1, 2, 3, 4, & 5
EG-2	INLET SIZE + 1-3/4"	SEE PLANS	45°	SIDEWALL/ EXPOSED	ALUMINUM	WHITE (4)	PRICE INDUSTRIES RETURN GRILLE | MODEL 610Z	1, 2, 3, 4, & 5

1. CONTRACTOR SHALL DETERMINE PROPER MARGIN STYLE TO MATCH CEILING CONSTRUCTION.
2. ALL RUN OUT DUCTWORK TO DIFFUSERS SHALL BE NECK SIZE, UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL DETERMINE PROPER MARGIN STYLE TO MATCH CEILING CONSTRUCTION. REFER TO ARCHITECTURAL DETAILS FOR FINISH AND DESIRED LOOK.
4. CONFIRM COLOR AND FINISH WITH ARCHITECT TO ENSURE DESIGN INTENT IS ACHIEVED FOR EACH SPACE.
5. ALL DIFFUSERS/REGISTERS/GRILLES SHALL BE PROVIDED WITH INTEGRAL DAMPER OR MEANS FOR ADJUSTING AIRFLOW AT THE OUTLET.

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE
1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026

DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

DRAWN BY	JJR
CHECKED BY	JCL
PROJECT NO.	9166-10000

SHEET NAME
MECHANICAL SCHEDULES

M-602

DIRECT-FIRED MAKE-UP AIR UNIT SCHEDULE

PLAN MARK	SUPPLY FAN(S)					COOLING LOADS			COOLING AIR CONDITIONS		EFFICIENCY (IEER)	REFRIGERANT	HEATING		HEATING AIR CONDITIONS		FUEL - NATURAL GAS			HEAT EXCHANGER MATERIAL	MIN. EFFICIENCY	ELECTRICAL				DIMENSIONS (INCH)			WEIGHT (LBS.)	MANUFACTURER | MODEL	NOTES
	DESIGN AIRFLOW	ESP / TSP	DRIVE TYPE	MOTOR QTY	MOTOR HP	SENSIBLE (MBH)	LATENT (MBH)	TOTAL (MBH)	EAT DB/WB	LAT DB/WB			INPUT (MBH)	OUTPUT (MBH)	EAT (DEG. F)	TEMP RISE (DEG. F)	AFUE	GAS SIZE (ø)	MIN.-MAX. INLET PRESSURE			HP	AMP	VOLTAGE	ø	LENGTH	WIDTH	HEIGHT			
MAU-1	1800	0.5 / 0.6	DIRECT / VFD	1	1.5	--	--	--	--	--	--	--	160	148	-10	80	81%	1"	7"-14" W.C.	STAINLESS STEEL	81%	1.5	10	208	1	120	28	30	600	ECON-AIR MODEL A1-D.500-15D	1,2,3,5,6,7,8,9, 10,11,12,13
MAU-2	915	0.5 / 0.7	DIRECT / ECM	1	1	--	--	--	--	--	--	--	82	75	-10	80	81%	1"	7"-14" W.C.	STAINLESS STEEL	81%	1	6.9	208	1	84	22	22	400	ECON-AIR MODEL D76	1,2,4,5,6,7,8,9, 10,11,12,13
MAU-3	1800	0.5 / 0.6	DIRECT / VFD	1	1.5	--	--	--	--	--	--	--	162	149	-10	80	81%	1"	7"-14" W.C.	STAINLESS STEEL	81%	1.5	10	208	1	120	28	30	600	ECON-AIR MODEL A1-D.500-15D	1,2,3,5,6,7,8,9, 10,11,12,13

1. NO COOLING PROVIDED IN KITCHEN HOOD MAKEUP AIR UNITS.
2. ALL UNITS SHALL BE DOWN DISCHARGE.
3. SUPPLY BLOWER TO BE PREMIUM EFFICIENCY, WITH MANUFACTURER PROVIDE VFD.
4. SUPPLY BLOWER TO BE FORWARD CURVE CENTRIFUGAL BLOWER WITH ECM MOTOR.
5. PROVIDE HI/LOW GAS PRESSURE SWITCHES.
6. PROVIDE HIGH GAS PRESSURE REGULATOR.
7. PROVIDE HIGH TEMPERATURE LIMIT SWITCH.
8. PROVIDE METAL MESH FILTER ON INTAKE.
9. PROVIDE WITH MOTORIZED INTAKE DAMPER THAT CLOSES WHEN KITCHEN HOOD IS NOT ENERGIZED.
10. PROVIDE CLOGGED FILTER SWITCH.
11. PROVIDE FACTORY WIRED 115V CONVENIENCE OUTLET, 5 MINUTE TDR OFF.
12. PROVIDE UNIT MOUNTED DISCONNECT SWITCH.
13. MOUNT ROOFTOP UNIT ON 18" ROOF CURB.

1 ADD

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE
1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

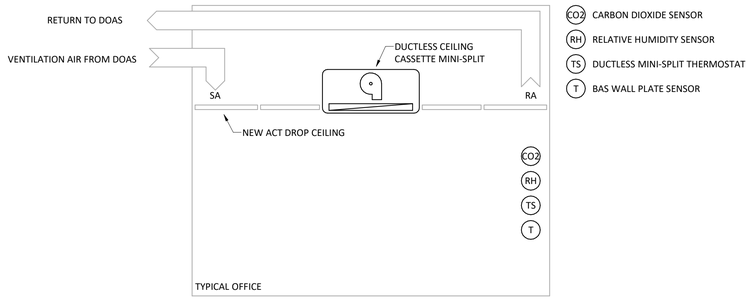
DATE 02/20/2026

DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

DRAWN BY JCL
CHECKED BY JCL
PROJECT NO. 9166-10000

SHEET NAME
MECHANICAL SCHEDULES

M-604

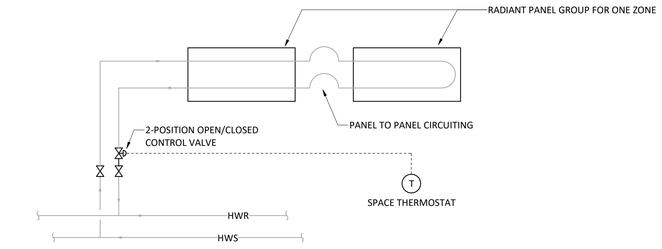


MULTI-ZONE MINI-SPLIT HEAT PUMP CONTROL SEQUENCE

NOT TO SCALE

SEQUENCE OF OPERATION

1. EACH SPACE SHALL HAVE A 3-IN-1 TEMPERATURE, HUMIDITY, AND CO2 SENSOR.
2. TERMINAL UNITS SHALL CONSIST OF A DUCTLESS MINI-SPLIT HEAT PUMP THAT CONTROLS TEMPERATURE.
3. WHERE MULTIPLE INDOOR UNITS ARE CONNECTED TO A COMMON OUTDOOR UNIT, ALL INDOOR UNITS SHALL OPERATE IN EITHER HEATING MODE OR COOLING MODE TOGETHER. THE OUTDOOR UNIT SHALL SWITCH AL UNITS BETWEEN HEATING MODE AND COOLING MODE.
4. EACH INDOOR UNIT VENTILATOR SHALL BE PROVIDED WITH AN EXPANSION VALVE TO CONTROL REFRIGERANT FLOW THROUGH THE INDOOR UNIT, AND A THERMOSTAT TO CONTROL HEATING OR COOLING OUTPUT.
5. THE OUTDOOR UNIT SHALL SWITCH BETWEEN HEATING MODE AND COOLING MODE BASED ON ZONE TEMPERATURE OFFSET. IF THE SYSTEM IS IN COOLING MODE, AND THE SPACE TEMPERATURE FOR ANY OF THE CONNECTED ZONES FALLS BELOW SET POINT MINUS (-) 5F, THE SYSTEM SHALL SWITCH OVER TO HEATING MODE. CONVERSELY, IN THE HEATING MODE, IF ANY SPACE RISES ABOVE SET POINT PLUS (+) 5F, THE SYSTEM SHALL SWITCH INTO THE COOLING MODE.
6. EACH UNIT SHALL BE PROVIDED WITH AN AUXILIARY HEAT RELAY. IN THE EVENT THAT THE INDOOR UNIT CANNOT MAINTAIN SPACE TEMPERATURE, AN AUXILIARY HEAT RELAY SHALL SEND A SIGNAL TO THE RADIANT CEILING PANELS AND OPEN THE 2-WAY CONTROL VALVE TO PROVIDE SUPPLEMENTAL PERIMETER HEAT.
7. SPACE RELATIVE HUMIDITY SHALL BE CONTROLLED BY THE DOAS UNIT. IN THE EVENT THAT THE DOAS UNIT FAILS TO MAINTAIN SPACE RELATIVE HUMIDITY ADN THE SPACE HUMIDITY SET POINT RISES ABOVE SET POINT PLUS (+) 4%RH (ADJ), THE DUCTLESS MINI-SPLIT UNIT VENTILATOR SHALL GO INTO DEHUMIDIFICATION MODE TO MAINTAIN SPACE RELATIVE HUMIDITY SET POINT.



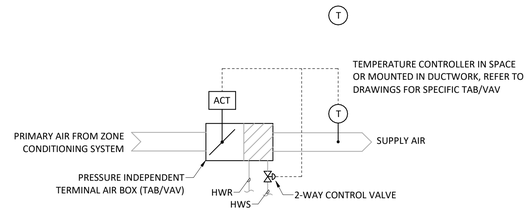
RADIANT HEATING PANELS

NOT TO SCALE

SEQUENCE OF OPERATION

1. RADIANT HEATING PANELS SHALL PROVIDE SUPPLEMENTARY HEATING TO ROOMS OR ZONES AS INDICATED ON THE PLANS.
2. PROVIDE A THERMOSTAT CONTROLLER IN THE ROOM TO MODULATE THE HOT WATER RETURN CONTROL VALVE OPEN/CLOSED TO MAINTAIN SPACE THERMOSTAT SET POINT. IF SPACE TEMPERATURE SET POINT FALLS BELOW SET POINT MINUS 2F (ADJ), THE CONTROL VALVE SHALL OPEN. IF THE SPACE SET POINT RISES SET POINT PLUS 2F, THE CONTROL VALVE SHALL CLOSE. THE BUILDING AUTOMATION SYSTEM (BAS) SHALL MONITOR THE SPACE TEMPERATURE.
3. IN SPACES THAT ALSO HAVE A DUCTLESS MINI-SPLIT HEAT PUMP SYSTEM, THE SET POINT OF THE RADIANT HEATING PANEL SHALL BE 2°F LOWER THAN THE DUCTLESS MINI-SPLIT HEATING THERMOSTAT SET POINT.
4. THE CONTROL VALVE SHALL BE 2-POSITION OPEN/CLOSED.
5. CONTROL VALVE OPENING AND CLOSING SPEED SHALL BE 'RELATIVELY' SLOW TO PREVENT WATER HAMMER AND RADIANT PANEL NOISE. DESIGN PROFESSIONAL AND/OR OWNER SHALL BE SOLE JUDGES OF SATISFACTORY VALVE SPEED.
6. THERMOSTAT SHALL NOT BE LOCATED AT A WALL THAT IS EXPOSED TO THE OUTSIDE ATMOSPHERE.
7. ALL SET POINTS SHALL BE ADJUSTABLE.

1 ADD

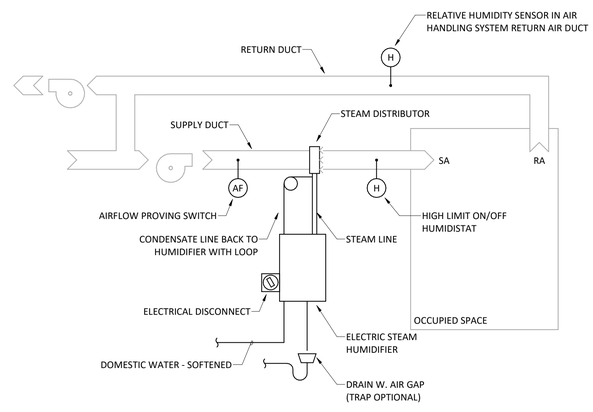


TERMINAL AIR BOX (TAB) / VARIABLE AIR VOLUME (VAV) BOX CONTROL DIAGRAM

NOT TO SCALE

SEQUENCE OF OPERATION

1. VARIABLE FLOW TERMINAL AIR BOXES SHALL PROVIDE COOLING, HEATING AND VENTILATION AIR TO SPACES TO THE CONNECTED ZONES BY VARYING THE AIRFLOW TO AND FROM THE ROOM AND MODULATING THE HEATING COIL TWO-WAY CONTROL VALVE TO MAINTAIN THE TEMPERATURE SET POINT OR BY PROVIDING CONSTANT DEHUMIDIFICATION FLOW.
2. MODULATE THE TERMINAL AIR BOX FROM MAXIMUM SCHEDULED AIR FLOW TO MINIMUM SCHEDULED AIR FLOW IN RESPONSE TO MECHANICAL COOLING MODE. THE HEATING HOT WATER CONTROL VALVE SHALL MODULATE OPEN AND CLOSED TO MAINTAIN THE TEMPERATURE CONTROLLER SET POINT. THE REVERSE SEQUENCE SHALL OCCUR UPON A RISE ABOVE SET POINT.
3. THE BUILDING AUTOMATION SYSTEM (BAS) SHALL CONTROL THE ACTUAL SET POINT OF THE VENTILATION ZONE SERVED BY THE TAB/VAV. THE OCCUPIED/UNOCCUPIED MODE SHALL BE SCHEDULED THROUGH THE BAS SYSTEM.
4. PROVIDE A TEMPERATURE BULB IN THE TAB/VAV BOX DISCHARGE FOR INDICATION OF THE BOX PERFORMANCE TO THE BAS AND CONTROL SET POINT.
5. THE HOT WATER HEATING CONTROL VALVES SHALL BE CLOSED IF THE SUPPLY TEMPERATURE IS BELOW 100°F (ADJUSTABLE).
6. TAB/VAV BOX DISCHARGE AIR TEMPERATURE SHALL BE CONTROLLED TO MATCH THE FOLLOWING TEMPERATURES:
   A. SUMMER - AS SCHEDULED IN TAB/VAV SCHEDULE.
   B. WINTER - AS SCHEDULED IN TAB/VAV SCHEDULE.



HUMIDIFICATION SYSTEM - ALTERNATE #2

SEQUENCE OF OPERATION

1. THE HUMIDITY SHALL BE CONTROLLED BASED ON RETURN AIR RELATIVE HUMIDITY FOR EACH AIR HANDLING SYSTEM (RTU, DOAS). TO PREVENT CONDENSATION, THE RETURN AIR RELATIVE HUMIDITY SET POINT SHALL BE BASED ON OUTSIDE AIR TEMPERATURE RESET.
   A. OUTSIDE AMBIENT TEMPERATURE = -20F, RH SET POINT SHALL BE 15% (ADJ)
   B. OUTSIDE AMBIENT TEMPERATURE = 20F, RH SET POINT SHALL BE 35% (ADJ)
2. UPON A CALL FOR HUMIDITY AND PROOF OF AIRFLOW FROM AIR HANDLING SYSTEM, THE ELECTRIC HUMIDIFIER SHALL MODULATE THE STEAM SUPPLY TO THE DUCT TO MAINTAIN RETURN RELATIVE HUMIDITY SET POINT.
3. HUMIDIFIER SHALL BE LOCKED OUT WHEN AIR HANDLING SYSTEM IS IN COOLING MODE, OR IF SUPPLY FAN IS DE-ENERGIZED.
4. PROVIDE A HIGH HUMIDITY ALARM IF THE RETURN AIR RELATIVE HUMIDITY EXCEEDS SET POINT +5%RH (ADJ).
5. HUMIDIFIER SHALL BE DE-ENERGIZED IF THE WATER LEVEL IN THE BOILER FALLS BELOW MINIMUM SAFE LEVELS AS DETERMINED BY THE MANUFACTURER.
6. ALL SET POINTS SHALL BE ADJUSTABLE.

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AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE
1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

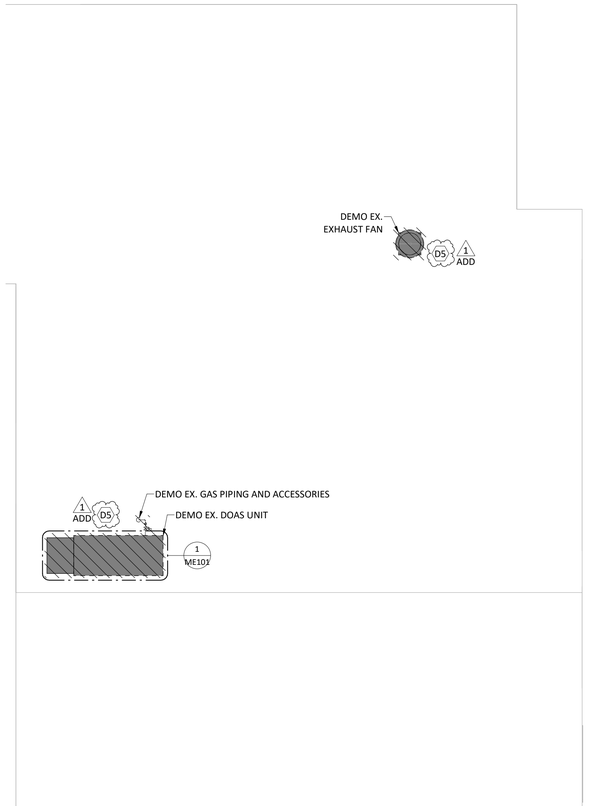
DATE	02/20/2026
DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

DRAWN BY	JJR
CHECKED BY	JCL
PROJECT NO.	9166-10000

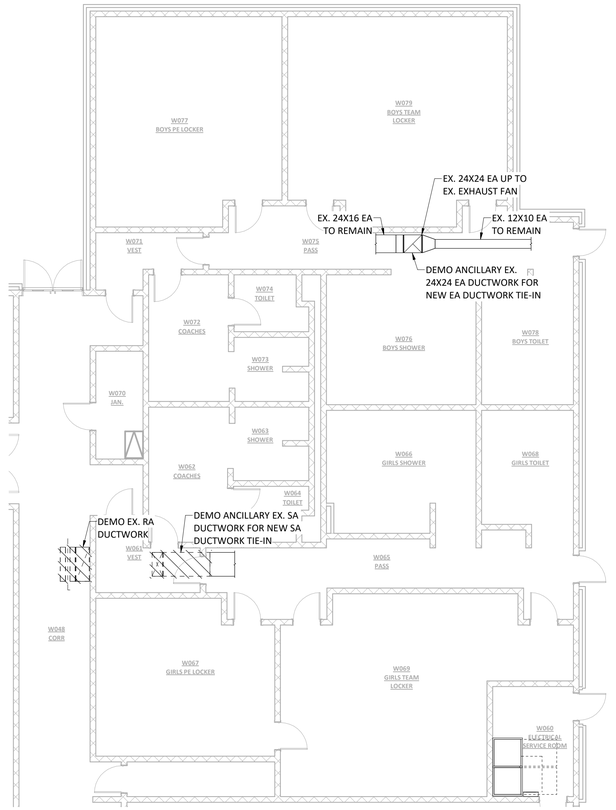
SHEET NAME
HVAC CONTROLS

M-802

EX. MAKEUP AIR UNIT 1
NTS ME101



DEMO MECHANICAL & ELECTRICAL ROOF PLAN - HIGH SCHOOL
1/8" = 1'-0"



DEMO MECHANICAL & ELECTRICAL PLAN - HIGH SCHOOL
1/8" = 1'-0"

GENERAL DEMO NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. EQUIPMENT SPECIFIED TO BE DEMOLISHED SHALL HAVE THE EQUIPMENTS'S ASSOCIATED COMPONENTS REMOVED AND TERMINATED BACK TO THE RESPECTIVE SOURCE WITHOUT DISRUPTING EXISTING SYSTEMS SPECIFIED TO REMAIN. ASSOCIATED EQUIPMENT COMPONENTS TO BE DEMOLISHED INCLUDE BUT ARE NOT LIMITED TO:
   A. DUCTWORK (SA/RA/EA/OA)
   B. HOT WATER SUPPLY AND RETURN PIPING, FITTINGS, AND ACCESSORIES BACK TO HW PIPING HEADERS
   C. ELECTRICAL COMPONENTS
   D. THERMOSTAT AND CONTROLS
3. ALL PENETRATIONS FOR DUCTWORK, PIPING, ELECTRICAL AND OTHER UTILITIES SPECIFIED TO BE DEMOLISHED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
4. All EXISTING DUCTWORK AND ASSOCIATED DIFFUSERS, REGISTERS, AND GRILLES BEING REUSED SHALL BE INSPECTED AND CLEANED.

ELECTRICAL DEMO NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE PREMISES AND VERIFYING ALL EXISTING CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC IN NATURE. THE CONTRACTOR SHALL COORDINATE AND ADJUST THE WORK AS REQUIRED TO ENSURE PROPER OPERATION OF ALL INSTALLED EQUIPMENT AND SHALL COORDINATE WITH ALL OTHER TRADES.
2. REMOVE ALL EXISTING WIRING DEVICES, WIRING, CONDUIT, AND RELATED MATERIALS AS NOTED OR INDICATED WITHIN DEMOLITION AREAS. NOT ALL ITEMS MAY BE SHOWN. MODIFY AND REWORK EXISTING CIRCUITRY AS REQUIRED TO MAINTAIN CONTINUITY THROUGH AFFECTED AREAS.
3. REMOVED OR DAMAGED CONDUIT, WIRING, AND FITTINGS SHALL NOT BE REUSED OR RELOCATED FOR NEW INSTALLATIONS.
4. PROVIDE COMPLETE AS-BUILT DRAWINGS AND NEW TYPED PANELBOARD DIRECTORIES IDENTIFYING CIRCUIT NUMBERS AND DESCRIPTIONS.
5. WORK INCLUDED FOR EXISTING EQUIPMENT NOTED TO BE REMOVED SHALL INCLUDE:
   A. SALVAGING OR DISPOSING OF ALL EQUIPMENT AS DIRECTED BY OWNER OR OWNER'S REPRESENTATIVE.
   B. REMOVAL OF FEEDER FROM EQUIPMENT TO POINT OF FEED.
   C. REMOVAL OR RE-CIRCUITING OF ALL BRANCH CIRCUITING AS NOTED ON PLANS.
   D. REMOVAL OF ALL FITTINGS, SUPPORTS, BRACKETS, ETC.
   E. PATCHING OF WALLS, FLOORS AND CEILINGS.
   F. REMOVAL OF FEEDER CONDUIT IF FOUND TO BE UNSALVAGEABLE BY ENGINEER OR OWNER'S REPRESENTATIVE.
6. EXISTING EQUIPMENT NOT SHOWN ON DRAWINGS IS INTENDED TO REMAIN UNLESS OTHERWISE NOTED.
7. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AND REMOVING ALL ELECTRICAL CONNECTIONS AND EQUIPMENT REQUIRED FOR THE INSTALLATION OF NEW EQUIPMENT PROVIDED BY THE MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR TO CONFIRM AND AGREE UPON THIS SCOPE OF WORK PRIOR TO BID SUBMISSION.

ELECTRICAL DEMO KEYED NOTES

D5	MECHANICAL EQUIPMENT TO BE DEMOED (DIV 15). DIV 16 TO REMOVE ALL ASSOCIATED WIRING, CONDUIT, BOXES AND DISCONNECTS BACK TO SOURCE. IF UNIT IS BEING REPLACED, AND EXISTING CONDUIT IS IN GOOD CONDITION AND SIZED APPROPRIATELY, EXISTING CONDUIT MAY BE RE-USED FOR NEW CONDUCTORS TO PROPOSED EQUIPMENT.

1 ADD

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SHEET NAME
DEMO MECHANICAL & ELECTRICAL PLANS - HIGH SCHOOL

ME101

NOT FOR CONSTRUCTION

MOTOR AND EQUIPMENT SCHEDULE

EQUIP TAG	NOTES: EQUIPMENT TAGS NOTED AS ## & ## ARE WIRED TO SAME CIRCUIT. AMPACITY SHOWN IS TOTAL CIRCUIT AMPS.									STARTER/DISCONNECT E-FURNISHED BY ELECTRICAL CONTRACTOR M-FURNISHED BY MECHANICAL CONTRACTOR					
	DESCRIPTION	AMP	VOLTAGE	# OF POLES	WIRE SIZE	CONDUIT	PANEL	MCA	MOCP	DISC	SW AMPS	FUSE AMPS	NEMA RATING	NOTES	REMARKS
DOAS-1	DEDICATED OUTSIDE AIR SYSTEM	42.0 A	480 V	3	3-#6, 1-#10	1"	SB-HS	48.7	60 A	M					
EF-1	EXHAUST FAN	3.0 A	480 V	3	3-#12, 1-#12	3/4"	H1	3.75	15 A	N/A					

GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
3. MAINTAIN SERVICE CLEARANCE REQUIREMENTS AROUND ALL MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR DUCTWORK IN CLEARANCE SPACE.
4. M.C. SHALL COORDINATE ANY AREA WHERE ACCESS TO EQUIPMENT OR HVAC COMPONENTS ARE REQUIRED TO ALLOW ACCESS FOR MAINTENANCE, OR INSPECTION WITH G.C.
5. All EXISTING DUCTWORK AND ASSOCIATED DIFFUSERS, REGISTERS, AND GRILLES BEING REUSED SHALL BE INSPECTED AND CLEANED.

EXHAUST FAN SCHEDULE

PLAN MARK	AIRFLOW (CFM)	STATIC PRESSURE	EXHAUST TYPE	ELECTRICAL				MOUNTING	MANUFACTURER | MODEL	NOTES
				HP	AMPS	VOLTAGE	Ø			
EF-1	3,080	0.9	GENERAL	1.5	1.5	460	3	ROOF	LOREN COOK ROOF EXHAUST FAN MODEL 195 ACED	ALL

1. EXHAUST FAN **EF-1** SHALL ENERGIZE WITH THE **DOAS-1**.
2. EXHAUST FAN **EF-1** TO ENERGIZE WITH THE ASSOCIATED HVAC UNIT, **DOAS-1**.
3. EXHAUST FAN **EF-1** SHALL BE INSTALLED ON THE EXISTING FAN ROOF CURB.
4. SEE MANUFACTURER'S MANUALS FOR INSTALL AND MOUNTING REQUIREMENTS.

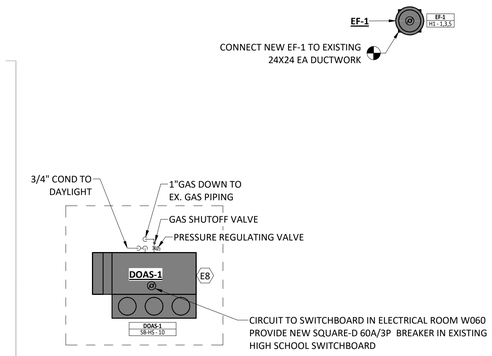
DEDICATED OUTSIDE AIR SYSTEM (DOAS) SCHEDULE

PLAN MARK	SUPPLY FAN(S)					EXHAUST FAN(S)					COOLING CAPACITY			SUMMER ENERGY RECOVERY				REFRIGERANT	ELECTRIC PRE-HEAT		GAS HEATING		WINTER DESIGN ENERGY RECOVERY				LAT (°F)	HEAT EXCHANGER MATERIAL	FUEL - NATURAL GAS			DIMENSIONS (INCH)			ELECTRICAL			WEIGHT (LBS.)	MANUFACTURER | MODEL NO.	NOTES
	DESIGN AIRFLOW	ESP	DRIVE TYPE	MOTOR		DESIGN AIRFLOW	ESP	DRIVE TYPE	MOTOR		TOTAL (MBH)	SENSIBLE (MBH)	LATENT (MBH)	OUTSIDE AIR (°F)		FRESH AIR (°F)			CAPACITY (KW)	EAT / LAT (DB°F)	INPUT (MBH)	OUTPUT (MBH)	OUTSIDE AIR (°F)		FRESH AIR (°F)				AFUE	GAS SIZE (ø)	MIN.-MAX. INLET PRESSURE	LENGTH	WIDTH	HEIGHT (NOTE 7)	AMPS	VOLTAGE	ø			
				QTY	HP				QTY	HP				EAT (DB)	EAT (WB)	LAT (DB)	LAT (WB)						EAT (DB)	EAT (WB)	LAT (DB)	LAT (WB)														
DOAS-1	3,140	1.4	DWDI / VFD	1	3.0	3,140	1.2	DWDI / VFD	1	2.0	203.7	108.7	95.0	95.0	78.0	80.7	69.5	R-454B	20	-10 / 11	200	160	11	8	52	43	100	STAINLESS STEEL	81%	1"	7"-14" W.C.	183	95	68	48.7	480	3	4,223	TRANE HORIZON OADGD020	ALL

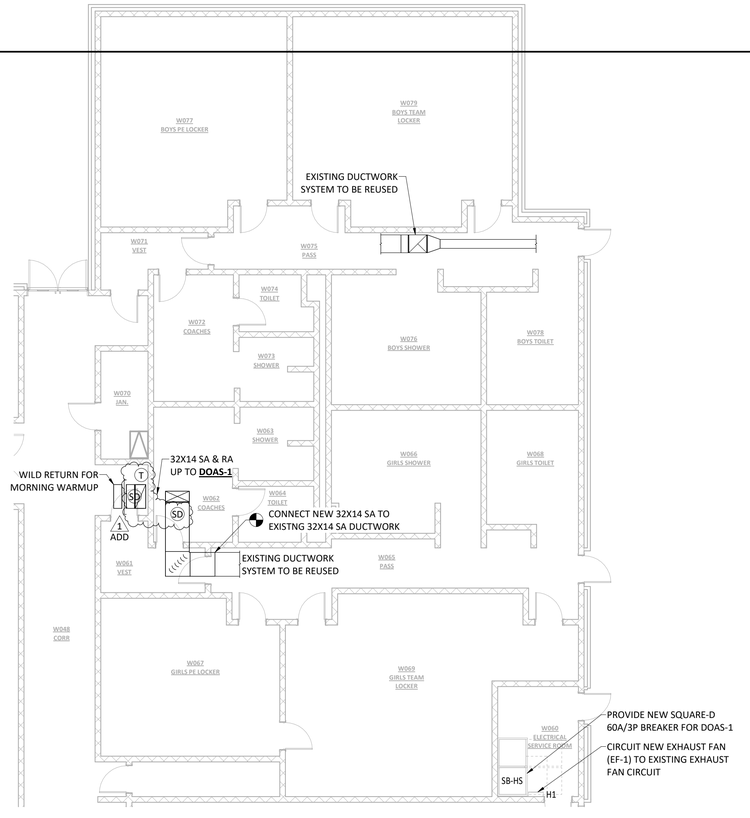
1. SUPPLY FAN AND EXHAUST FAN MOTORS SHALL BE DIRECT-DRIVE WITH FACTORY INSTALLED VARIABLE FREQUENCY DRIVES.
2. UNIT SHALL BE MULTI-ZONE VAV CONTROLS.
3. PROVIDE THE FOLLOWING MOTORIZED CONTROL DAMPERS: OUTSIDE AIR, EXHAUST AIR, AND RECIRCULATION AIRSTREAMS.
4. DIRECT EXPANSION (DX) COOLING COIL: SHALL BE TYPE 6-ROW.
5. PROVIDE UNIT WITH MODULATING HOT GAS REHEAT (HGRH) COIL DOWNSTREAM OF DX COOLING COIL TO PROVIDE DEHUMIDIFICATION.
6. PROVIDE UNIT WITH FACTORY MOUNTED AND WIRED UV LIGHTS BETWEEN EVAPORATOR COIL AND THE HGRH COIL.
7. PROVIDE 2-INCH MERV8 PRE-FILTER ON OUTSIDE AIRSTREAM.
8. PROVIDE 2-INCH MERV13 PRIMARY FILTER UPSTREAM OF DX COOLING COIL DOWNSTREAM OF THE RECIRCULATING MODULATING DAMPER.
9. COMPRESSORS SHALL BE DIGITAL-SCROLL, MINIMUM OF 2-CIRCUITS.
10. PRIMARY HEATING SECTION SHALL BE INDIRECT-FIRED GAS BURNER AND SHALL BE STAINLESS STEEL, INDUCED DRAFT COMBUSTION AND USE A DIRECT SPARK IGNITION SYSTEM.
11. SECONDARY HEATING SHALL BE STAGED ELECTRIC HEATING COIL IN THE OUTSIDE AIRSTREAM. CONTROL SHALL BE ON/OFF.
12. PROVIDE FACTORY MOUNT NON-FUSED DISCONNECT.
13. PROVIDE POWERED CONVENIENCE OUTLET.
14. PROVIDE UNITS WITH HAIL GUARDS ON THE CONDENSER COIL.
15. PROVIDE UNITS WITH ROOF CURB. CURB SHALL MAINTAIN MINIMUM 18" CLEAR ABOVE ROOF AND INSULATION FINISHED ELEVATION.

ELECTRICAL KEYED NOTES

E8	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR ON THE RETURN AND SUPPLY SIDE OF THE DOAS UNITS AND SUPPLY SIDE OF MAU UNIT. CONNECT NEW DUCT SMOKE DETECTOR TO THE EXISTING FIRE ALARM CONTROL PANEL LOCATED IN ROOM W060 IN THE HIGH SCHOOL. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR TEST RESET SWITCH. CONTRACTOR TO INSTALL (1) DUCT SMOKE DETECTOR TEST RESET SWITCH PER DOAS/MAU UNIT.



MECHANICAL & ELECTRICAL ROOF PLAN - HIGH SCHOOL
1/8" = 1'-0"



MECHANICAL & ELECTRICAL PLAN - HIGH SCHOOL
1/8" = 1'-0"

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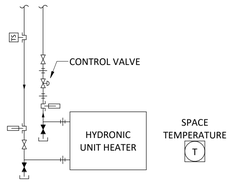
MECHANICAL & ELECTRICAL PLANS - HIGH SCHOOL

ME102

ELEMENTARY STAGE PANEL 2 ME103
NTS

EAST ELEMENTARY MOTOR AND EQUIPMENT SCHEDULE

EQUIP TAG	NOTES: EQUIPMENT TAGS NOTED AS ## & ## ARE WIRED TO SAME CIRCUIT. AMPACITY SHOWN IS TOTAL CIRCUIT AMPS.								STARTER/DISCONNECT E-FURNISHED BY ELECTRICAL CONTRACTOR M-FURNISHED BY MECHANICAL CONTRACTOR					
	DESCRIPTION	AMP	VOLTAGE	# OF POLES	WIRE SIZE	CONDUIT	PANEL/MCC	MOCP	DISC	SW AMPS	FUSE AMPS	NEMA RATING	NOTES	REMARKS
UH-1	UNIT HEATER	7.2 A	120 V	1	1-#12, 1-#12, 1-#12	3/4"	E. ELEM STAGE	15 A	M					
UH-2	UNIT HEATER	7.2 A	120 V	1	1-#12, 1-#12, 1-#12	3/4"	E. ELEM STAGE	15 A	M 1 ADD					

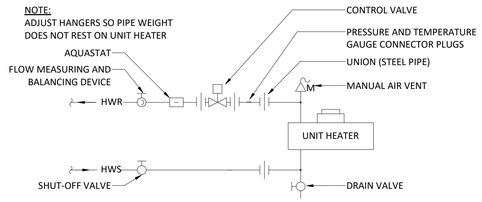


UNIT HEATER SEQUENCE OF OPERATION:

A. GENERAL:
   1. REFER TO THE OCCUPANCY AND SET POINT SCHEDULE FOR A DESCRIPTION OF ALL OCCUPANCY MODES AND SET POINTS.
   2. EACH SPACE SERVED SHALL BE PROVIDED WITH A TEMPERATURE SENSOR.
B. GAS UNIT HEATERS:
   1. THE GAS UNIT HEATER SHALL BE ON WHENEVER THERE IS A CALL FOR HEATING.

GENERAL MECHANICAL NOTES:

1. VERIFY ALL SITE CONDITIONS PRIOR TO STARTING WORK.
2. COORDINATE ALL DUCTWORK AND PIPE ROUTING WITH BUILDING STRUCTURE AND OTHER TRADES PRIOR TO INSTALLATION TO ALLOW FOR PROPER CLEARANCE SPACE.
3. MAINTAIN SERVICE CLEARANCE REQUIREMENTS AROUND ALL MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR DUCTWORK IN CLEARANCE SPACE.
4. M.C. SHALL COORDINATE ANY AREA WHERE ACCESS TO EQUIPMENT OR HVAC COMPONENTS ARE REQUIRED TO ALLOW ACCESS FOR MAINTENANCE, OR INSPECTION WITH G.C.



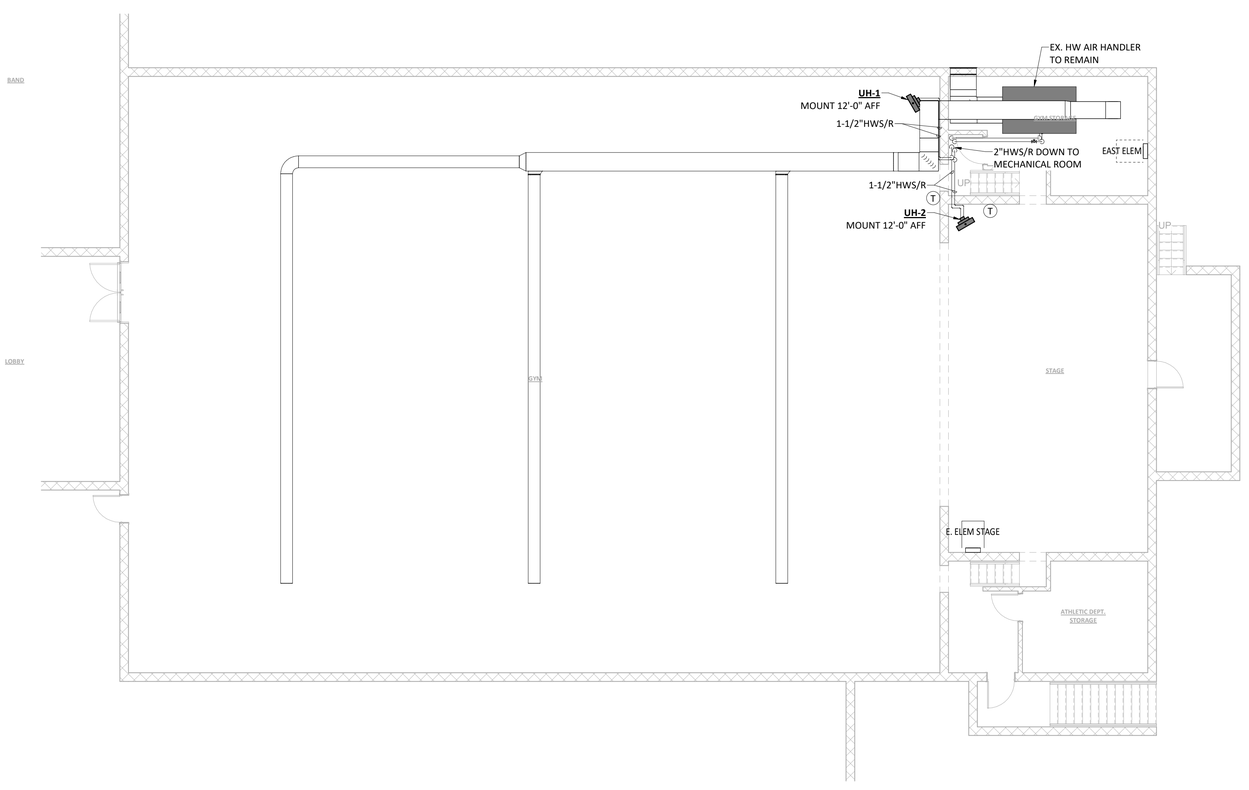
HOT WATER UNIT HEATER PIPING DETAIL 1 ME103
NTS

HOT WATER UNIT HEATER SCHEDULE - ALTERNATE #4

PLAN MARK	HEATING CAPACITY (BTU/HR)	AIRFLOW (CFM)	CONNECTION SIZE	FLOWRATE (GPM)	WATER PD (FT. HEAD)	EWT (°F)	TEMP. DROP (Δ°F)	ELECTRICAL			DIMENSIONS (INCHES)			AREA SERVED	MANUFACTURER | MODEL	NOTES
								HP	VOLTAGE	ø	WIDTH	DEPTH	HEIGHT			
UH-1	105,891	2,900	1-1/2"ø	14.9	0.79	180°F	20°F	1/3	120	1	24-5/8	13-3/4	29	GYM	TRANE HYDRONIC UNIT HEATER MODEL | S-204	ALL
UH-2	105,891	2,900	1-1/2"ø	14.9	0.79	180°F	20°F	1/3	120	1	24-5/8	13-3/4	29	GYM	TRANE HYDRONIC UNIT HEATER MODEL | S-204	ALL

1. PROVIDE WALL MOUNT PROGRAMMABLE THERMOSTAT.
2. PROVIDE UNIT HEATERS WITH FACTORY WIRED DISCONNECT SWITCH.
3. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR MOUNTING HEIGHT AND INSTALLATION REQUIREMENTS.

1 ADD



MECHANICAL & ELECTRICAL PLAN - EAST ELEMENTARY
1/8" = 1'-0"
N

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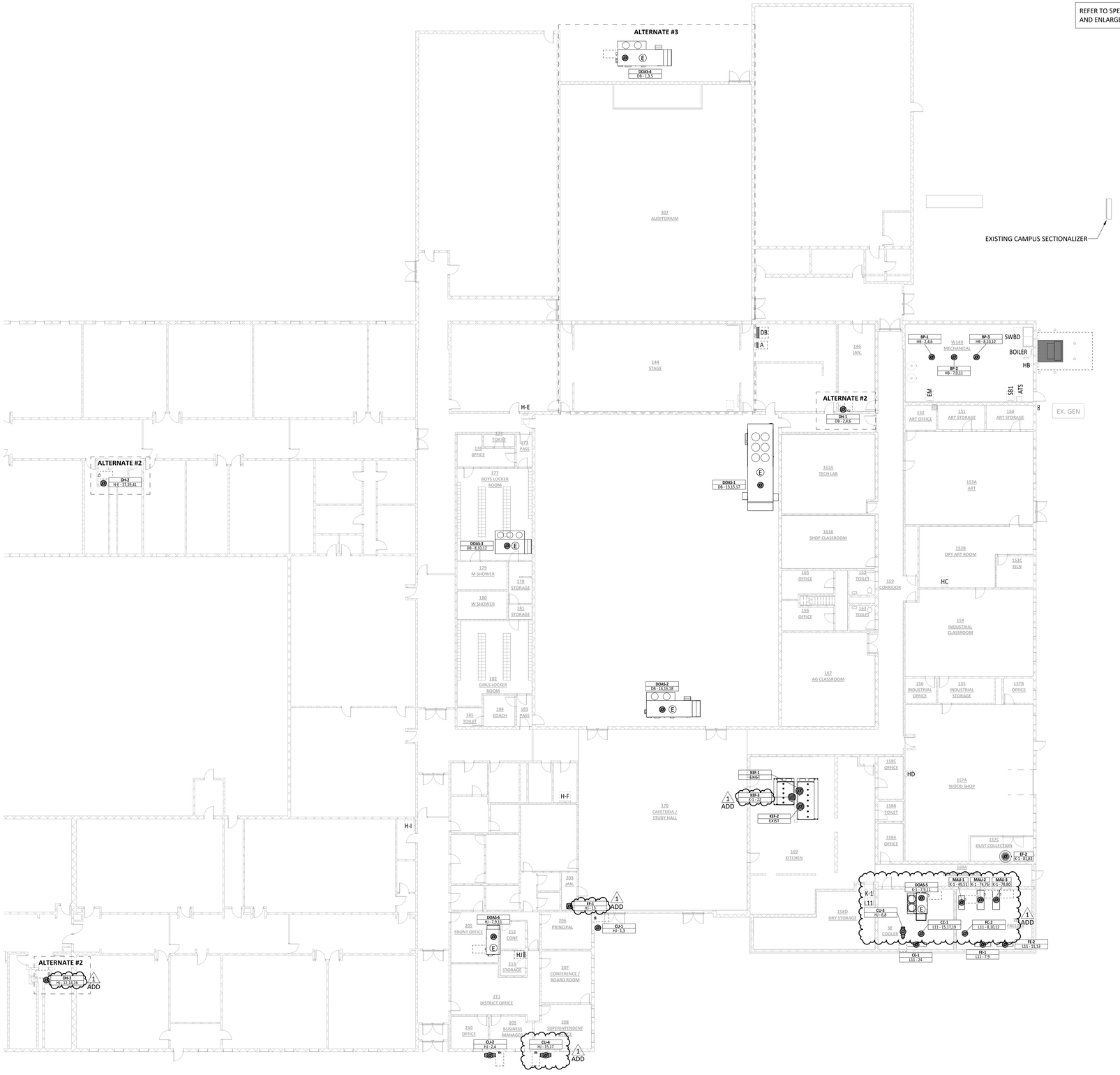
MECHANICAL & ELECTRICAL PLAN - EAST ELEMENTARY

ME103

REFER TO SPECIFICATION SECTION 01100 SUMMARY, COVER PAGE AND ENLARGED PLANS FOR SCOPE OF WORK FOR ALTERNATES



AREA B
AREA D
AREA A
AREA C

MIDDLE SCHOOL BUILDING KEY PLAN

ELECTRICAL PLAN - OVERALL
1/16" = 1'-0"
1
E-101

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

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ELECTRICAL PLAN - OVERALL

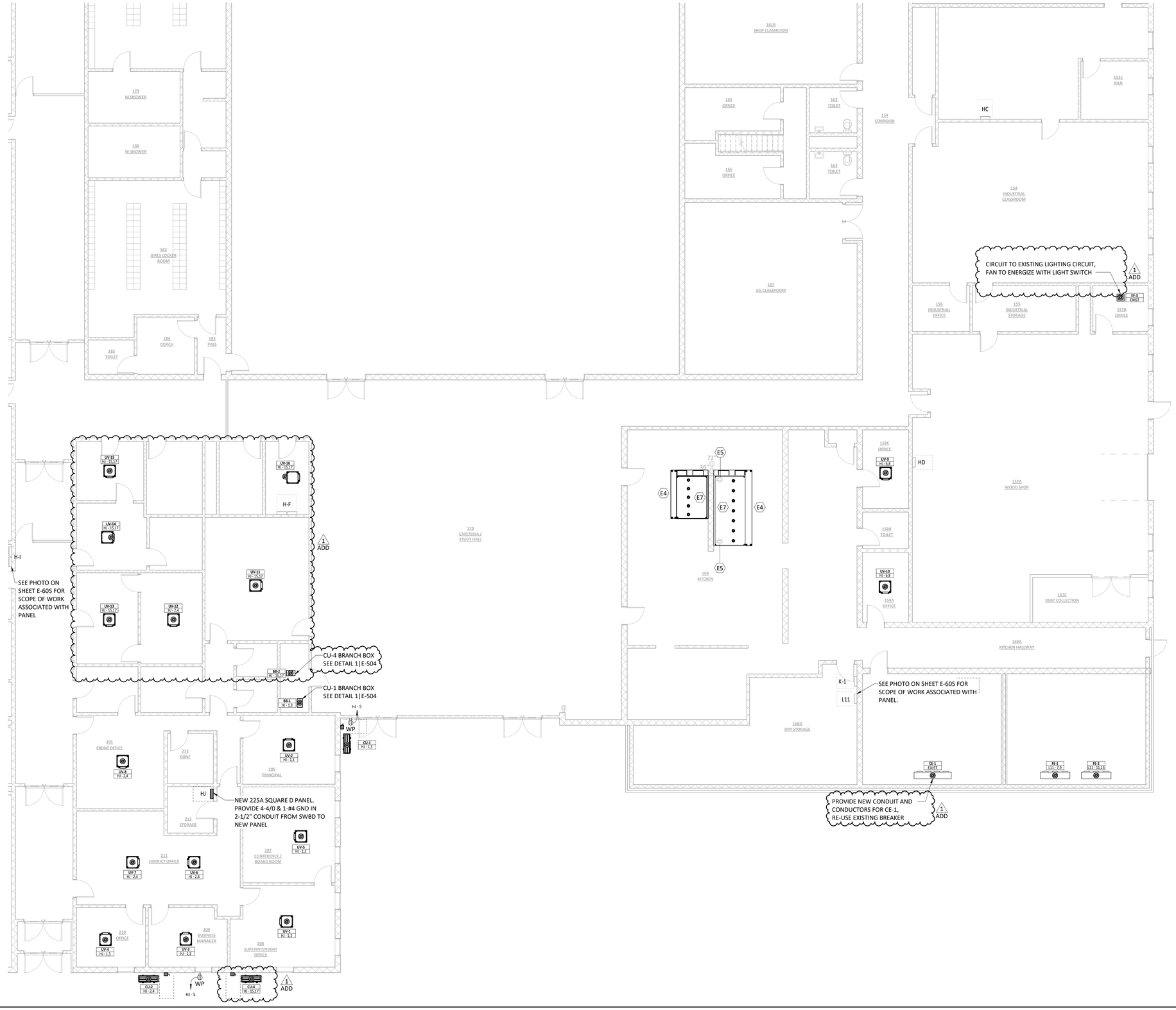
E-101

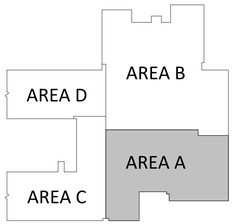
ALTERNATE NOTES

ALT-#2	PROVIDE CONDUIT AND CONDUCTORS TO NEW DUCT HUMIDIFIER(S). REFER TO MOTOR AND EQUIPMENT SCHEDULE ON SHEET E-601 FOR CONDUIT, CONDUCTOR AND DISCONNECT SIZING. PROVIDE NEW 70A/3P BREAKER IN ASSOCIATED PANEL

ELECTRICAL KEYED NOTES

E4	PROVIDE AN ADRESSABLE MONITOR MODULE TO INTERFACE WITH THE KITCHEN HOOD FIRE SUPPRESSION SYSTEM. UPON ACTIVATION OF THE SUPPRESSION SYSTEM, THE MONITOR MODULE SHALL INITIATE A GENERAL FIRE ALARM CONDITION THROUGH THE FIRE ALARM CONTROL PANEL (FACP). MODULE SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72 AND MANUFACTURER REQUIREMENTS. COORDINATE WIRING AND TERMINATION REQUIREMENTS WITH THE KITCHEN HOOD SUPPRESSION CONTRACTOR.
E5	EXISTING RECEPTACLES MOUNTED UNDER HOOD SHALL BE RE-INSTALLED ONCE NEW HOOD IS INSTALLED.
E7	ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO SHUNT TRIP COIL TO SHUT OFF EQUIPMENT UNDER HOOD IN FIRE CONDITION. ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO N.C. CONCTACTS OF GAS SOLENOID TO SHUT OFF GAS IN FIRE CONDITON. ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO SUPPLY FANS/MAKE-UP AIR FANS TO SHUT OFF IN FIRE CONDITION. ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO EXHAUST FANS, HOOD LIGHTS, AND TEMPERATURE SENSOR. EXHAUST FANS TO BE WIRED TO UNIT INTERLOCK SO THAT EXHAUST FANS ENERGIZE AUTOMATICALLY WHEN COOKING APPLIANCES ARE IN USE.





MIDDLE SCHOOL BUILDING KEY PLAN

ELECTRICAL PLAN - AREA A
1/8" = 1'-0"

N

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ELECTRICAL PLAN - AREA A

E-101A

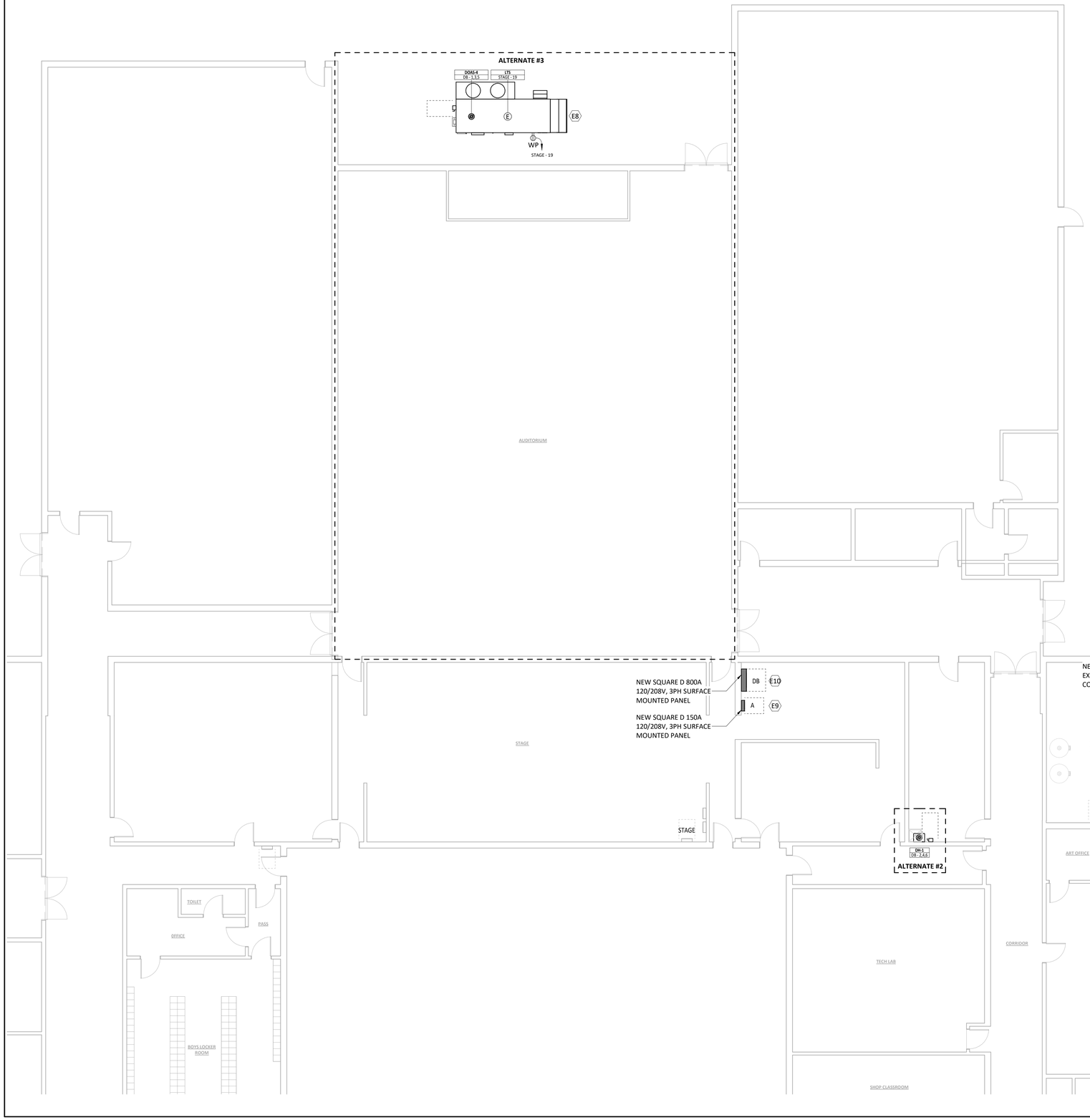
ELECTRICAL KEYED NOTES

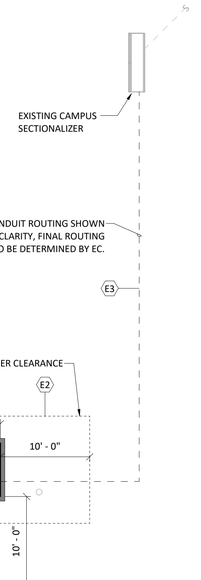
E1	COORDINATE PAD MOUNTED TRANSFORMER AND PAD REPLACEMENT WITH SERVING UTILITY AND OWNER PRIOR TO DEMOLITION OF EXISTING TRANSFORMER. EC TO PROVIDE DETAILED INSTALLATION PLAN FOR PAD MOUNTED TRANSFORMER AND PRIMARY FEEDERS AND CONDUIT TO OWNER AND UTILITY INCLUDING PHASING, TEMPORARY POWER PROVISIONS, OUTAGE DURATION AND TESTING. THE INTENT OF THIS WORK IS TO MINIMIZE THE DISRUPTION TO THE SECONDARY FEEDS OF THE TRANSFORMER TO THE EXISTING SWITCHBOARD BY LOCATING THE PAD'S SECONDARY WINDOW OPENING IN A LOCATION THAT REQUIRES MINIMAL REWORK. LOCATION OF TRANSFORMER AND PAD SHOWN ARE TO PROVIDE APPROPRIATE CLEARANCES FROM MAN DOOR AND BUILDING. COORDINATE WITH UTILITY FOR APPROVAL ON FINAL LOCATION PRIOR TO PAD INSTALLATION.
E2	EC TO PROVIDE CONCRETE EQUIPMENT PAD SIZED PER UTILITY AND CODE REQUIREMENTS. EC TO ENSURE CONCRETE PAD IS INSTALLED ON STABLE AND LEVEL GRADE, MAINTAINS REQUIRED CLEARANCES, AND TO PROVIDE AND INSTALL BOLLARDS TO PROTECT FROM VEHICLE IMPACT. EC TO PROVIDE OIL CONTAINMENT MOAT AS REQUIRED BY UTILITY. PROVIDE GROUNDING AND BONDING AS REQUIRED BY UTILITY AND NEC. EC TO INSTALL PVC CONDUIT STUB UPS ALIGNED WITH TRANSFORMER CABINET LAYOUT. SEE DETAIL 4|E-501 FOR PAD REQUIREMENTS.
E3	PROVIDE AND INSTALL (1) 3" CONDUIT FROM SECTIONALIZER TO NEW TRANSFORMER WITH 3-#1/0 AL 15KV CONDUCTORS. EXISTING CONDUIT MAY NOT NEED TO BE REPLACED IN IT'S ENTIRETY, CONTRACTOR TO FIELD VERIFY CONDITION OF EXISTING CONDUIT AND INTERCEPT AND EXTEND IF ABLE.
E8	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR ON THE RETURN AND SUPPLY SIDE OF THE DOAS UNITS AND SUPPLY SIDE OF EACH MAU UNIT. CONNECT NEW DUCT SMOKE DETECTOR TO THE EXISTING FIRE ALARM CONTROL PANEL LOCATED IN ROOM W060 IN THE HIGH SCHOOL. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR TEST RESET SWITCH. CONTRACTOR TO INSTALL (1) DUCT SMOKE DETECTOR TEST RESET SWITCH PER DOAS/MAU UNIT. SEE DETAILS ON SHEETS E-S03 AND E-S04 FOR POWER, CONTROL AND FIRE ALARM WIRING.
E9	INSTALL NEW SURFACE-MOUNTED PANEL IN LOCATION SHOWN IN ACCORDANCE WITH NEC AND AHJ REQUIREMENTS. PROVIDE GROUNDING AND BONDING. RECONNECT EXISTING FEEDERS AND BRANCH CIRCUITS AND IDENTIFY ALL CIRCUITS WITH TYPE-WRITTEN DIRECTORIES AND TORQUE ALL CONNECTIONS TO MANUFACTURER'S SPECIFICATIONS. MAINTAIN REQUIRED WORKING CLEARANCES AND HEIGHTS. PROVIDE WIRE GUTTER AND JUNCTION BOXES AS REQUIRED TO EXTEND EXISTING CIRCUITS TO NEW PANEL.
E10	INSTALL NEW SURFACE-MOUNTED DISTRIBUTION BOARD IN LOCATION SHOWN IN ACCORADANCE WITH NEC AND AHJ REQUIREMENTS. PROVIDE GROUNDING AND BONDING. PROVIDE THREE (3) SETS OF 4-# 300 & 1-# 1/0 CU IN THREE (3) 3" CONDUITS FROM SWITCHBOARD TO NEW DISTRIBUTION BOARD. RECONNECT EXISTING BRANCH CIRCUITS AND IDENTIFY ALL CIRCUITS WITH TYPE-WRITTEN DIRECTORIES. TORQUE ALL CONNECTIONS TO MANUFACTURER'S SPECIFICATIONS. MAINTAIN REQUIRED WORKING CLEARANCES AND HEIGHTS. PROVIDE WIRE GUTTER AND JUCTION BOXES AS REQUIRED TO EXTEND EXISTING CIRCUITS TO NEW PANEL.

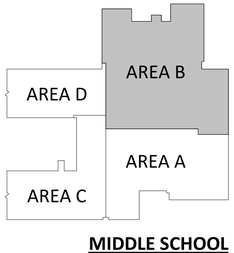
ALTERNATE NOTES

ALT. #2	PROVIDE CONDUIT AND CONDUCTORS TO NEW DUCT HUMIDIFIER(S). REFER TO MOTOR AND EQUIPMENT SCHEDULE ON SHEET E-601 FOR CONDUIT, CONDUCTOR AND DISCONNECT SIZING.
ALT. #3	PROVIDE CONDUIT AND CONDUCTORS TO NEW GROUND MOUNTED RTU AND ERV. REFER TO MOTOR AND EQUIPMENT SCHEDULE ON SHEET E-601 FOR CONDUIT, CONDUCTOR AND DISCONNECT SIZING.

1 ADD







MIDDLE SCHOOL BUILDING KEY PLAN

ELECTRICAL PLAN - AREA B
1/8" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026

DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

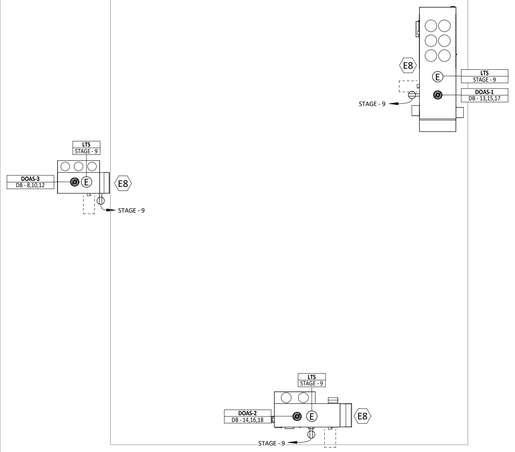
DRAWN BY	DMS
CHECKED BY	KDM
PROJECT NO.	9166-10000

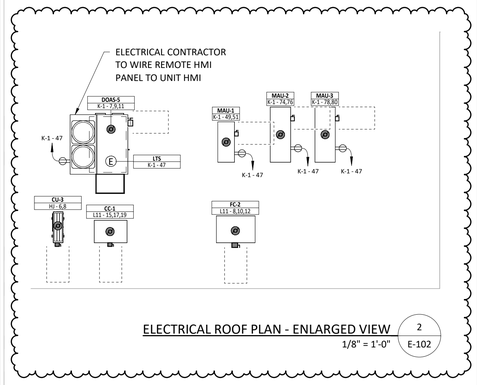
SHEET NAME
ELECTRICAL PLAN - AREA B

E-101B

ELECTRICAL KEYED NOTES

E6	KITCHEN EXHAUST FANS (KEF-#) - NEW EXHAUST FANS ARE REPLACING EXISTING IN KIND. PROVIDE NEW CONDUIT AND CONDUCTORS TO NEW EXHAUST FANS. SEE MOTOR AND EQUIPMENT SCHEDULE FOR CONDUIT AND CONDUCTOR SIZING. EXISTING HOOD CIRCUITING COULD NOT BE IDENTIFIED BY PANELBOARD SCHEDULE. ELECTRICAL CONTRACTOR SHALL IDENTIFY CIRCUITS FEEDING EXHAUST FANS PRIOR TO DEMOLITION.
E8	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR ON THE RETURN AND SUPPLY SIDE OF THE DOAS UNITS AND SUPPLY SIDE OF EACH MAU UNIT. CONNECT NEW DUCT SMOKE DETECTOR TO THE EXISTING FIRE ALARM CONTROL PANEL LOCATED IN ROOM W060 IN THE HIGH SCHOOL. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR TEST RESET SWITCH. CONTRACTOR TO INSTALL (1) DUCT SMOKE DETECTOR TEST RESET SWITCH PER DOAS/MAU UNIT. SEE DETAILS ON SHEETS E-503 AND E-504 FOR POWER, CONTROL AND FIRE ALARM WIRING.

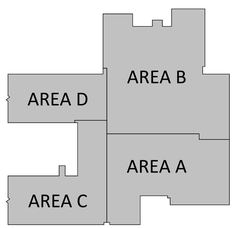




ELECTRICAL ROOF PLAN - ENLARGED VIEW
1/8" = 1'-0"
2 / E-102

1 / ADD

EXISTING EXHAUST FAN CIRCUIT COULD NOT BE IDENTIFIED BY PANEL SCHEDULE. PROVIDE NEW CIRCUIT TO EXHAUST FAN FROM K-1 PANEL. IF EXISTING CIRCUIT IS SIZED ACCORDINGLY, IT MAY BE RE-USED. EXHAUST FAN CONTROLLED VIA DOAS UNIT.



MIDDLE SCHOOL BUILDING KEY PLAN

ELECTRICAL ROOF PLAN
1/16" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172

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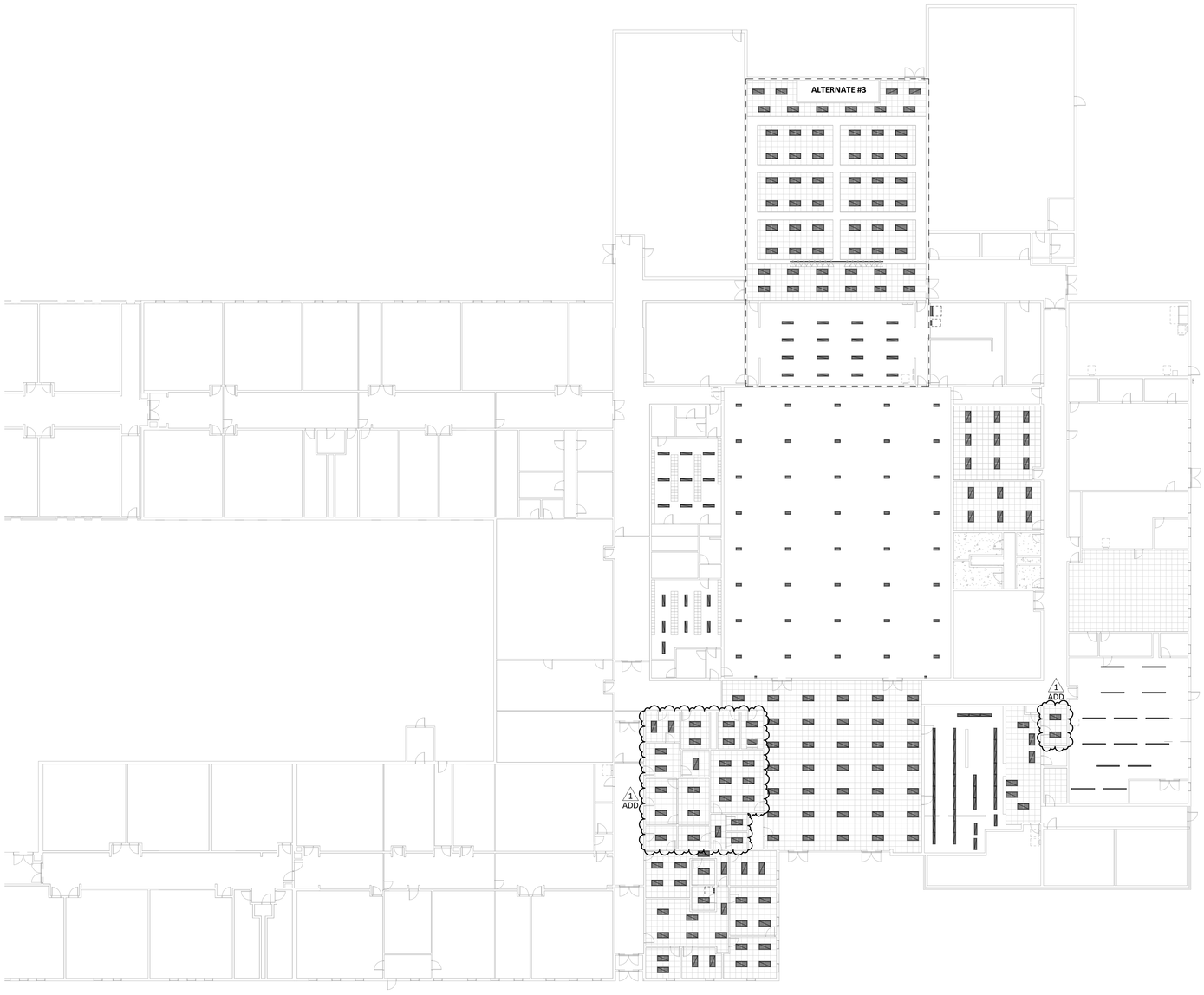
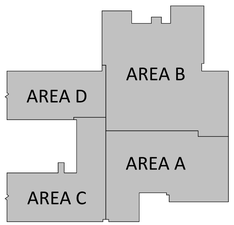
SHEET NAME

ELECTRICAL ROOF PLAN

E-102

1 ADD REFER TO SPECIFICATION SECTION 01100 SUMMARY, COVER PAGE AND ENLARGED PLANS FOR SCOPE OF WORK FOR ALTERNATES





MIDDLE SCHOOL BUILDING KEY PLAN

LIGHTING PLAN - OVERALL
3/64" = 1'-0"

N

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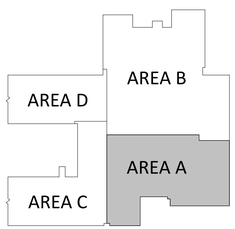
LIGHTING PLAN - OVERALL

E-110

REFLECTED CEILING PLAN NOTES

1	CONTRACTOR SHALL REMOVE ALL CEILING MOUNTED DEVICES AND STORE FOR RE-INSTALLATION ONCE CEILING WORK IS COMPLETED. THIS INCLUDES LIGHTING, FIRE ALARM, WIRELESS ACCESS POINTS AND OTHER CEILING MOUNTED DEVICES. THESE DEVICES ARE DENOTED WITH "R-R", ALL DEVICES MAY NOT BE SHOWN. EXTEND WIRING AND CONDUIT TO DEVICES AS REQUIRED FOR OPERATION. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE BUILDING PRIOR TO BIDDING TO EVALUATE THE NUMBER AND TYPES OF DEVICES TO BE RE-INSTALLED. WHERE NEW SPEAKERS ARE SHOWN, PROVIDE AND INSTALL NEW SPEAKERS AND TIE INTO EXISTING SPEAKER WIRING. ONCE NEW CEILING HAS BEEN INSTALLED, RE-INSTALL DEVICES IN NEW CEILING.
2	PROVIDE NEW CONTROLS IN ALL ROOMS PROVIDED WITH NEW LIGHTING. PROVIDE CONTROL WIRING, SENSORS, SWITCHES, ROOM CONTROLLERS, POWER PACKS AND CONDUIT AS REQUIRED FOR OPERATION.
3	EXISTING CEILING MOUNTED SPEAKER TO BE DEMOED IN CAFETERIA AND ADMIN AREA. NEW SPEAKERS SHALL BE A 2X2 DROP IN CEILING SPEAKER, 70V, PLENUM RATED. CONFIRM EXISTING SPEAKER VOLTAGE AND TAP SETTINGS PRIOR TO ORDERING. BASIS OF DESIGN: LEGRAND CG41509
4	GYMNASIUM LIGHTING IS CONTROLLED THROUGH AN EXISTING NLIGHT RELAY PANEL.PRIOR TO ORDERING OCCUPANCY SENSORS, CONFIRM SENSORS WILL INTEGRATE WITH EXISTING CONTROL PANEL.
5	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL NEW SMOKE DETECTOR COMPATIBLE WITH THE EXISTING "NOTIFIER" FIRE ALARM SYSTEM. CONNECT NEW SMOKE DETECTORS TO THE EXISTING FIRE ALARM CONTROL PANEL. FIRE ALARM CONTROL PANEL LOCATED IN ROOM W060.
6	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL NEW BEAM DETECTORS IN GYMNASIUM. PROVIDE DETECTORS THAT ARE COMPATIBLE WITH EXISTING "NOTIFIER" FIRE ALARM SYSTEM. CONNECT NEW BEAM DETECTORS TO THE EXISTING FIRE ALARM CONTROL PANEL. CONTROL PANEL LOCATED IN ROOM W060 IN HIGH SCHOOL.
7	ALL PLATES SHALL BE STAINLESS STEEL. PROVIDE DUAL GANG PLATES WHERE REQUIRED



MIDDLE SCHOOL BUILDING KEY PLAN

LIGHTING PLAN - AREA A
1/8" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

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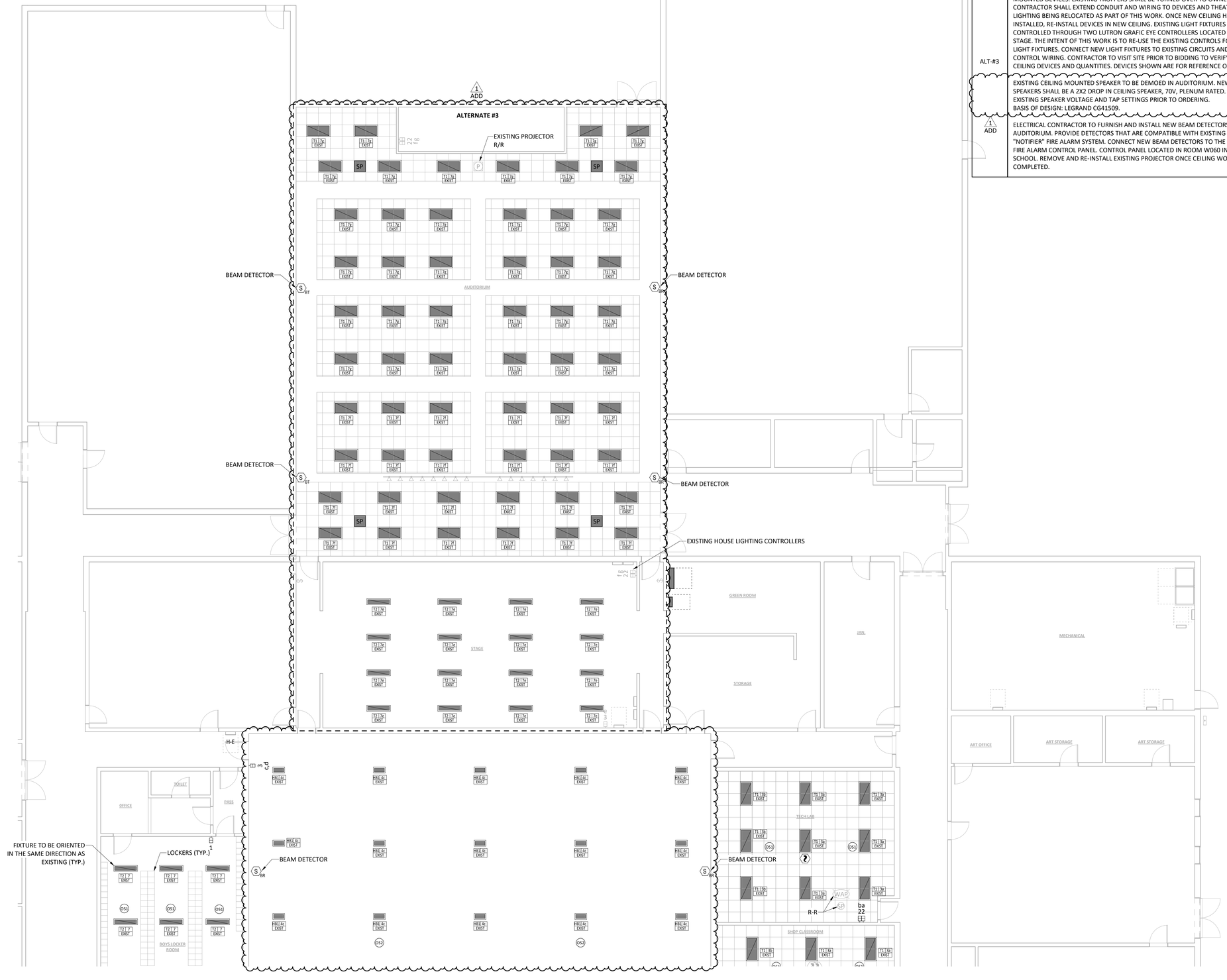
SHEET NAME

LIGHTING PLAN - AREA A

E-110A



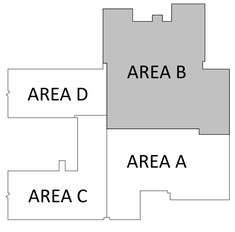
ALTERNATE NOTES

ALT-#3	CONTRACTOR SHALL REMOVE ALL CEILING MOUNTED DEVICES AND STORE FOR RE-INSTALLATION ONCE NEW CEILING WORK IS COMPLETED. THIS INCLUDES THEATRICAL LIGHTING, FIRE ALARM, WIRELESS ACCESS POINTS, AND ANY OTHER CEILING MOUNTED DEVICES. EXISTING TROFFERS SHALL BE TURNED OVER TO OWNER. CONTRACTOR SHALL EXTEND CONDUIT AND WIRING TO DEVICES AND THEATRICAL LIGHTING BEING RELOCATED AS PART OF THIS WORK. ONCE NEW CEILING HAS BEEN INSTALLED, RE-INSTALL DEVICES IN NEW CEILING. EXISTING LIGHT FIXTURES ARE CONTROLLED THROUGH TWO LUTRON GRAFIC EYE CONTROLLERS LOCATED NEAR THE STAGE. THE INTENT OF THIS WORK IS TO RE-USE THE EXISTING CONTROLS FOR NEW LIGHT FIXTURES. CONNECT NEW LIGHT FIXTURES TO EXISTING CIRCUITS AND CONTROL WIRING. CONTRACTOR TO VISIT SITE PRIOR TO BIDDING TO VERIFY EXISTING CEILING DEVICES AND QUANTITIES. DEVICES SHOWN ARE FOR REFERENCE ONLY.
1 ADD	EXISTING CEILING MOUNTED SPEAKER TO BE DEMOED IN AUDITORIUM. NEW SPEAKERS SHALL BE A 2X2 DROP IN CEILING SPEAKER, 70V, PLENUM RATED. CONFIRM EXISTING SPEAKER VOLTAGE AND TAP SETTINGS PRIOR TO ORDERING. BASIS OF DESIGN: LEGRAND CG41509.
	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL NEW BEAM DETECTORS IN AUDITORIUM. PROVIDE DETECTORS THAT ARE COMPATIBLE WITH EXISTING "NOTIFIER" FIRE ALARM SYSTEM. CONNECT NEW BEAM DETECTORS TO THE EXISTING FIRE ALARM CONTROL PANEL. CONTROL PANEL LOCATED IN ROOM W060 IN HIGH SCHOOL. REMOVE AND RE-INSTALL EXISTING PROJECTOR ONCE CEILING WORK IS COMPLETED.

LIGHTING NOTES

1	CONTRACTOR SHALL REMOVE ALL CEILING MOUNTED DEVICES AND STORE FOR RE-INSTALLATION ONCE CEILING WORK IS COMPLETED. THIS INCLUDES LIGHTING, FIRE ALARM, WIRELESS ACCESS POINTS AND OTHER CEILING MOUNTED DEVICES. THESE DEVICES ARE DENOTED WITH "R-R", ALL DEVICES MAY NOT BE SHOWN. EXTEND WIRING AND CONDUIT TO DEVICES AS REQUIRED FOR OPERATION. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE BUILDING PRIOR TO BIDDING TO EVALUATE THE NUMBER AND TYPES OF DEVICES TO BE RE-INSTALLED. WHERE NEW SPEAKERS ARE SHOWN, PROVIDE AND INSTALL NEW SPEAKERS AND TIE INTO EXISTING SPEAKER WIRING. ONCE NEW CEILING HAS BEEN INSTALLED, RE-INSTALL DEVICES IN NEW CEILING.
2	PROVIDE NEW CONTROLS IN ALL ROOMS PROVIDED WITH NEW LIGHTING. PROVIDE CONTROL WIRING, SENSORS, SWITCHES, ROOM CONTROLLERS, POWER PACKS AND CONDUIT AS REQUIRED FOR OPERATION.
3	GYMNASIUM LIGHTING IS CONTROLLED THROUGH AN EXISTING NLIGHT RELAY PANEL.PRIOR TO ORDERING OCCUPANCY SENSORS, CONFIRM SENSORS WILL INTEGRATE WITHEXISTING CONTROL PANEL.
4	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL NEW BEAM DETECTORS IN THE AUDITORIUM THAT ARE COMPATIBLE WITH EXISTING "NOTIFIER" FIRE ALARM SYSTEM. CONNECT NEW BEAM DETECTORS TO THE EXISTING FIRE ALARM CONTROL PANEL. FIRE ALARM PANEL IS LOCATED IN ROOM W060.
5	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL NEW SMOKE DETECTORS, IN ROOMS AS SHOWN ON PLANS, COMPATIBLE WITH EXISTING "NOTIFIER" FIRE ALARM SYSTEM. CONNECT NEW SMOKE DETECTORS TO THE EXISTING FIRE ALARM CONTROL PANEL. FIRE ALARM PANEL IS LOCATED IN ROOM W060.
6	ALL PLATES SHALL BE STAINLESS STEEL. PROVIDE DUAL GANG PLATES WHERE REQUIRED

1 ADD



MIDDLE SCHOOL BUILDING KEY PLAN

LIGHTING PLAN - AREA B
1/8" = 1'-0"

N

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026

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CHECKED BY	KDM
PROJECT NO.	9166-10000

SHEET NAME
LIGHTING PLAN - AREA B

E-110B

MOTOR AND EQUIPMENT SCHEDULE

EQUIP TAG	NOTES: EQUIPMENT TAGS NOTED AS ## & ## ARE WIRED TO SAME CIRCUIT. AMPACITY SHOWN IS TOTAL CIRCUIT AMPS.									STARTER/DISCONNECT E-FURNISHED BY ELECTRICAL CONTRACTOR M-FURNISHED BY MECHANICAL CONTRACTOR					
	DESCRIPTION	AMP	VOLTAGE	# OF POLES	WIRE SIZE	CONDUIT	PANEL	MCA	MOCP	DISC	SW AMPS	FUSE AMPS	NEMA RATING	NOTES	REMARKS
BP-1	BOILER PUMP	6.9 A	208 V	3	3-#12, 1-#12	3/4"	HB	8.6 A	15 A	N/A					WITHIN SIGHT
BP-2	BOILER PUMP	6.9 A	208 V	3	3-#12, 1-#12	3/4"	HB	8.6 A	15 A	N/A					WITHIN SIGHT
BP-3	BOILER PUMP	6.9 A	208 V	3	3-#12, 1-#12	3/4"	HB	8.6 A	15 A	N/A					WITHIN SIGHT
CC-1	COOLER CONDENSER	14.3 A	208 V	3	3-#10, 1-#10	3/4"	L11	20 A	25 A	E	30A	NF	3R		
CE-1	COOLER EVAPORATOR	14.4 A	120 V	1	1-#12, 1-#12, 1-#12	3/4"	L11	15.5 A	20 A	E	30A	NF	3R		
CU-1 / BB-1 / UV-#	CONDENSING UNIT / UNIT VENTILLATORS	47.5 A	208 V	2	2-#4, 1-#8	1 1/4"	HJ	59.4 A	70 A	E	60A	NF	3R	4	
CU-2 / UV-#	CONDENSING UNIT / UNIT VENTILLATORS (1 ADD)	37.2 A	208 V	2	2-#8, 1-#10	1"	HJ	46.4 A	50 A	(1 ADD) E	60A	NF	3R	4	(1 ADD)
CU-3 / UV-#	CONDENSING UNIT / UNIT VENTILLATORS	36.6 A	208 V	2	2-#8, 1-#10	1"	HJ	45.7 A	50 A	E	60A	NF	3R	4	
(1 ADD) CU-4 / BB-2 / UV-#	CONDENSING UNIT / UNIT VENTILLATORS	48.0 A	208 V	2	2-#4, 1-#8	1 1/4"	HJ	60 A	70 A	E	60A	NF	3R	4	
DH-1	DUCT HUMIDIFIER	52.0 A	208 V	3	3-#4, 1-#8	1 1/4"	DB	65 A	70 A	M				2	
DH-2	DUCT HUMIDIFIER	52.0 A	208 V	3	3-#4, 1-#8	1 1/4"	H-E	65 A	70 A	M				2	
DH-3	DUCT HUMIDIFIER	52.0 A	208 V	3	3-#4, 1-#8	1 1/4"	HJ	65 A	70 A	M				2	
DOAS-1	DEDICATED OUTSIDE AIR SYSTEM	258.0 A	208 V	3	3-#350 KCMIL, 1-#4	3"	DB	268.1 A	300 A	M				1	
DOAS-2	DEDICATED OUTSIDE AIR SYSTEM	101.6 A	208 V	3	3-#1, 1-#6	2"	DB	109 A	125 A	M				1	
DOAS-3	DEDICATED OUTSIDE AIR SYSTEM	91.1 A	208 V	3	3-#1, 1-#6	2"	DB	107.7 A	125 A	M				1	
DOAS-4	DEDICATED OUTSIDE AIR SYSTEM	105.5 A	208 V	3	3-#1, 1-#6	2"	DB	112.9 A	125 A	M				1, 3	(1 ADD)
DOAS-5	DEDICATED OUTSIDE AIR SYSTEM	49.5 A	208 V	3	3-#4, 1-#8	1 1/4"	K-1	61.9 A	70 A	M				1	
DOAS-6	DEDICATED OUTSIDE AIR SYSTEM	33.6 A	208 V	3	3-#8, 1-#10	1"	HJ	41 A	50 A	M				1	
EF-1	EXHAUST FAN	0.3 A	120 V	1	1-#12, 1-#12, 1-#12	3/4"	HJ	0.4 A	15 A	N/A					CONTROLLED VIA SWITCH
EF-2	EXHAUST FAN	7.0 A	208 V	2	2-#10, 1-#10	3/4"	K-1	8.8 A	30 A	N/A					ENERGIZED VIA RTU
EF-3	EXHAUST FAN	0.4 A	120 V	1	1-#12, 1-#12, 1-#12	3/4"	HD	0.5 A	20 A	N/A					CONTROLLED VIA SWITCH
FC-2	FREEZER CONDENSER	26.7 A	208 V	3	3-#8, 1-#10	1"	L11	32.7 A	50 A	E	60A	NF	3R		
FE-1	FREEZER EVAPORATOR	13.7 A	208 V	2	2-#12, 1-#12	3/4"	L11	13.7 A	20 A	E	30A	NF	1		TOGGLE TYPE
FE-2	FREEZER EVAPORATOR	13.7 A	208 V	2	2-#12, 1-#12	3/4"	L11	13.7 A	20 A	E	30A	NF	1		TOGGLE TYPE
KEF-3	KITCHEN EXHAUST FAN	8.7 A	120 V	1	1-#12, 1-#12, 1-#12	3/4"	K-1	10.9 A	20 A	M					
MAU-1	MAKE-UP AIR FAN	10.0 A	208 V	2	2-#12, 1-#12	3/4"	K-1	12.5 A	20 A	M					
MAU-2	MAKE-UP AIR FAN	6.9 A	208 V	2	2-#12, 1-#12	3/4"	K-1	8.63 A	20 A	M					
(1 ADD) MAU-3	MAKE-UP AIR FAN	10.0 A	208 V	2	2-#12, 1-#12	(1 ADD) 3/4"	K-1	12.5 A	20 A	M					

NOTES:
1. UNIT PROVIDED WITH UV LAMP AND CONVENIENCE RECEPTACLE. PROVIDE 20A/1P CIRCUIT TO UNIT FOR UV AND RECEPTACLE.
2. EQUIPMENT INCLUDED UNDER ALTERNATE #2.
3. EQUIPMENT INCLUDED UNDER ALTERNATE #3.
4. ELECTRICAL CONTRACTOR TO WIRE CONDENSATE PUMPS FOR EACH UNIT VENTILATOR (UV).

ELECTRICAL KEYED NOTES - MASTER

E1	COORDINATE PAD MOUNTED TRANSFORMER AND PAD REPLACEMENT WITH SERVING UTILITY AND OWNER PRIOR TO DEMOLITION OF EXISTING TRANSFORMER. EC TO PROVIDE DETAILED INSTALLATION PLAN FOR PAD MOUNTED TRANSFORMER AND PRIMARY FEEDERS AND CONDUIT TO OWNER AND UTILITY INCLUDING PHASING, TEMPORARY POWER PROVISIONS, OUTAGE DURATION AND TESTING. THE INTENT OF THIS WORK IS TO MINIMIZE THE DISRUPTION TO THE SECONDARY FEEDS OF THE TRANSFORMER TO THE EXISTING SWITCHBOARD BY LOCATING THE PAD'S SECONDARY WINDOW OPENING IN A LOCATION THAT REQUIRES MINIMAL REWORK. LOCATION OF TRANSFORMER AND PAD SHOWN ARE TO PROVIDE APPROPRIATE CLEARANCES FROM MAN DOOR AND BUILDING. COORDINATE WITH UTILITY FOR APPROVAL ON FINAL LOCATION PRIOR TO PAD INSTALLATION.
E2 (1 ADD)	EC TO PROVIDE CONCRETE EQUIPMENT PAD SIZED PER UTILITY AND CODE REQUIREMENTS. EC TO ENSURE CONCRETE PAD IS INSTALLED ON STABLE AND LEVEL GRADE, MAINTAINS REQUIRED CLEARANCES, AND TO PROVIDE AND INSTALL BOLLARDS TO PROTECT FROM VEHICLE IMPACT. EC TO PROVIDE OIL CONTAINMENT MOAT AS REQUIRED BY UTILITY. PROVIDE GROUNDING AND BONDING AS REQUIRED BY UTILITY AND NEC. EC TO INSTALL PVC CONDUIT STUB UPS ALIGNED WITH TRANSFORMER CABINET LAYOUT. SEE DETAIL 4|E-501 FOR PAD REQUIREMENTS.
E3	PROVIDE AND INSTALL (1) 3" CONDUIT FROM SECONDARIES TO NEW TRANSFORMER WITH 3-#1/0 AL 15KV CONDUCTORS. EXISTING CONDUIT MAY NOT NEED TO BE REPLACED IN IT'S ENTIRETY, CONTRACTOR TO FIELD VERIFY CONDITION OF EXISTING CONDUIT AND INTERCEPT AND EXTEND IF ABLE.
E4 (1 ADD)	PROVIDE AN ADRESSABLE MONITOR MODULE TO INTERFACE WITH THE KITCHEN HOOD FIRE SUPPRESSION SYSTEM. UPON ACTIVATION OF THE SUPPRESSION SYSTEM, THE MONITOR MODULE SHALL INITIATE A GENERAL FIRE ALARM CONDITION THROUGH THE FIRE ALARM CONTROL PANEL (FACP). MODULE SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72 AND MANUFACTURER REQUIREMENTS. COORDINATE WIRING AND TERMINATION REQUIREMENTS WITH THE KITCHEN HOOD SUPPRESSION CONTRACTOR.
E5	EXISTING RECEPTACLES MOUNTED UNDER HOOD SHALL BE RE-INSTALLED ONCE NEW HOOD IS INSTALLED.
E6	KITCHEN EXHAUST FANS KEF-#1 - NEW EXHAUST FANS ARE REPLACING EXISTING IN KIND. PROVIDE NEW CONDUIT AND CONDUCTORS TO NEW EXHAUST FANS. SEE MOTOR AND EQUIPMENT SCHEDULE FOR CONDUIT AND CONDUCTOR SIZING. EXISTING HOOD CIRCUITING COULD NOT BE IDENTIFIED BY PANELBOARD SCHEDULE. ELECTRICAL CONTRACTOR SHALL IDENTIFY CIRCUITS FEEDING EXHAUST FANS PRIOR TO DEMOLITION.
E7	ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO SHUNT TRIP COIL TO SHUT OFF EQUIPMENT UNDER HOOD IN FIRE CONDITION. ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO N.C. CONCTACTS OF GAS SOLENOID TO SHUT OFF GAS IN FIRE CONDITON. ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO SUPPLY FANS/MAKE-UP AIR FANS TO SHUT OFF IN FIRE CONDITION. ELECTRICAL CONTRACTOR TO WIRE CONTROL PANEL TO EXHAUST FANS, HOOD LIGHTS, AND TEMPERATURE SENSOR. EXHAUST FANS TO BE WIRED TO UNIT INTERLOCK SO THAT EXHAUST FANS ENERGIZE AUTOMATICALLY WHEN COOKING APPLIANCES ARE IN USE.
E8	ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR ON THE RETURN AND SUPPLY SIDE OF THE DOAS UNITS AND SUPPLY SIDE OF EACH MAU UNIT. CONNECT NEW DUCT SMOKE DETECTOR TO THE EXISTING FIRE ALARM CONTROL PANEL LOCATED IN ROOM W060 IN THE HIGH SCHOOL. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR TEST RESET SWITCH. CONTRACTOR TO INSTALL (1) DUCT SMOKE DETECTOR TEST RESET SWITCH PER DOAS/MAU UNIT. SEE DETAILS ON SHEETS E-503 AND E-504 FOR POWER, CONTROL AND FIRE ALARM WIRING.
E9	INSTALL NEW SURFACE-MOUNTED PANEL IN LOCATION SHOWN IN ACCORDANCE WITH NEC AND AHJ REQUIREMENTS. PROVIDE GROUNDING AND BONDING. RECONNECT EXISTING FEEDERS AND BRANCH CIRCUITS AND IDENTIFY ALL CIRCUITS WITH TYPE-WRITTEN DIRECTORIES AND TORQUE ALL CONNECTIONS TO MANUFACTURER'S SPECIFICATIONS. MAINTAIN REQUIRED WORKING CLEARANCES AND HEIGHTS. PROVIDE WIRE GUTTER AND JUNCTION BOXES AS REQUIRED TO EXTEND EXISTING CIRCUITS TO NEW PANEL.
E10	INSTALL NEW SURFACE-MOUNTED DISTRIBUTION BOARD IN LOCATION SHOWN IN ACCORDANCE WITH NEC AND AHJ REQUIREMENTS. PROVIDE GROUNDING AND BONDING. PROVIDE THREE (3) SETS OF 4-# 300 & 1-# 1/0 CU IN THREE (3) 3" CONDUITS FROM SWITCHBOARD TO NEW DISTRIBUTION BOARD. RECONNECT EXISTING BRANCH CIRCUITS AND IDENTIFY ALL CIRCUITS WITH TYPE-WRITTEN DIRECTORIES. TORQUE ALL CONNECTIONS TO MANUFACTURER'S SPECIFICATIONS. MAINTAIN REQUIRED WORKING CLEARANCES AND HEIGHTS. PROVIDE WIRE GUTTER AND JUCTION BOXES AS REQUIRED TO EXTEND EXISTING CIRCUITS TO NEW PANEL.

ELECTRICAL DEMO KEYED NOTES - MASTER

D1	REMOVE AND RE-INSTALL CEILING MOUNTED DEVICES IN THIS AREA. NOTE THAT NOT ALL DEVICES REQUIRING RE-INSTALLATION MAY BE SHOWN. CONTRACTOR TO VERIFY CEILING MOUNTED DEVICES PRIOR TO BIDDING. RE-INSTALL DEVICES AS CLOSE TO ORIGINAL LOCATION AS POSSIBLE.
D2	EXISTING CEILING AND CEILING MOUNTED DEVICE TO REMAIN. DEMO EXISTING LIGHTING IN THIS ROOM. NEW LIGHTING FIXTURES TO CONNECT TO EXISTING CIRCUITING AND CONTROLS.
D3	EXISTING STAGE LIGHTING AND ASSOCIATED WIRING TO BE REMOVED AND RE-INSTALLED ONCE CEILING WORK IS COMPLETED.
D4	EXISTING PAD MOUNTED TRANSFORMER IN DETERIORATED CONDITION AND SHALL BE COMPLETELY REMOVED INCLUDING ALL ASSOCIATED WIRING AND GROUNDING COMPONENTS. THE EXISTING CONCRETE PAD IS UNDERSIZED AND DOES NOT MEET CURRENT UTILITY OR CODE REQUIREMENTS. CONTRACTOR SHALL DEMOLISH AND DISPOSE OF THE EXISTING CONCRETE PAD IN ITS ENTIRETY. EC TO MAINTAIN ALL SAFETY MEASURES AND PROVIDE TEMPORARY PROTECTION, BARRICADES AND REQUIRED NOTICES DURING TRANSFORMER REMOVAL AND PAD REPLACEMENT. EC TO COORDINATE WITH OWNER PRIOR TO ANY DEMOLITION OR TERMINATION OF SERVICE TO BUILDING.
D5	MECHANICAL EQUIPMENT TO BE DEMOED (DIV 15). DIV 16 TO REMOVE ALL ASSOCIATED WIRING, CONDUIT, BOXES AND DISCONNECTS BACK TO SOURCE. IF UNIT IS BEING REPLACED, AND EXISTING CONDUIT IS IN GOOD CONDITION AND SIZED APPROPRIATELY, EXISTING CONDUIT MAY BE RE-USED FOR NEW CONDUCTORS TO PROPOSED EQUIPMENT.
D6	REMOVE AND RE-INSTALL EXISTING PROJECTOR AND ASSOCIATED RECEPTACLE.
D7	DEMO EXISTING SPEAKER. SEE ELECTRICAL PLANS FOR NEW SPEAKER TO BE PROVIDED.
D8	DEMO EXISTING PANEL. DE-ENERGIZE ALL FEEDERS AND BRANCH CIRCUITS SERVING THE EXISTING FLUSH-MOUNTED PANEL PRIOR TO WORK. COORDINATE OUTAGES WITH OWNER. IDENTIFY, TAG, AND DOCUMENT ALL EXISTING CIRCUITS PRIOR TO DISCONNECTION FOR RECONNECTION TO NEW SURFACE-MOUNTED PANEL. REMOVE EXISTING PANEL, BREAKERS, TRIM, GROUNDING/BONDING, AND ASSOCIATED CONDUITS. REMOVE ABANDONED CONDUCTORS IN COMPLIANCE WITH NEC. MAINTAIN GROUNDING AND BONDING CONTINUITY AND PROTECT ADJACENT SYSTEMS DURING DEMOLITION. PROVIDE TEMPORARY POWER AS REQUIRED. PATCH AND RESTORE WALL SURFACES TO MATCH EXISTING CONDITIONS.

COPPER FEEDER & BRANCH CIRCUIT SCHEDULE

RATING (SEE NOTE A)	PHASE CONDUCTORS & NEUTRAL	EQUIPMENT GROUNDING CONDUCTOR	CONDUIT SIZE FOR 4W	CONDUIT SIZE FOR 2W OR 3W
15	12	12	3/4"	3/4"
20	12	12	3/4"	3/4"
25	10	10	3/4"	3/4"
30	10	10	3/4"	3/4"
35	8	10	1	3/4"
40	8	10	1	3/4"
45	8	10	1	3/4"
50	8	10	1	3/4"
60	6	10	1	1
70	4	8	1 1/4"	1
80	4	8	1 1/4"	1
90	3	8	1 1/4"	1 1/4"
100	3	8	1 1/4"	1 1/4"
110	2	6	1 1/2"	1 1/4"
125	1	6	2"	1 1/2"
150	1/0	6	2"	1 1/2"
175	2/0	6	2"	2"
200	3/0	6	2 1/2"	2"
225	4/0	4	2 1/2"	2 1/2"
250	250 KCMIL	4	3"	2 1/2"
275	300 KCMIL	4	3"	3"
300	350 KCMIL	4	3"	3"
325	400 KCMIL	3	3 1/2"	3 1/2"
350	500 KCMIL	3	3 1/2"	3 1/2"
400	(2) 3/0	(2) 3	(2) 2 1/2"	(2) 2"

COPPER FEEDER & BRANCH CIRCUIT SCHEDULE NOTES:

A. UNLESS SPECIFICALLY NOTED OTHERWISE, THIS SCHEDULE APPLIES TO ALL ONE-LINE DIAGRAMS, PANEL SCHEDULES, AND EQUIPMENT CONNECTIONS SCHEDULES. A FEEDER OR BRANCH CIRCUIT RATING SHALL BE EQUAL TO THE SPECIFIED RATING OF ITS CORRESPONDING OCPD (OVERCURRENT PROTECTION DEVICE), UNLESS SPECIFICALLY NOTED OTHERWISE. RATINGS FOR EQUIPMENT CONNECTIONS SCHEDULES ARE NOTED IN THE "FEEDER RATING" COLUMN. THE TERM "RATING" IS NOT NECESSARILY SYNONYMOUS WITH "CURRENT-CARRYING CAPACITY" AND IS INTENDED SOLELY TO IDENTIFY PARTICULAR FEEDER SPECIFICATIONS.

B. VALUES IN PARENTHESES INDICATE THE QUANTITY OF PARALLEL SETS IN SEPARATE CONDUITS.

C. IF A FEEDER OR BRANCH CIRCUIT RATING EXCEEDS THAT OF IT CORRESPONDING OCPD, THEN ITS EQUIPMENT GROUNDING CONDUCTOR MUST BE INCREASED PROPORTIONALLY CROSS-SECTIONAL AREA TO THAT OF THE PHASE CONDUCTORS. THEREFORE, THE EQUIPMENT GROUNDING CONDUCTOR SIZE INDICATED IN THIS SCHEDULE SHALL APPLY ONLY IF IT IS NOT SPECIFICALLY NOTED OTHERWISE ON THE PLANS, ONE-LINE DIAGRAMS, OR EQUIPMENT CONNECTIONS SCHEDULES.

D. A FEEDER RATING CAN BE SPECIFIED LESS THAN ITS ASSOCIATED OCPD WHEN IT SERVES A MOTOR LOAD WITH DEDICATED OVERLOAD PROTECTION AND ITS BREAKER IS "OVERSIZED" TO ALLOW FOR INCREASED STARTING CAPACITY (IN RUSH CURRENT).

E. WIRE SIZES ARE BASED ON N.E.C. TABLE 310.15(B)(16) FOR COPPER. THHN/THWN. 75-DEG C.CONDUIT SIZES ARE BASED ON TABLES IN N.E.C: "ANNEX C" THAT ARE APPLICABLE FOR RACEWAY TYPES SPECIFIED UNDER SECTION 260533 "RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS".

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR

BIDDING

DATE	02/20/2026

DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

DRAWN BY	SMF
CHECKED BY	DMS
PROJECT NO.	9166-10000

SHEET NAME

ELECTRICAL EQUIPMENT SCHEDULE

NOT FOR CONSTRUCTION

E-601

LIGHTING SCHEDULE

TAG	SYMBOL	MANUFACTURER	MODEL NUMBER	DESCRIPTION	MOUNTING	TOTAL LUMENS	CCT	CRI	VOLTAGE	WATTS	EMERGENCY COMPONENT	NOTES	APPROVED EQUALS
HB1		KEYSTONE	KT-HBLED215PS-2C-OSC-8CSD-VDIM-P/WG	HIGH BAY	CEILING | 22'	30500 lm	40 K	80	120 V	215 W		1	
L1		KEYSTONE	KT-MSLED54-8-835-VDIM-P/LSM	8' LINEAR	CEILING	7100 lm	35 K	80	120 V	54 W		2	
S1		HE WILLIMAS	NLV-L-L7/840-O-WHT-DRV-UNV	GYM WALL LIGHT	WALL | 9'	700 lm	40 K	80	120 V	15 W			
T1		KEYSTONE	KT-BPLED50PS-24-8CSA-VDIM	2X4 LED FLAT PANEL	CEILING	5600 lm	35 K	80	120 V	50 W			
T2		KEYSTONE	KT-BPLED35PS-14C-8CSA-VDIM/G2	1X4 LED FLAT PANEL	CEILING	4000 lm	35 K	80	120 V	35 W			

NOTES:
1. PROVIDE WITH KT-HBLED-CABLE-1B-KIT CABLE MOUNT IT
2. PROVIDE WITH KT-MSLED-VH-KIT V-HOOK AND CHAIN KIT & ALL REQUIRED BRACKETS

SENSOR SCHEDULE

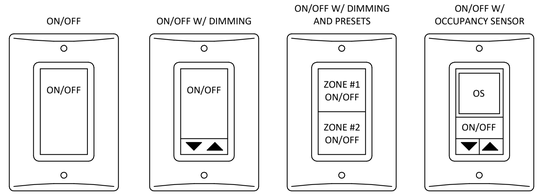
TAG	DESCRIPTION	COVERAGE TYPE	MOUNTING	DETECTION TECHNOLOGY	MODEL #	MANUFACTURER
DL	CEILING MOUNT PHOTO SENSOR	N/A	CEILING	PHOTOCELL	LMLS-500	WATTSTOPPER
OS1	OCCUPANCY SENSOR	STANDARD	CEILING	PDT	LMDC-100	WATTSTOPPER
OS2	OCCUPANCY SENSOR - HIGH MOUNT	HIGH MOUNT	CEILING	PIR	NCM-6-30M	ACUITY
RC1	DUAL RELAY ROOM CONTROLLER	N/A	CEILING/WALL	N/A	LMRC-212	WATTSTOPPER
RC2	DUAL RELAY ROOM CONTROLLER	N/A	CEILING/WALL	N/A	LMRC-101	WATTSTOPPER

SWITCH SCHEDULE

TAG	DESCRIPTION	BASIS OF DESIGN	MANUFACTURER
1	ON/OFF	LMSW-210	WATTSTOPPER
2	ON/OFF WITH DIMMING	LMSW-211	WATTSTOPPER
3	ON/OFF (TWO ZONES)	LMSW-220	WATTSTOPPER
4	OCCUPANCY SENSOR WITH DIMMING	CS-50	WATTSTOPPER

LIGHTING CONTROL SEQUENCE OF OPERATION

OPERATION SEQUENCE	ROOM TYPE	TIME DELAY	LIGHTING SEQUENCE				RECEPTACLE SEQUENCE	DESCRIPTION
			POWER ON	POWER OFF	DAY LIGHT CONTROLS	DAYLIGHT SET POINT (FC)		
1	WOOD SHOP/KITCHEN	N/A	MANUAL SWITCH	MANUAL SWITCH	N/A		N/A	MANUAL ON | MANUAL OFF
2	CORRIDOR	N/A	OCCUPANCY SENSOR	OCCUPANCY SENSOR	N/A		N/A	AUTO-ON BY OCCUPANCY SENSOR. AUTO-OFF BY OCCUPANCY SENSOR.
3	CLASSROOM	20 MIN.	MANUAL SWITCH	MANUAL SWITCH/OCCUPANCY SENSOR	N/A		N/A	LIGHTING IS CONTROLLED VIA VACANCY SENSING, FIXTURES ARE SPLIT INTO TWO ZONES AND FULLY DIMMABLE FROM THE WALL SWITCHES.
4	GYMNASIUM	20 MIN.	OCCUPANCY SENSOR	MANUAL SWITCH/OCCUPANCY SENSOR	N/A		N/A	LIGHTS CONTROLLED THROUGH EXISTING NLIGHT RELAY PANELS PROVIDE NEW OCCUPANCY SENSORS. AUTO-ON VIA OCCUPANCY SENSOR OR SWITCH, AUTO-OFF VIA OCCUPANCY SENSOR OR SWITCH. 1 ADD
5	LOCKER ROOM	20 MIN.	OCCUPANCY SENSOR	MANUAL SWITCH/OCCUPANCY SENSOR	N/A		N/A	AUTO ON BY OCCUPANCY SENSOR, AUTO OFF BY OCCUPANCY SENSOR
6	CAFETERIA W/ DAYLIGHTING	20 MIN.	OCCUPANCY SENSOR	MANUAL SWITCH/OCCUPANCY SENSOR	PHOTOSENSOR TO AUTOMATICALLY DIM FIXTURES TO LIGHT LEVEL SET POINT INDICATED	45	N/A	LIGHTING IS CONTROLLED VIA VACANCY SENSING. PROVIDE WALL SWITCHES FOR MANUAL CONTROL OF FIXTURES. FIXTURES ARE SPLIT INTO TWO ZONES AND CONTROLLED VIA TWO-BUTTON SWITCHES, EACH BUTTON CONTROLLING A ZONE, NEAR EACH ENTRANCE TO THE ROOM. DAYLIGHTING FIXTURES SERVING THE DESIGNATED PORTION OF THE CAFETERIA SHALL BE CONTROLLED BY A DAYLIGHTING SENSOR WITH 0-10V DIMMING.
7	AUDITORIUM	N/A	MANAUL SWITCH	MANUAL SWITCH	N/A		N/A	AUDITORIUM LIGHTING IS CONTROLLED BY TWO EXISTING LUTRON GRAFIK EYE INTERFACES WITH DIMMERS LOCATED AT THE STAGE AND IN THE SOUND BOOTH. PROVIDE NEW CONTROL WIRING TO DIVIDE THE HOUSE LIGHTING INTO TWO ZONES. REFER TO SHEET E-110B FOR ZONES. 1 ADD
8	STORAGE/SM RESTROOM	20 MIN.	MANUAL SWITCH/OCCUPANCY SENSOR	MANUAL SWITCH/OCCUPANCY SENSOR	N/A	N/A	N/A	LIGHTING IS CONTROLLED BY VACANCY SETTING. AUTO OFF BY OCCUPANCY SENSOR OR MANUAL OFF BY WALL SWITCH.
9	ADMIN	20 MIN.	MANUAL SWITCH	MANUAL SWITCH/OCCUPANCY SENSOR	N/A	45		LIGHTING IS CONTROLLED BY VACANCY SENSING, FIXTURES ARE FULLY DIMMABLE FROM THE WALL SWITCH
ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CONTROL WIRING FOR ROOMS WITH LV LIGHTING CONTROLS. REFER TO MANUFACTURER'S INSTALLATION MANUAL FOR WIRING REQUIRED. 1 ADD								



LIGHT SWITCH ID DETAIL 1 / E-602
NTS

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE
1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE 02/20/2026

DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

DRAWN BY SMF
CHECKED BY KDM
PROJECT NO. 9166-10000

SHEET NAME
LIGHTING SCHEDULES

E-602

Switchboard: SWBD

Location: MECHANICAL M119
Supply: PAD MOUNT
Mounting: SURFACE
Enclosure: NEMA 1

Voltage: 208 V, 3Ø, 4W
Bus Rating: 2000 A
Neutral: 100%
Feed-Thru Lugs: No
Features & Modifications:

Mains Type: MCCB
Mains Rating: 2000 A
Mains FN/Note: 1 ADD
SCCR: 35 kA

Ckt	Description	Frame	Trip (A)	Poles	FN/Note	Phase A...		Phase B...		Phase C...		FN/Note	Poles	Trip (A)	Frame	Description	Ckt
1						0	0										2
3	SHOP PANEL	400 A	400	3	E			0	0			E	3	200	200 A	HUB ROOM PANEL	4
5										0	0						6
7						0	0										8
9	PANEL HB	400 A	400	3	E			0	0			E	3	60	125 A	KILN	10
11										0	0						12
13						0	73038										14
15	GREEN ROOM PANEL	400 A	200	3	E			0	73038			NB	3	800	800 A	DB (GREEN ROOM)	16
17										0	73038						18
19						0	0										20
21	KITCHEN NORMAL	200 A	200	3	E			0	0			E	3	60	125 A	COMPUTER CLOSET	22
23										0	0						24
25						0	22924										26
27	PANEL HA	200 A	200	3	E			0	24393			NB	3	225	225 A	HJ (ADMIN STORAGE)	28
29										0	19401						30
31						0											32
33	PANEL HI	200 A	200	3	E			0									34
35										0							36
37						0											38
39	PANEL HD	200 A	200	3	E			0									40
41										0							42
43						0											44
45	PANEL HG	200 A	200	3	E			0									46
47										0							48
49						0	0										50
51	L10	225 A	225	3	E			0	0			E	3	225	250 A	SPARE	52
53										0	0						54
55						0											56
57	TRANSFER SWITCH	400 A	400	3	E			0									58
59										0							60
61							0										62
63									0			E	3	200	250 A	BOILER	64
65											0						66
67							0										68
69									0			E	3	200	250 A	HF	70
71											0						72
73							0										74
75									0			E	3	100	150 A	PANEL HE	76
77											0						78
79							0										80
81									0			E	3	200	250 A	PANEL HH	82
83											0						84
					Connected Load:	96 kVA		97 kVA		92 kVA							
					Connected Current:	804 A		816 A		770 A							

Load Classification	Connected	Factor	Demand
Other	285345 VA	100.00%	285345 VA
Receptacle - General	540 VA	100.00%	540 VA

Panel Totals	
Connected Load:	286 kVA
Connected Current:	793 A
Demand Load:	286 kVA
Demand Current:	793 A

Notes:

Panelboard: HJ

Location: STORAGE 213
Supply: SWBD
Mounting: Surface
Enclosure: NEMA 1

Voltage: 208 V, 3Ø, 4W
Bus Rating: 225 A
Neutral: 100%
Feed-Thru Lugs: No
Features & Modifications: -

Mains Type: MCB
Mains Rating: 225 A
Mains FN/Note: -
SCCR: 10 kA

Ckt	Description	Trip (A)	Poles	FN/Note	Phase A...		Phase B...		Phase C...		FN/Note	Poles	Trip (A)	Description	Ckt
1	CU-1 / BB-1 / UV-#	70	2		4939	3865						2	50	CU-2 / UV-#	2
3							4939	3865							4
5	ADMIN EXTERIOR WP RECPT	20	1						360	3804		2	50	CU-3 / UV-#	6
7					4035	3804									8
9	DOAS-6	50	3				4035	328				1	20	DOAS RECPT & UV LTS	10
11									4035	6245					12
13	1 ADD EF-1	15	1		36	6245					ALT.2	3	70	1 ADD DH-3	14
15	CU-4 / BB-2 / UV-#	70	2				4992	6245							16
17									4992						18
19															20
21															22
23															24
25															26
27															28
29															30
31															32
33															34
35															36
37															38
39															40
41															42
				Connected Load:	23 kVA		24 kVA		19 kVA						
				Connected Current:	196 A		208 A		162 A						

Load Classification	Connected	Factor	Demand
Other	66231 VA	100.00%	66231 VA
Receptacle - General	540 VA	100.00%	540 VA

Panel Totals	
Connected Load:	67 kVA
Connected Current:	185 A
Demand Load:	67 kVA
Demand Current:	185 A

Notes:

Panelboard: L11 (KITCHEN GENERATOR)

Location: DRY STORAGE M107E
Supply:
Mounting: Surface
Enclosure: NEMA 1

Voltage: 208 V, 3Ø, 4W
Bus Rating: 225 A
Neutral: 100%
Feed-Thru Lugs: No
Features & Modifications: -

Mains Type: MCB
Mains Rating: 225 A
Mains FN/Note: -
SCCR: 10 kA

Ckt	Description	Trip (A)	Poles	FN/Note	Phase A...		Phase B...		Phase C...		FN/Note	Poles	Trip (A)	Description	Ckt
1					0	0									2
3	BOOSTER HEATER	90	3	E			0	0			E	3	70	DISHWASHER	4
5									0	0					6
7	FE-1	20	2	NB,L	1425	3206									8
9							1425	3206			E	3	50	FC-2	10
11	FE-2	20	2	NB,L					1425	3206					12
13					1425	0									14
15							1717	0			E	2	25	DRYER	16
17	CC-1	25	3	NB					1717	0					18
19					1717	0					E	2	25	PARKING LOT POLES SOUTH	20
21	FREEZER LIGHTS	20	1	E			0	0			E	1	20	COOLER LIGHTS	22
23	FREEZER CONTROLS & DOOR HEATER	20	1	E					0	1728	E,L	1	20	CE-1	24
25						0					E	1	20	COOLER CONTROL & DOOR HEATER	26
27								0			E	1	20	CONTROLS	28
29										0	R	1	20	WASHER	30
				Connected Load:	8 kVA		6 kVA		8 kVA						
				Connected Current:	67 A		53 A		69 A						

Load Classification	Connected	Factor	Demand
Other	22198 VA	100.00%	22198 VA

Panel Totals	
Connected Load:	22 kVA
Connected Current:	62 A
Demand Load:	22 kVA
Demand Current:	62 A

Notes:

Panelboard: K-1

Location: DRY STORAGE M107E
Supply:
Mounting: Surface
Enclosure: NEMA 1

Voltage: 208 V, 3Ø, 4W
Bus Rating: 225 A
Neutral: 100%
Feed-Thru Lugs: No
Features & Modifications: -

Mains Type: MCB
Mains Rating: 225 A
Mains FN/Note: -
SCCR: 10 kA

Ckt	Description	Trip (A)	Poles	FN/Note	Phase A...		Phase B...		Phase C...		FN/Note	Poles	Trip (A)	Description	Ckt
1					0	0									2
3	EXISTING	15	3	E			0	0			E	3	15	MIXER	4
5									0	0					6
7					5944	0									8
9	1 ADD DOAS-5	70	3	NB			5944	0			E	3	15	EXISTING	10
11									5944	0					12
13	EXISTING	20	1	N	1044	--						1	--	SPACE	14
15	EXISTING	20	1	N			1044	0			E	1	20	WEST WALL RECPTS.	16
17	EXISTING	20	1	E					0	0		1	20	SPARE	18
19	EXISTING	20	2	E	0	0						1	20	SPARE	20
21							0	1044			N	1	20	KEF-3	22
23	NORTH RECPT CENTER WALL TOP...	20	1	E					0	0					24
25	WEST RECPT NORTH WALL BOTTO...	20	1	E	0	0					E	3	40	1 ADD STEAMER	26
27	SOUTH RECPT CENTER WALL	20	1	E			0	0							28
29									0	0	E	1	20	NORTH RECPT UNDER HOOD	30
31	EXISTING	20	3	E	0	0					E	1	20	EXISTING	32
33							0	0			E	1	20	NORTH GFCI	34
35	CENTER RECPT EAST WALL	20	1	E					0	0	E	1	20	NORTH OUTLET HOOD	36
37	SOUTH RECPT EAST WALL	20	1		0	0					E	1	20	EAST REFRIGERATOR	38
39	NORTH RECPT EAST WALL	20	1	E			0	0			E	1	20	EXISTING	40
41									0	0	E	1	20	NORTH OUTLET UNDER HOOD	42
43	SOUTH DISPOSER	15	3	E	0	0					E	1	20	NORTH OUTLET ABOVE HOOD	44
45							0	0			E	1	20	EXISTING	46
47	DOAS RECPT & LTS	20	1	NB					863	0	E	1	20	EXISTING	48
49	1 ADD MAU-1	20	2	NB	1040	0					E	1	20	NEW HOOD FAN/LIGHT	50
51							1040	0			E	1	20	NORTH GFCI	52
53	EXISTING	20	1	E					0	0	E	1	20	EXISTING	54
55	EAST ROOM CEILING LIGHTS	20	1	E	0	0					E	1	20	EXISTING	56
57	NORTH REFRIGERATOR	20	1	E			0	0			E	1	20	EXISTING	58
59	SOUTH REFRIGERATOR	20	1	E					0	0	E	1	20	EXISTING	60
61	POTATO PEELER	20	1	E	0	0					E	1	20	EXISTING	62
63	SOUTH SIDE VENT FAN	20	1	E			0	0			E	1	20	KITCHEN LIGHTS	64
65	WEST RECPT MILK COOLER	20	1	E					0	0	E	1	20	WEST ROOM FLUORESCENT LIGHTS	66
67	FAN & BATH LIGHTS & RECPT	20	1	E	0	0					E	1	20	EAST ROOM CEILING LIGHTS	68
69	EXISTING	20	1	E			0	0							70
71	SOUTH WALL EAST RECPT	20	1	E					0	0	E	2	20	EXISTING	72
73	HEATER	20	1	E	0	718									74
75								718			NB	2	20	MAU-2	76
77										1040					78
79						1040					NB	2	20	1 ADD MAU-3	80
81							728								82
83	EF-2	30	2	NB					728						84
				Connected Load:	10 kVA		11 kVA		9 kVA						
				Connected Current:	83 A		89 A		71 A						

Load Classification	Connected	Factor	Demand
Other	28172 VA	100.00%	28172 VA
Receptacle - General	720 VA	100.00%	720 VA

Panel Totals	
Connected Load:	29 kVA
Connected Current:	80 A
Demand Load:	29 kVA
Demand Current:	80 A

Notes:

BREAKER FUNCTION SCHEDULE

#	FOR ANY NUMBER, SEE PANEL SCHEDULE FOOTER NOTE
A	ARC-FAULT INTERRUPTER (AFCI) PROTECTION
ALT#	INDICATES THAT CIRCUIT BREAKER IS INCLUDED AS PART OF THE ALTERNATE
AR	ARC ENERGY REDUCTION MAINTENANCE SWITCH
D	DEMOLISHED CIRCUIT (NOW SPARE OR SPACE) {FORMER CIRCUIT IN BRACKETS}
E	EXISTING TO REMAIN CIRCUIT
EM	PROVIDE IDENTIFICATION PER NEC 700.12(I)(2)(4)
G	GROUND-FAULT CIRCUIT INTERRUPTER (GFCI) PROTECTION (5 mA)
GE	GROUND-FAULT PROTECTION FOR EQUIPMENT (30 mA)
GF	ADJUSTABLE GROUND-FAULT PROTECTION FOR EQUIPMENT
H	BREAKER HASP TO PREVENT UNINTENTIONAL OPENING
L	LOCKABLE OPEN ACCORDING TO NEC 110.25 (FIRE ALARM OCP TO BE RED)
LSI	LONG-TIME, SHORT-TIME, INSTANTANEOUS ADJUSTMENT
LSIG	LONG-TIME, SHORT-TIME, INSTANTANEOUS AND GROUND-FAULT ADJUSTMENTS
N	NEW CIRCUIT (IN EXISTING PANEL, PREVIOUSLY SPARE OR SPACE)
NB	NEW BREAKER TO REPLACE EXISTING BREAKER OR SPACE (NEW TRIP RATING SHOWN)
NR	NEW CIRCUIT TO REPLACE EXISTING CIRCUIT {FORMER CIRCUIT IN BRACKETS}
R	RELOCATED CIRCUIT
S	SWITCH-RATED PER NEC 240.83(D)
SH	SHUNT TRIP BREAKER

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026

DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

DRAWN BY	DMS
CHECKED BY	KDM
PROJECT NO.	9166-10000

SHEET NAME
ELECTRICAL PANEL SCHEDULES

NOT FOR CONSTRUCTION

E-603

Panelboard: DB

Location:
Supply: SWBD
Mounting: Surface
Enclosure: NEMA 1

Voltage: 208 V, 3Ø, 4W
Bus Rating: 800 A
Neutral: 100%
Feed-Thru Lugs: No
Features & Modifications: -

Mains Type: MLO
Mains Rating: 800 A
Mains FN/Note: -
SCCR: 22 kA

Ckt	Description	Trip (A)	Poles	FN/Note	Phase A...		Phase B...		Phase C...		FN/Note	Poles	Trip (A)	Description	Ckt
1					12669	6245									2
3	DOAS-4	125	3				12669	6245			ALT.2	3	70	DH-1	4
5									12669	6245					6
7						10940									8
9	(1) ADD							10940				3	125	DOAS-3	10
11										10940					12
13					30983	12201									14
15	DOAS-1	300	3				30983	12201				3	125	DOAS-2	16
17									30983	12201					18
19					0	0									20
21	GYM FAN	15	3				0	0				3	15	AUDITORIUM FAN	22
23									0	0					24
25	PANEL BETWEEN BATHROOM NORTH HALL	100	3		0	0									26
27							0	0				3	150	PANEL A (GREEN ROOM)	28
29									0	0					30
31					0										32
33	STAGE PANEL	150	3				0								34
35									0						36
37					0										38
39	STAGE LIGHTS	225	3				0								40
41									0						42
				Connected Load:	73 kVA		73 kVA		73 kVA						
				Connected Current:	609 A		609 A		609 A						

Load Classification	Connected	Factor	Demand
Other	219114 VA	100.00%	219114 VA

Panel Totals	
Connected Load:	219 kVA
Connected Current:	608 A
Demand Load:	219 kVA
Demand Current:	608 A

Notes:

Panelboard: A

Location:
Supply:
Mounting: Surface
Enclosure: NEMA 1

Voltage: 208 V, 3Ø, 4W
Bus Rating: 150 A
Neutral: 100%
Feed-Thru Lugs: No
Features & Modifications: -

Mains Type: MLO (1) ADD
Mains Rating: 150 A
Mains FN/Note: -
SCCR: 10 kA

Ckt	Description	Trip (A)	Poles	FN/Note	Phase A...		Phase B...		Phase C...		FN/Note	Poles	Trip (A)	Description	Ckt
1	SPARE OUTSIDE OLD RESTROOMS	20	1	E	0	0									
3	EXIST	20	1	E			0	0			E	2	20	POP OUTLETS DEAN OFFICE	2
5	HEATER	20	1	E					0	0	E	1	20	NORTHEAST HEATER	4
7	EXIST	20	1	E	0	0					E	1	20	EXIST	6
9	SOUND SYSTEM	20	1	E			0	0			E	1	20	OFFICE DEAN	8
11	CAB UNIT HEATER	20	1	E					0	0	E	1	20	LOBBY HEATER	10
13	LOBBY	20	1	E	0	0					E	1	20	ADUT. WALKING LIGHT	12
15	SPARE	20	1	E			0	0			E	1	20	SPARE	14
17	EXIST	20	1	E					0	0	E	1	20	SPARE	16
19	TELEPHONE SYSTEM	20	1	E	0	0					E	1	20	HOUSE LITES OVER SEATS	18
				Connected Load:	0 kVA		0 kVA		0 kVA						20
				Connected Current:	0 A		0 A		0 A						

Load Classification	Connected	Factor	Demand

Panel Totals	
Connected Load:	0 kVA
Connected Current:	0 A
Demand Load:	0 kVA
Demand Current:	0 A

Notes:

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

NOT FOR CONSTRUCTION

ISSUED FOR
BIDDING

DATE 02/20/2026

DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

DRAWN BY DMS
CHECKED BY KDM
PROJECT NO. 9166-10000

SHEET NAME
ELECTRICAL PANEL SCHEDULES

E-604

REMOVE EXISTING
30A/3P BREAKER
PROVIDE NEW 70A/3P
BREAKER FOR DH-4

HE PANEL 7
NTS E-605

1 ADD

PROVIDE NEW TYPE-WRITTEN CIRCUIT DIRECTORIES TO INCLUDE NEW LOADS FOR ALL PANELBOARDS

1 ADD

DOAS-3 LIGHTS AND RECPT

DOAS-4 LIGHTS AND RECPT

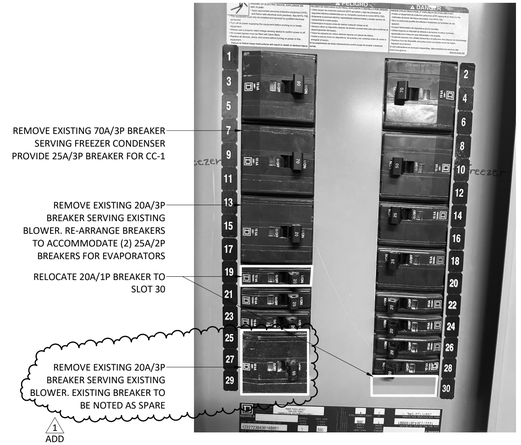
REMOVE EXISTING BREAKERS
PROVIDE NEW 70A/3P BREAKER
IN OPEN SPACE TO SERVE DH-3

STAGE PANEL 6
NTS E-605

PROVIDE NEW 15A/1P
BREAKER FOR EF-3

HD PANEL 5
NTS E-605

1 ADD



REMOVE EXISTING 70A/3P BREAKER
SERVING FREEZER CONDENSER
PROVIDE 25A/3P BREAKER FOR CC-1

REMOVE EXISTING 20A/3P
BREAKER SERVING EXISTING
BLOWER. RE-ARRANGE BREAKERS
TO ACCOMMODATE (2) 25A/2P
BREAKERS FOR EVAPORATORS

RELOCATE 20A/1P BREAKER TO
SLOT 30

REMOVE EXISTING 20A/3P
BREAKER SERVING EXISTING
BLOWER. EXISTING BREAKER TO
BE NOTED AS SPARE

1 ADD

HP L11 (KITCHEN GENERATOR) 1
NTS E-605

NOT FOR CONSTRUCTION

AXIOM CONSULTANTS
A RUEKERT & MIELKE COMPANY

MIDDLE SCHOOL HVAC UPGRADE

1059 3RD AVE NW, WAUKON, IA 52172
ALLAMAKEE CSD

ISSUED FOR
BIDDING

DATE	02/20/2026

DESCRIPTION	DATE
ADDENDUM 01	03-02-2026

DRAWN BY	DMS
CHECKED BY	KDM
PROJECT NO.	9166-10000

SHEET NAME
ELECTRICAL PANEL SCHEDULES - PHOTOS

E-605

Axiom Consultants # 9166-10000 - Allamakee CSD - Middle School HVAC Upgrades

The Allamakee Community School District Middle School HVAC Upgrades Project shall consist of providing ductless mini-split heat pump / air conditioning systems, hot water pumps, dedicated outside air units, kitchen air handling units, dining room air handling unit, terminal heating units, control valves, test and balancing, individual room heating and cooling units, ducted air distribution systems, control system upgrades, electrical system upgrades, new ceilings, new lights, incidental fire alarm modifi-cations, incidental plumbing system modifications, incidental painting, flooring, incidental sprinkler protection, walk-in cooler and freezer cooling equipment, new primary electrical transformer, ventilation units for High School and Middle School locker room areas, and replacement windows under the base bid work to in the Waukon Middle School. Also included in the Waukon Middle School base bid work are demolition of specified components and removal, off site storage, and return of movable items to make way for asbestos removal and project construction. Alternate work shall include new windows and exterior wall work at East Elementary School, Middle School humidification systems, and the total remodeling of the Middle School Auditorium and Stage systems, and associated architectural component changes. Alternates for work shall include new heating for the East Elementary School stage, new stage curtains for East Elementary School and Middle School Auditorium stages, replacement windows, and replacement flooring materials at East Elementary School. All work is within the city limits of Waukon, Iowa. All project work shall be substantially complete by November 30, 2026. All contract work must be completed by December 31, 2026.

Plan Holders

Date	Company	Contact	Bid Categories
2/23/26 9:20 am	**03/2023** 42617 County Road 12, Dakota, MN 55925 Dakota, MN 55925	**Landon Jorgenson** **Managing Member** Tel: 5074591896 landon@fpsprinklers.com	Fire Protection
2/20/26 4:25 pm	**A&J Associates** 206 North Point Ln Dallas Center, IA 50063	**Victor Amoroso** Tel: 319-333-9955 amorosovic@ajengineers.net	Architect/Engineer
2/20/26 4:27 pm	**Air Control Products, Inc** 8230 Hickman Road Clive, IA 50325	**Linda Albrecht** **President** Tel: 515-271-5994 Fax: 515-274-2641 lindaa@aircntrl.com	HVAC
2/23/26 10:41 am	**Allamakee CSD** 1059 3rd Ave. NW Waukon, IA 52172	**Jay Mathis** jmathis@allamakee.k12.ia.us	

Date	Company	Contact	Bid Categories
2/23/26 9:17 am	**American Fence Company** 15225 Industrial Rd Omaha, NE 68144	**Dave Birge** **Lead Generation** Tel: (531) 329-4400 x269 Fax: 402-896-9730 leadgeneration@americafence.com	Fencing
2/20/26 4:23 pm	**Axiom Consultants** 300 S. Clinton Unit 200 Iowa City, IA 52240	**Joe Lomheim** Tel: 7124905553 jlomheim@axiom-con.com	Architect/Engineer
2/23/26 12:39 pm	**Blackridge Research & consulting** 4041 w Hollow Creek Drive Peoria, IL 61615	**Venkatesh Siva** Tel: 9179937467 venkatesh@blackridgeresearch.com	General/Prime
2/23/26 9:14 am	**Blake Electric, Inc.** PO BOX 171 Waukon, IA 52172	**John Blake** Tel: 563-568-3686 john@blakeelectricinc.com	Electrical
2/21/26 10:17 am	**Casper Plumbing & Heating** 804 Pole Line Rd Decorah, 52101	**Randy Voigt** Tel: 563-382-0642 Fax: 563-382-0503 rvoigt@casperdecorah.com	General/Prime HVAC Plumbing
2/24/26 8:26 am	**Crescent Electric Supply** 1225 26th Ave Court SW Cedar Rapids, IA 52404	**William Reiter** **Quotations** Tel: 563-583-6411 Fax: 319-866-4536 wjreit@cesco.com	Electrical
2/20/26 4:25 pm	**Design Dynamics, Inc.** 1500 2nd Ave SE Suite 212 Cedar Rapids, IA 52403	**Robert Peck** Tel: 319-298-0400 robertp@designdynamics.biz	
2/22/26 2:15 pm	**Dodge Data Analytics** 2860 S Stage Hwy 161 Ste 160 #501 Grand Prairie, TX	**Jayalakshmi L** Tel: 4133767032 jayalakshmil@construction.com	Other
2/24/26 5:44 pm	**HYDRONIC ENERGY** 3307 104TH STREET Des Miones, IA 50322	**Rick Kapustka** Tel: 5152764935 rick@hydronicenergy.com	Supplier
2/23/26 8:47 am	**LaCrosse Builders Exchange** 427 Gillette St LaCrosse, 54603	**Room Plan** Tel: 608-781-1819 Fax: 608-781-1718 planroom@laxbx.com	Planroom

Date	Company	Contact	Bid Categories
2/23/26 2:18 pm	**Master Builders of Iowa** 221 Park Street Des Moines, IA 50309	**Cindy Adams** **Project Information Specialist** Tel: 515-288-7339 Fax: 515-288-8718 mbiplanroom-dsm@mbionline.com	Planroom
2/26/26 2:24 pm	**Matt Construction, Inc.** 203 Y Avenue Sumner, IA 50674	**Megan Matt-Callahan** **Project Manager** Tel: 3194296476 Fax: 563-578-5791 megan.mattconstruction@gmail.com	General/Prime
2/23/26 7:25 am	**Minnesota Builders Exchange** 1123 Glenwood Minneapolis, MN 55405	**Jeff Boelter** Tel: 612-381-2620 mbex1123@gmail.com	Planroom
2/23/26 10:42 am	**Olympic Builders General Contractors, Inc.** 405 North Star Road Holmen, WI 54636	**Cindy Broer** **Office Assistant** Tel: 608-526-4622 Fax: 608-526-4690 office@olympicbuildersgc.com	General/Prime
2/25/26 9:27 am	**Omaha Builders Exchange** 4159 S. 94th St Omaha, NE 68127	**Lisa Shockey** Tel: 402-991-6906 Fax: 402-884-7055 lisa.shockey@omahaplanroom.com	Planroom
2/23/26 9:43 am	**PERRY NOVAK ELECTRIC INC.** 2727 LOCUST ROAD DECORAH, IA 52101	**Brent Freilinger** **General Manager** Tel: 563-382-2179 Fax: 563-382-9877 brent@pne.us	Electrical
3/2/26 8:18 am	**Personified Inc** 326 W 17th St Waterloo, IA 50702	**Chris Jessen** **Estimator/Project Coordinator** Tel: 319-232-3369 Fax: 319-232-5870 chris@personifiedpmi.com	Insulation Mechanical
2/20/26 4:23 pm	**Rapids Reproductions, Inc.** 415 Highland Avenue Suite 100 Iowa City, IA 52240	**Iowa City Repro** **Project Reprographer** Tel: 319-354-5950 Fax: 319-354-8973 iowacity@rapidsrepro.com	
2/23/26 3:21 pm	**Republic Electric Company** 737 Charlotte Street Davenport, IA 52803	**Michael Beninga** **Territory Manager** Tel: 319-415-7113 beningam@republicco.com	Electrical

Date	Company	Contact	Bid Categories
2/23/26 9:19 am	**SEE Electric** 2337 Shag Bark Lane Road Decorah, IA 52101	**Don Van Duyn** Tel: 563-382-6116 Fax: 563-382-4133 info@seeelectric.com	Electrical
2/24/26 10:37 am	**Setpoint Mechanical** 8951 Thomas Ave Johnston, IA 50131	**Isaac Anderson** **Air Distribution Specialist** Tel: 5157837124 isaac@setpointmech.com	HVAC
3/1/26 8:55 pm	**Trane** 4801 Grand Avenue Davenport, IA 52807	**Trane Bids Iowa** Tel: 5634684910 tranebidsiowa@trane.com	HVAC
2/24/26 9:37 am	**Tricon Construction Group** 1230 East 12th St Dubuque, IA 52001	**Tricon Estimator** Tel: 563-588-9516 Fax: 563-588-9519 tricon@triconcg.com	General/Prime
2/23/26 10:54 am	**VHF Sales Inc** 2655 SE Enterprise Dr Grimes, IA 50111	**Michael Skallerud** **Engineering and Sales** Tel: 515-986-3671 Fax: 515-986-2564 mike@vhfsales.com	HVAC
2/23/26 10:44 am	**winona controls** 108 bissen st caledonia, MN 55921	**Adam Augedahl** Tel: 5074500173 adam@winonacontrols.com	HVAC