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PROJECT:	
Willow Lake School Addition	

OWNER: Willow Lake School District 12-3 Willow Lake, SD 57278

ARCHITECT: CO-OP Architecture 440 E 8th Street, Suite 221 Sioux Falls, SD 57103 ADDENDUM NO.:

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DATE OF ISSUANCE: February 16, 2023

To all bidders and all others to whom drawings and specifications have been issued by CO-OP Architecture.

Acknowledge receipt of this addendum by listing its number and date in the bidders Form of Proposal. Failure to do so may subject bidder to disqualification. This Addendum forms a part of the Contract Documents.

It modifies them as follows:

QUESTIONS AND RESPONSES

GENERAL ITEMS:

- 1) Table of Contents (updated for added specification sections.)
- 2) Drawing Sheets (updated for added sheet A512)
- 3) Updated Plan Holder's List

APPROVED SUBSTITUTIONS:

SECTION	<u>PARAGRAPH</u>	REQUESTED SUBSTITUTION/MANUFACTURER
075323	2.01A,1,C	Mule-Hide Products' .060 EPDM roof system
098430	2.01A	Commercial Interior Acoustical Wall Panel

KEYNOTE UPDATES:

<u>KEYNOTE</u>	DESCRIPTION
12.04	MANUAL ROLLER WINDOW SHADES

REVISIONS TO SPECIFICATIONS:

- 1) 034113 PRECAST CONCRETE HOLLOW CORE PLANKS
 - a. Add this section in its entirety.

- 2) 096429 WOOD STRIP AND PLANK FLOORING
 - a. Add this section in its entirety.
- 3) 101400 SIGNAGE
 - a. Added section C. Vinyl Lettering
- 4) 102600 WALL AND DOOR PROTECTION
 - a. Add this section in its entirety.
- 5) 123280 INSTRUMENT STORAGE
 - a. Add this section in its entirety.

REVISIONS TO DRAWINGS:

- 1) Sheet S000 STRUCTURAL NOTES
 - a. See clouded areas for revisions.
- 2) Sheet S100C FOOTING & FOUNDATION PLAN AREA 'C'
 - a. See clouded areas for revisions.
- 3) Sheet S200C ROOF FRAMING PLAN AREA 'C'
 - a. See clouded areas for revisions.
- 4) Sheet S304 STRUCTURAL DETAILS
 - a. See clouded areas for revisions.
- 5) Sheet A101C FIRST FLOOR PLAN AREA 'C'
 - a. Revised keynotes for roller shades to show motorized shades in the commons.
- 6) Sheet A101D FIRST FLOOR PLAN AREA 'D'
 - a. Revised keynotes for roller shades to show motorized shades in the commons.
- 7) Sheet A110C REFLECTED CLG PLAN AREA 'C'
 - a. Added keynote.
- 8) Sheet A110D REFLECTED CLG PLAN AREA 'D'
 - a. Added keynote.
- Sheet A122 ENLARGED FINISH PLANS AREA(S) C & E
 a. Corrected typo on Alternate 2 plan for clarity.
- 10) Sheet A511 INTERIOR DETAILS
 - a. Revised detail 7 as shown.
- 11) Sheet A512 INTERIOR SIGNAGE
 - a. Added this sheet in its entirety.

ADDENDA ITEMS – MECHANICAL/ELECTRICAL

1) See attached ME-1 addendum

ADDENDA ITEMS – FOOD SERVICE

2) See attached food service addendum

END OF ADDENDUM

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SECTION 034113 PRECAST CONCRETE HOLLOW CORE PLANKS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Precast floor planks.
- B. Connection plates with brackets and hangers.
- C. Grouting plank joint keys.

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete.

1.03 REFERENCE STANDARDS

- A. ACI 301 Specifications for Concrete Construction 2020.
- B. ACI 318 Building Code Requirements for Structural Concrete 2019 (Reapproved 2022).
- C. ASTM A36/A36M Standard Specification for Carbon Structural Steel 2019.
- D. ASTM A416/A416M Standard Specification for Low-Relaxation, Seven-Wire Steel Strand for Prestressed Concrete 2018.
- E. AWS D1.1/D1.1M Structural Welding Code Steel 2020, with Errata (2022).
- F. AWS D1.4/D1.4M Structural Welding Code Steel Reinforcing Bars 2018, with Amendment (2020).
- G. IAS AC157 Accreditation Criteria for Fabricator Inspection Programs for Reinforced and Precast/Prestressed Concrete 2017.
- H. PCI MNL-116 Manual for Quality Control for Plants and Production of Structural Precast Concrete Products 2021.
- I. PCI MNL-120 PCI Design Handbook 2017, with Errata (2021).
- J. PCI MNL-123 Connections Manual: Design and Typical Details of Connections for Precast and Prestressed Concrete 1988.
- K. PCI MNL-124 Design for Fire Resistance of Precast Prestressed Concrete 2011.
- L. PCI MNL-126 PCI Manual for the Design of Hollow Core Slabs and Walls 2015.
- M. PCI MNL-135 Tolerance Manual for Precast and Prestressed Concrete Construction 2000.
- N. PCI (CERT) PCI Plant Certification Current Edition.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate location of hanger tabs and devices for mechanical and electrical work and cutting of field openings.
- B. Preinstallation Meeting: Convene one week before starting work of this section.
 - 1. Discuss anchor and weld plate locations, sleeve locations, and cautions regarding cutting or core drilling.

1.05 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate standard component configuration, design loads, deflections, and cambers.
- C. Shop Drawings: Indicate plank locations, unit identification marks, connection details, edge conditions, bearing requirements, support conditions, dimensions, openings, openings intended to be field cut, and relationship to adjacent materials.
 - 1. Submit design calculations.
- D. Welders' Certificates.
- E. Designer's Qualification Statement.

- F. Fabricator's Qualification Statement: Provide documentation showing precast concrete fabricator is accredited under IAS AC157.
- G. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.

1.06 QUALITY ASSURANCE

- A. Designer Qualifications: Design precast concrete hollow core planks under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than five years of documented experience.
- C. Fabricator Qualifications: Precast concrete fabricator accredited by IAS according to IAS AC157.
- D. Erector Qualifications: Company specializing in performing the type of work specified in this section, with minimum 5 years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Lifting or Handling Devices: Capable of supporting member in positions anticipated during manufacture, storage, transportation, and erection.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Precast Concrete Hollow Core Planks:
 - 1. Any manufacturer with PCI Plant Certification.
 - 2. Substitutions: See Section 016000 Product Requirements.

2.02 PRECAST UNITS

- A. Precast Hollow Core Planks: Comply with PCI MNL-120, PCI MNL-126, PCI MNL-124 ACI 318, and ACI 301.
 - 1. Dimensions as indicated on drawings.
 - 2. Design components to withstand dead loads and design loads in the configuration indicated on drawings and as follows:
 - a. Floor Assembly: 85 pounds per square foot dead load.
 - b. Floor Assembly (Light/Heavy): 125/250 pounds per square foot live load.
 - c. Maximum Allowable Deflection of Floor Planks: 1/240 of span (total load) and 1/360 (live load), cambered to achieve flat surface under dead load.
 - 3. Design connections in accordance with PCI MNL-123.
 - 4. Design components to accommodate construction tolerances, deflection of other building structural members and clearances of intended openings.

2.03 MATERIALS

- A. Concrete Materials: ACI 301.
- B. Tensioning Steel Tendons: ASTM A416/A416M, Grade 250 250K psi; seven-wire stranded steel cable; low-relaxation type; full length without splices; weldless; uncoated.
- C. Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi) deformed steel bars.
- D. Non-Shrink Grout: Non-metallic, minimum compressive strength of 10,000 psi at 28 days.
- E. Cement Grout: Minimum compressive strength of 3,000 psi at 28 days.

2.04 ACCESSORIES

- A. Connecting and Supporting Devices: Plates, angles, items cast into concrete, items connected to steel framing members, and inserts: ASTM A36/A36M carbon steel; prime painted.
- B. Core Hole End Plugs: Cardboard insert with stiff concrete fill.
- C. Hanger Tabs: Galvanized steel, designed to fit into grouted key joints, capable of supporting 500 lbs dead load, predrilled to receive hanger.

- D. Bearing Pads: High density plastic, 1/8 inch thick, smooth on one side. Vulcanized elastomeric compound molded to size.
- E. Sill Seal: Compressible glass fiber strips.

2.05 FABRICATION

- A. Weld reinforcing in accordance with AWS D1.4/D1.4M.
- B. Embed anchors, inserts, plates, angles, and other items at locations indicated.
- C. Provide openings required by other sections, at locations indicated.
- D. Cut exposed ends flush.
- E. Plant Finish: Finish members to PCI MNL-116 Commercial Grade.
- F. Connecting and Supporting Steel Devices: Do not paint surfaces in contact with concrete or surfaces requiring field welding.

2.06 FABRICATION TOLERANCES

- A. Comply with PCI MNL-116 and PCI MNL-135, except as specifically amended below.
 - 1. Maximum Variation From Nominal Dimensions:
 - a. Width: Plus or minus 1/4 in.
 - b. Length: Plus or minus 1/2 in.
 - c. Depth: Plus or minus 1/4 in.
 - 2. Maximum Variation From Intended Camber: Plus or minus 1/4 inch in 10 feet.
 - 3. Maximum Variation from Plan End Squareness: Plus or minus 1/4 in.
 - 4. Maximum Sweep: Plus or minus 1/4 in.
 - 5. Maximum Misalignment of Anchors, Inserts, Openings: Plus or minus 1/8 inch.
 - 6. Maximum Bowing of Members: Length/360.
 - 7. Maximum Bowing of Members: Plus or minus 1/4 inch in 10 feet to a maximum of 3/8 inch.

2.07 SOURCE QUALITY CONTROL

A. Produce planks in accordance with requirements of PCI MNL-116. Maintain plant records and quality control program during production of precast planks. Make records available upon request.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that site conditions are ready to receive work and field measurements are as indicated on shop drawings.

3.02 PREPARATION

A. Prepare support devices for the erection procedure and temporary bracing.

3.03 ERECTION

- A. Erect members without damage to structural capacity, shape, or finish. Replace or repair damaged members.
- B. Install bearing pads and sill seal at bearing ends of planks as indicated.
- C. Align and maintain uniform horizontal and end joints, as erection progresses.
- D. Maintain temporary bracing in place until final connection is made. Protect members from staining.
- E. Adjust differential camber between precast members to tolerance before final attachment and grouting.
- F. Adjust differential elevation between precast members to tolerance before final attachment.
- G. Secure units in place. Perform welding in accordance with AWS D1.1/D1.1M.
- H. Grout longitudinal keys as indicated.

I. Make plank-to-plank joints smooth using grout, troweled smooth. Transition differential elevation of adjoining planks with grout to a maximum slope of 1:12.

3.04 TOLERANCES

- A. Erect members level and plumb within allowable tolerances. Comply with PCI MNL-135, except as specifically amended below.
 - 1. Plan Location from Building Grid Datum: Plus or minus 3/4 in.
 - 2. Top Elevation from Building Elevation Datum at Plank Ends: Plus or minus 1/2 inch.
 - 3. Maximum Jog in Alignment of Matching Ends: Plus or minus 1/2 inch.
 - 4. Exposed Joint Dimension: Plus or minus 3/8 inch.
 - 5. Differential Top Elevation As Erected: Plus or minus 3/8 inch.
 - 6. Bearing Length in Span Direction: Plus or minus 3/8 inch.
 - 7. Differential Bottom Elevation of Exposed Planks: Plus or minus 3/16 inch.

3.05 PROTECTION

A. Protect members from damage caused by field welding or erection operations.

3.06 CLEANING

A. Clean weld marks, dirt, and blemishes from surface of exposed members.

END OF SECTION

SECTION 096429 WOOD STRIP AND PLANK FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wood strip and plank flooring, nailed.
- B. Secondary subflooring.

1.02 RELATED REQUIREMENTS

A. Section 061000 - Rough Carpentry: Wood subfloor surface.

1.03 REFERENCE STANDARDS

- A. MFMA (SPEC) Guide Specifications for Maple Flooring Systems current edition.
- B. NWFA (IG) Installation Guidelines Current Edition.

1.04 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data for flooring.
- C. Shop Drawings: Indicate floor joint pattern and termination details.
- D. Manufacturer's Instructions: Indicate standard and special installation procedures.
- E. Samples: Submit two samples 2-1/4 by 12 inch in size illustrating floor finish, color, and sheen.
- F. Maintenance Data: Include maintenance procedures and recommended maintenance materials.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 016000 Product Requirements, for additional provisions.
 - 2. Extra Flooring Material: 1 square yards matching installed flooring.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least five years of documented experience.

1.06 FIELD CONDITIONS

- A. Do not install wood flooring until wet construction work is complete and ambient air at installation space has moisture content stabilized at maximum moisture content of 40 percent.
- B. Provide heat, light, and ventilation prior to installation.
- C. Store materials in area of installation for minimum period of 24 hours prior to installation.
- D. Maintain minimum room temperature of 65 degrees F for a period of two days prior to delivery of materials to installation space, during installation, and after installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Hardwood Strip and Plank Flooring:
 - 1. Substitutions: See Section 016000 Product Requirements

2.02 MATERIALS

- A. Wood Strip Flooring Type WDF-1:
 - 1. Species: Northern hard maple.
 - 2. Grade: No. 2 Common and better.
 - 3. Moisture Content: 7 to 9 percent.
 - 4. Actual Thickness: 25/32 inch.
 - 5. Actual Width: 2-1/4 inches.

- 6. Edge: Tongue and groove.
- 7. Length: Random, minimum of 9 inches.
- B. Flooring Nails: Type recommended by flooring manufacturer.
- C. Secondary Subflooring: 23/32 inch thick plywood, with tongue and groove edges; Exposure 1, sanded, preservative treated.
- D. Sheathing Paper: Plain building paper.

2.03 ACCESSORIES

- A. Transition Strip: Same species and finish as flooring material; profiles indicated.
- B. Floor Stain: To match existing flooring; penetrating type recommended by flooring manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting this work.
- B. Verify wood subfloor is properly secured, smooth and flat to plus or minus 1/4 inch in 10 feet.
- C. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Secondary Subflooring: Place plywood subflooring.
 - 1. Lay perpendicular to the sleepers, with end joints over sleepers, and nail at 12 inches on center.
- B. Prepare substrate to receive wood flooring in accordance with manufacturer's and NWFA instructions.
- C. Broom clean substrate.

3.03 INSTALLATION

- A. Sheathing Paper: Place over wood subfloor; lap edges and ends 2 inches, staple in place.
- B. Wood Flooring:
 - 1. Install in accordance with manufacturer's and NWFA instructions; predrill and blind nail to subfloor.
 - 2. Lay flooring parallel to length of room areas. Verify alignment as work progresses.
 - 3. Arrange flooring with end matched grain set flush and tight.
 - 4. Terminate flooring at centerline of door openings where adjacent floor finish is dissimilar; provide divider strips and transition strips in accordance with flooring manufacturer's recommendations and as indicated.
 - 5. Install edge strips at unprotected or exposed edges, and where flooring terminates.
 - 6. Secure edge strips before installation of flooring with stainless steel screws.
 - 7. Install flooring tight to floor access covers.
 - 8. Provide 2 inch expansion space at fixed walls and other interruptions.
- C. Install base at floor perimeter to cover expansion space in accordance with manufacturer's instructions. Miter inside and outside corners.
- D. Finishing:
 - 1. Mask off adjacent surfaces before beginning sanding.
 - 2. Sand flooring to smooth even finish with no evidence of sander marks. Take precautions to contain dust. Remove dust by vacuum.
 - 3. Apply first coat, allow to dry, then buff lightly with steel wool to remove irregularities. Vacuum clean and wipe with damp cloth before applying succeeding coat.
 - 4. Lightly buff between coats with steel wool and vacuum clean before applying succeeding coat.
 - 5. Apply last coat of finish.

3.04 CLEANING

A. Clean and polish floor surfaces in accordance with floor finish manufacturer's instructions.

3.05 PROTECTION

- A. Prohibit traffic on floor finish for 48 hours after installation.
- B. Place protective coverings over finished floors; do not remove coverings until Date of Substantial Completion.

END OF SECTION

SECTION 101400 SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Room and door signs.
- B. Building identification signs.
- C. Vinyl lettering.

1.02 REFERENCE STANDARDS

- A. 36 CFR 1191 Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines current edition.
- B. ADA Standards 2010 ADA Standards for Accessible Design 2010.
- C. ICC A117.1 Accessible and Usable Buildings and Facilities 2017.

1.03 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.
- C. Signage Schedule: Provide information sufficient to completely define each sign for fabrication, including room number, room name, other text to be applied, sign and letter sizes, fonts, and colors.
 - 1. When room numbers to appear on signs differ from those on drawings, include the drawing room number on schedule.
 - 2. When content of signs is indicated to be determined later, request such information from Owner through Architect at least 2 months prior to start of fabrication; upon request, submit preliminary schedule.
 - 3. Submit for approval by Owner through Architect prior to fabrication.
- D. Samples: Submit two samples of each type of sign, of size similar to that required for project, illustrating sign style, font, and method of attachment.
- E. Selection Samples: Where colors are not specified, submit two sets of color selection charts or chips.
- F. Manufacturer's Installation Instructions: Include installation templates and attachment devices.
- G. Manufacturer's Qualification Statement.
- H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Package signs as required to prevent damage before installation.
- B. Package room and door signs in sequential order of installation, labeled by floor or building.
- C. Store tape adhesive at normal room temperature.

1.06 FIELD CONDITIONS

- A. Do not install tape adhesive when ambient temperature is lower than recommended by manufacturer.
- B. Maintain this minimum temperature during and after installation of signs.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Flat Signs: Basis of Design: Inpro corporation Aspen Collection with back plate.
 - 1. Best Sign Systems, Inc: www.bestsigns.com/#sle.
 - 2. Cosco Industries (ADA signs): www.coscoarchitecturalsigns.com/#sle.
 - 3. Inpro: www.inprocorp.com.
 - 4. Substitutions: See Section 016000 Product Requirements.
- B. Dimensional Letter Signs:
 - 1. A.R.K. Ramos Architectural Signage Systems; Cast Aluminum Letters: www.arkramos.com/#sle.
 - 2. Cosco Industries; Cast Aluminum: www.coscoarchitecturalsigns.com/#sle.
 - 3. FASTSIGNS: www.fastsigns.com/#sle.
 - 4. Inpro: www.inprocorp.com.
 - 5. Substitutions: See Section 016000 Product Requirements.

2.02 SIGNAGE APPLICATIONS

- A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.
- B. Room and Door Signs: Provide a sign for every doorway, whether it has a door or not, not including corridors, lobbies, and similar open areas.
 - 1. Sign Type: Flat signs with engraved panel media as specified.
 - 2. Provide "tactile" signage, with letters raised minimum 1/32 inch and Grade II braille.
 - 3. Character Height: 1 inch.
 - 4. Sign Height: 2 inches, unless otherwise indicated.
 - 5. Office Doors: Identify with room numbers to be determined later, not the numbers indicated on drawings; in addition, provide "window" section for replaceable occupant name.
 - 6. Conference and Meeting Rooms: Identify with room numbers to be determined later, not the numbers shown on the drawings; in addition, provide "window" section with sliding "In Use/Vacant" indicator.
 - 7. Service Rooms: Identify with room names and numbers to be determined later, not those shown on the drawings.
 - 8. Rest Rooms: Identify with pictograms, the names "MEN" and "WOMEN", room numbers to be determined later, and braille.
 - 9. Include Occupant Load on room signage.
- C. Building Identification Signs:
 - 1. Use individual metal letters.
 - 2. Mount on outside wall in location indicated on drawings.
- D. Other Dimensional Letter Signs: Wall-mounted.

2.03 SIGN TYPES

- A. Flat Signs: Signage media in aluminum frame.
 - 1. Corners: Square.
 - 2. Frame Finish: Natural (clear) anodized.
 - 3. Wall Mounting of One-Sided Signs: Tape adhesive.
- B. Color and Font: Unless otherwise indicated:
 - 1. Character Font: Helvetica, Arial, or other sans serif font.
 - 2. Character Case: Upper case only.
 - 3. Background Color: To be selected from manufacturers full range of colors.
 - 4. Character Color: Contrasting color.

2.04 TACTILE SIGNAGE MEDIA

- A. Applied Character Panels: Acrylic plastic base, with applied acrylic plastic letters and braille.
 - 1. Total Thickness: 1/8 inch.
 - 2. Letter Thickness: 1/8 inch.
 - 3. Letter Edges: Square.

2.05 DIMENSIONAL LETTERS

- A. Metal Letters:
 - 1. Metal: Aluminum channel.
 - 2. Metal Thickness: 1/8 inch minimum.
 - 3. Letter Height: As indicated on drawings.
 - 4. Text and Typeface:
 - a. Character Font: Helvetica, Arial, or other sans serif font.
 - b. Character Case: Upper case only.
 - 5. Mounting: Concealed.
 - 6. Lighting: Halo lit.

2.06 VINYL LETTERS

- A. Exterior Door Identification:
 - 1. Application: Glass.
 - 2. Material: Vinyl.
 - 3. Size: See Drawings.
 - 4. Thickness: 4 mil.
 - 5. Weight: .065 lbs/sqft.
 - 6. Ink: UV fade-resistant.

2.07 ACCESSORIES

- A. Concealed Screws: Stainless steel, galvanized steel, chrome plated, or other non-corroding metal.
- B. Tape Adhesive: Double sided tape, permanent adhesive.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install neatly, with horizontal edges level.
- C. Locate signs where indicated:
 - 1. Room and Door Signs: Locate on wall at latch side of door with centerline of sign at 60 inches above finished floor.
 - 2. If no location is indicated obtain Owner's instructions.
- D. Protect from damage until Substantial Completion; repair or replace damaged items.

END OF SECTION

SECTION 102600 WALL AND DOOR PROTECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Corner guards.

1.02 RELATED REQUIREMENTS

- A. Section 061000 Rough Carpentry: Blocking for wall and corner guard anchors.
- B. Section 092116 Gypsum Board Assemblies: Placement of supports in stud wall construction.
- C. Section 092216 Non-Structural Metal Framing: Placement of supports in stud wall construction.

1.03 REFERENCE STANDARDS

- A. ADA Standards 2010 ADA Standards for Accessible Design 2010.
- B. ASTM D256 Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics 2010 (Reapproved 2018).
- C. ASTM D543 Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents 2021.
- D. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials 2022.
- E. ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials 2022.

1.04 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate physical dimensions, features, and anchorage details.
- C. Shop Drawings: Include plans, elevation, sections, and attachment details.
- D. Samples: Submit samples illustrating component design, configurations, joinery, color and finish.
- E. Manufacturer's Instructions: Indicate special procedures, perimeter conditions requiring special attention.
- F. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project:
 - 1. See Section 016000 Product Requirements, for additional provisions.
 - 2. Extra Stock Materials: One package(s) of minimum 96 inches long unit of each kind of covers for corner guards.
- H. Maintenance Data: Manufacturer's instructions for care and cleaning of each type of product. Include information about both recommended and potentially detrimental cleaning materials and methods.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver wall and door protection items in original, undamaged protective packaging. Label items to designate installation locations.
- B. Protect work from moisture damage.
- C. Protect work from UV light damage.
- D. Do not deliver products to project site until areas for storage and installation are fully enclosed, and interior temperature and humidity are in conformance with manufacturer's recommendations for each type of item.

E. Store products in either horizontal or vertical position, in conformance with manufacturer's instructions.

1.06 WARRANTY

- A. See Section 017800 Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a one year period after Date of Substantial Completion.
- C. Provide five year manufacturer and installer warranty for metal crash rails.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Corner Guards: Basis of Design: Acrovyn TF Series by Construction Specialties, Inc.
 - 1. Babcock-Davis: www.babcockdavis.com/#sle.
 - 2. Inpro: www.inprocorp.com/#sle.
 - 3. Koroseal Interior Products: www.koroseal.com/#sle.
 - 4. Nystrom, Inc: www.nystrom.com/#sle.
 - 5. Trim-Tex, Inc: www.trim-tex.com/#sle.
 - 6. Substitutions: See Section 016000 Product Requirements.

2.02 PRODUCT TYPES

- A. Corner Guards Surface Mounted:
 - 1. Material: High impact vinyl.
 - 2. Width of Wings: 2 inches.
 - 3. Thickness: .040 inch.
 - 4. Corner: Radiused.
 - 5. Color: As selected from manufacturer's standard colors.
 - 6. Length: One piece.
 - 7. Preformed end caps.

2.03 FABRICATION

- A. Fabricate components with tight joints, corners and seams.
- B. Pre-drill holes for attachment.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces for adhered items are clean and smooth.
 - 1. Test painted or wall covering surfaces for adhesion in inconspicuous area, as recommended by manufacturer. Follow adhesive manufacturer's recommendations for remedial measures at locations and/or application conditions where adhesion test's results are unsatisfactory.

3.02 INSTALLATION

- A. Install components in accordance with manufacturer's instructions, level and plumb, secured rigidly in position to supporting construction.
- B. Position corner guard 4 inches above finished floor to 48 inches high.

3.03 TOLERANCES

A. Maximum Variation From Required Height: 1/4 inch.

3.04 CLEANING

A. Clean wall and door protection items of excess adhesive, dust, dirt, and other contaminants.

END OF SECTION

SECTION 123280 INSTRUMENT STORAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Instrument storage cabinets

1.02 RELATED REQUIREMENTS

- A. Section 016000 Product Requirements:
- B. Section 079200 Joint Sealants: Sealing joints between casework and countertops and adjacent walls, floors, and ceilings.
- C. Section 123600 Countertops: Additional requirements for countertops.

1.03 DEFINITIONS

- A. Exposed: Portions of casework visible when drawers and cabinet doors are closed, including end panels, bottoms of cases more than 42 inches above finished floor, tops of cases less than 72 inches above finished floor and all members visible in open cases or behind glass doors.
- B. Semi-Exposed: Portions of casework and surfaces behind solid doors, tops of cases more than 72 inches above finished floor and bottoms of cabinets more than 30 inches but less than 42 inches above finished floor.
- C. Concealed: Sleepers, web frames, dust panels and other surfaces not generally visible after installation and cabinets less than 30 inches above finished floor.

1.04 REFERENCE STANDARDS

- A. ANSI A135.4 Basic Hardboard 2012 (Reaffirmed 2020).
- B. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials 2022.
- C. AWMAC/WI (NAAWS) North American Architectural Woodwork Standards 2021, with Errata.

1.05 ADMINISTRATIVE REQUIREMENTS

A. Large Components: Ensure that large components can be moved into final position without damage to other construction.

1.06 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Component dimensions, configurations, construction details, joint details, attachments; manufacturer's catalog literature on hardware, accessories, and service fittings, if any.
- C. Shop Drawings: Casework locations, large scale plans, elevations, cross sections, rough-in and anchor placement dimensions and tolerances, clearances required.
- D. Samples: For each color and finish for each exposed casework component.
- E. Test Reports: From independent laboratory indicating compliance with referenced chemicalresistance standards for cabinet finish and liner materials.
- F. Maintenance Data: Manufacturer's recommendations for care and cleaning.

1.07 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than five years of documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Musical Instrument Storage Casework:

- 1. Basis of Design: UltraStor Cabinets by Wenger Corporation.
- 2. Substitutions: See Section 016000 Product Requirements.

2.02 MUSICAL INSTRUMENT STORAGE CASEWORK

- A. Basis of Design: UltraStor Storage Cabinets as manufactured by Wenger Corporation. Modular instrument storage casework with integral bases, adjustable levelers, and through-bolted fastening, enabling owner reconfiguration of unit layout.
- B. General: Provide through-ventilating instrument storage casework meeting requirements in System Description and Performance Requirements Articles
- C. Side Panels and Divider Panels: Particleboard thermoset panel with no urea formaldehyde added, 3/4 inch (19 mm) thick. Side panels machined to accept unit-to-unit through-bolting.
- D. Open Casework: Provide casework without doors.
- E. Shelving: Sized with adequate gap between shelving and casework side panels to allow air movement inside casework.
 - 1. Up to 27 inches (686 mm) wide: Removable molded polyethylene shelf, with impactresistant, radiused front edge, mounted to cabinet wall with self-locking clip.
 - 2. Over 27 inches (686 mm) wide: For large instrument casework: Removable formed polyethylene shelf, ribbed, with high-impact-resistant, radiused front edge, supported by steel tube frame.
- F. Casework Panel Color: As selected by Architect from manufacturer's standard colors.
- G. Filler Panels and Closure: 3/4 inch (19 mm) thick particleboard thermoset panels with no urea formaldehyde in Oyster color. Provide the following, cut to fit field conditions, where indicated:
 - 1. Wall filler between cabinet side and wall.
 - 2. Top filler between cabinet top and wall.
 - 3. Top of cabinet closure panel between cabinet and finished ceiling or soffits.
 - 4. Finished back panel for exposed cabinet backs.
- H. Panel Connectors: 1/4-20 by 1.77 inch (45 mm) panel connectors, with steel thread inserts, powder coated to match panels.
- I. Cabinet Levelers: Leveling glides with 3/8 inch (9.5 mm) diameter threaded steel rod in steel corner brackets, minimum two each per cabinet side, accessible from within unit, and concealed in completed installation.
- J. Carcass joinery includes lag screws powder coated to match substrate.
- K. Back panel 7/32 inch (5.6 mm) reinforced with 3/4 inch (19 mm) stretchers panels held in a dado groove and lag screwed in place.
- L. Fasteners: Manufacturer-recommended fasteners as required for casework substrate and project performance requirements, consisting of one or more of the following:
 - 1. Sheet Metal Screws: SAE J78, corrosion-resistant-coated, self-drilling, self-tapping steel drill screws.
 - 2. Wood Screws: ASME B18.6.1.
 - 3. Expansion Anchors in Concrete and Concrete Masonry Units: Carbon-steel, zinc plated.
 - 4. Hardware supplied to anchor the cabinets to the wall and to adjacent casework.

2.03 MATERIALS

- A. Particleboard: ANSI A208.1, minimum 43 lb/cu. ft. (689 kg/cu. m) density, composite products and adhesives, with no urea formaldehyde added.
- B. Particleboard Thermoset Panels: Particleboard finished with thermally-fused polyester surfacing on both sides meeting performance properties of NEMA LD 3 for VGS grade, edge-banded, including the following:
 - 1. Surface Abrasion Resistance: Taber Wheel, 400 cycles, for solid colors.
- C. Polyethylene Shelves: High-density, one-piece, blow-molded or polyethylene, with radiused front edge, for abuse-resistant shelves. Same color throughout will not show scratches.
- D. PVC Edge Banding: Radiused PVC extrusions, 1/8 inch (3 mm) thick.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of support framing and anchors.

3.02 INSTALLATION

- A. Use anchoring devices to suit conditions and substrate materials encountered.
- B. Set casework items plumb and square, securely anchored to building structure.
- C. Align cabinets to adjoining components, install filler panels where necessary to close gaps.
- D. Replace units that are damaged, including those that have damaged finishes.

3.03 ADJUSTING

A. Adjust operating parts, including doors, drawers, hardware, and fixtures to function smoothly.

3.04 CLEANING

A. Clean casework surfaces thoroughly.

3.05 PROTECTION

- A. Do not permit finished casework to be exposed to continued construction activity.
- B. Repair damage that occurs prior to Date of Substantial Completion, including finishes, using methods prescribed by manufacturer; replace units that cannot be repaired to like-new condition.

END OF SECTION

GENERAL DESIGN CRITER	RIA:			REINFORCING BARS:
1. CODES: INTERNATI AMERICAN AMERICAN AMERICAN COMPLY W	 BAR DETAILING SHALL CONFORM TO THE LATEST STEEL SHALL BE AS FOLLOWS: REBAR- ASTM A605- GR 60 WELDABLE REINFORCING- A706, GR 60 WELDED WIRE FABRIC- ASTM A185 			
	TERAL SYSTEM- CMU WALLS, PRECA	WALLS		 ALL FIELD BENDING OF REINFORCING SHALL BE D BAR LAPS SHALL BE AS FOLLOWS, UNLESS NOTED BEAMS/JOIST TOP AND BOTTOM BARS COLUMN/WALL VERTICAL BARS – 48DB
SEISMIC: SEISMIC DESIGN C IMPORTANCE FAC ACCELERATIONS:	CTOR le=1.00			 TIES – 38DB 5. HOLD REINFORCING IN PLACE DURING CASTING O MASONRY
 SITE CLASS D SPECTRAL: SDS= (ANALYSIS PROCED 	0.111 SD1= 0.045			 HOLLOW CONCRETE MASONRY UNITS: NORMAL W MASONRY CONSTRUCTION SHALL COMPLY WITH T CMU SHALL BE LAID IN A RUNNING-BOND PATTERN
WIND: • BASIC WIND SI • EXPOSURE C • INTERNAL PRE				 PROVIDE BOND BEAMS WITH 2 #5 AT ALL FLOOR L PROVIDE REINFORCING AT CENTER OF CORES OF OPERATIONS. FILL ALL REINFORCED CELLS WITH GROUT CELLS FLOOR-TO-FLOOR AT JAMBS OF OF
	ENTS AND CLADDING WIND (UNFACTO	ED):		 LAP BARS 48 BAR DIAMETERS, UNLESS NOTED OT 8. PROVIDE HORIZONTAL JOINT REINFORCEMENT AT
WIND ZONES ROOF (ZONE 1): ROOF (ZONE 1'):	+16PSF / -31PSF +16PSF / -16PSF	LIFT ROOF PRESSURE -28PSF -13PSF		 HIGH LIFT GROUTING WILL NOT BE PERMITTED WI USE GROUTED KEYWAYS OR PREMANUFACTURED DO NOT PLACE CONDUIT, CHASES, OR OTHER EMI LOCATE CONTROL JOINTS IN CMU AT A MAXIMUM CONTINUE DEINECODONIC TUROU CONTROL ION
ROOF (ZONE 2): ROOF (ZONE 3): WALL (ZONE 4): WALL (ZONE 5):	+16PSF / -42PSF +16PSF / -42PSF +20PSF / -26PSF +20PSF / -29PSF	-39PSF -39PSF		 CONTINUE REINFORCING THROUGH CONTROL JOI 14. ALL NON-LOAD BEARING CMU WALLS TO HAVE #5 LINTELS:
WALL (ZONE 4P): WALL (ZONE 5P):	+80PSF / -57PSF +80PSF / -57PSF			 LINTELS SHALL BE PLACED ABOVE ALL OPENINGS LINTELS NOT SHOWN ON THE CONSTRUCTION DR
3. SUPERIMPOSED – ROOF:	DEAD LOADS:			<u>SPAN:</u> • 0-2FT <u>1/4</u> " PLATE, OR BOND BEAM
	 METAL. METAL DECK: INSULATION/MEMBRANE: CMEP: JOIST/BRIDGING: 	3PSF 3PSF 8PSF 5PSF		 0-2FT 2FT-4FT 2FT-4FT L-3.5X3.5X1/4" 4FT-6FT L-5X3.5X1/4" LLV 6FT-8FT L-5X3.5X1/4" LLV
	METAL: 1. CONCRETE ON DECK:	43PSF		BACK-TO-BACK ANGELS SHALL BE WELDED TOGE 3. LINTELS NOT SHOWN ON THE STRUCTURAL DRAW
	 CMEP: FLOORING/MISC.: PONDING: PRECAST: 	7PSF 5PSF 5PSF		SPAN: LINTEL: O-2FT ¼" PLATE, OR BOND BEAM V 2FT-4FT WT 4X9
	 HOLLOWCORE: TOPPING SLAB: PARTITIONS: 	85PSF 20PSF 15PSF		 4FT-6FT WT 4X9 6FT-8FT L-5X3.5X1/4" W/ BOT PL- 1/4"X
4. LIVE LOADS	4. CMEP: ND SNOW LOAD:	8PSF 50PSF		 STEEL LINTELS SHALL HAVE A MINIMUM OF 8" BEA GROUT ALL CMU CORES SOLID UNDER LINTEL BEA GALVANIZE ALL STEEL EXPOSED TO WEATHER.
•	FLAT ROOF SNOW LOAD (MINIMUM) IMPORTANCE FACTOR Is= 1.00 SNOW EXPOSURE FACTOR Ce= 1.00			STRUCTURAL STEEL: 1. STEEL SHALL BE DETAILED, FABRICATED AND ERE
•	THERMAL FACTOR Ct= 1.10 SNOW DRIFT LOAD: ASCE-7 (APPRC AGE (LIGHT/HEAVY)	RIATE YEAR) 125PSF/250PSF		 BRIDGES. HIGH STRENGTH BOLTS SHALL BE INSTALLED PER PROPERTIES:
• STAGE GENERAL:		150PSF		 ROLLED W-SHAPED MEMBERS: ASTM A992 STEEL TUBES: ASTM A500, GRADE B STEEL PIPES: ASTM A53, GRADE B
 THE CONTRACT DI AND METHODS OF THE CONTRACTOF 	CONSTRUCTION. SEQUENCING AND R IS RESPONSIBLE FOR THE STRENG	D STRUCTURE, AT TIME OF SUBSTANTIAL COMPLETION. UNLESS NOTED OTHERWI IEANS-AND-METHODS OF CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE I, SAFETY, AND STABILITY OF THE NEW AND EXISTING STRUCTURE DURING CONST I, SAFETY, AND STABILITY OF THE NEW AND EXISTING STRUCTURE DURING CONST	GENERAL CONTRACTOR. TRUCTION AND SHALL PROVIDE TEMPORARY	 STEEL ANGLES, CHANNELS, PLATES: ASTM ANCHOR BOLTS: ASTM A307 SIMPLE SHEAR CONNECTIONS NOT FULLY DETAILI USING END REACTION SHOWN ON PLANS. DOUBLE AND
THE WORK REQUI REGISTERED PRO 3. FIELD VERIFY ANY	RED IN THE CONSTRUCTION DOCUM FESSIONAL ENGINEER FOR THE DES / EXISTING DIMENSIONS, SIZES, AND	TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE. IT IS THE CONTRACT ITS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY. THE CONTRACTOR S N OF ANY TEMPORARY BRACING AND SHORING. IICKNESSES SHOWN ON DRAWINGS. IMMEDIATELY NOTIFY ARCHITECT OF ANY DIS	SHALL, AT HIS DISCRETION, EMPLOY A	BOLTS. 5. ALL WELDING SHALL BE PERFORMED BY CERTIFIE STRUCTURAL WELDING CODE. IN LIEU OF AWS WELDI LAST 12 MONTHS.
 OPTIONS, IF SHOW THE COST OF ADD 	VN, ARE FOR THE CONVENIENCE OF DITIONAL DESIGN WORK NECESSITAT	UMENTS ARE TYPICAL FOR SIMILAR SITUATIONS IN THE PROJECT. IE CONTRACTOR. D BY SEQUENCING OR CONSTRUCTION ERRORS SHALL BE PAID BY THE CONTRAC ⁻ MPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJ		 UNLESS NOTED OTHERWISE, WELDS SHALL BE 3/² PAINT STEEL EXPOSED TO VIEW WITH MANUFACT EXPOSED TO VIEW, CONTRACTOR MAY ELECT TO NOT HEADED STEEL STUDS SHALL BE PLACED ON BEA
SPECIAL INSPECTION:	OY SPECIAL INSPECTORS TO PEREO	/I SPECIAL INSPECTION. BASED ON IBC 2018, SPECIAL INSPECTION WILL BE REQUIR		 DO NOT FIELD TORCH-CUT HOLES OR NOTCHES IN BOLTS SHOWN ON STRUCTURAL DRAWINGS SHAL TIGHTENED CONDITIONS. FURNISH AND INSTALL OTHER MISCELLANEOUS S
	AL INVESTIGATIONS E CONCRETE MASONRY			12. PROVIDE 5,000 PSI NON-SHRINK GROUT UNDER BAUNDERSIDE OF HEAD.
POST-INSTALL PRECAST CON	ED ANCHORS			1. DESIGN, FABRICATE, DELIVER, AND ERECT METAL
				RECOMMENDATIONS OF THE STEEL DECK INSTITU 2. STEEL DECK PROPERTIES SHALL BE (AT MINIMUM 3. STEEL DECK SHALL BE ATTACHED TO SUPPORTIN
COLUM WALL F		2000PSF 2000PSF		 USE WELD-WASHERS WHEN WELDING THROUGH ROOF/FLOOR DECKING THAT WILL HAVE CONCRE INSTANCES THE DECKING SHALL BE PRIME-PAINTI
3. CONCRETE SHALL FOOTINGS AND SLABS 4. UNLESS NOTED O GRANULAR FILL. OWN	S. PROTECT SOIL FROM FREEZING AF THERWISE, SLABS ON GRADE SHALL IER'S SOILS CONSULTANT SHALL VEF	R GROUND CONTAINING STANDING WATER. OWNER'S SOILS CONSULTANT SHALL ER CASTING FOOTING. ONTAIN FIBERMESH REINFORCEMENT. SLAB SHALL BE PLACED OVER VAPOR BARI Y SUBGRADE PRIOR TO PLACEMENT OF ANY FILL BELOW SLABS.	RIER AND 6" MINIMUM COMPLACTED	 ROOF DECK AND NON-COMPOSITE DECK ENDS SH PROVIDE HIP AND VALLEY PLATES, GIRDER FILLEF ARCHITECTURAL DRAWINGS, OR AS NEEDED TO F SUPPORT DECK AT SUMP PANS AND OTHER ROOF HANG LOADS FROM STEEL BEAMS AND JOISTS WH
CASTING OPERATIONS	S. CONSOLIDATE CONCRETE. S SHALL NOT BE BACKFILLED UNTIL L	NG. FLOATING OF REINFORCING INTO FOOTING AFTER CASTING IS NOT PERMITTED NER LEVEL SLAB AND FIRST FLOOR STRUCTURE IS IN PLACE, UNLESS BRACING IS XISTING ELECTRICAL CONDUITS SHALL BE CLEAN, FREE-DRAINING GRANULAR MAT	PROVIDED.	OR NON-COMPOSITE DECK. LOADS LESS THAN 10 CONTRACTOR. STEEL JOISTS:
8. STEPS IN FOOTING 9. SEE ARCHITECTUR	RAL DRAWINGS FOR OTHER REVEAL	EAMS SHALL BE COORDINATED WITH WALL FORMING SYSTEM.		 DESIGN, FABRICATE, DELIVER, AND ERECT OPEN THE BASIS OF DESIGN FOR JOIST SIZES SHOWN O MECHANICAL LOADS SHOWN ON DOCUMENTS.
CONCRETE:				 PROVIDE BRIDGING, EXTENDED ENDS, SLOPED BE BRIDGING SHOWN ON DRAWINGS SHALL BE USED
		INIMUM 28-DAY CONCRETE STRENGTHS SHALL BE AS FOLLOWS:		MANUFACTURER. UPLIFT BRIDGING MAY BE REQU 5. WHERE BRIDGING INTERFERES WITH MECHANICA LOCATIONS PRIOR TO REMOVAL.
 TYPICAL-U FOOTINGS FOUNDATI SLABS ON 	ON WALLS:	4000PSI 3500PSI 4000PSI		 PAINT JOISTS WITH MANUFACTURER'S STANDARD TO AID IN BEARING SEAT DESIGN FOR JOISTS, IF J ON THE SHOP DRAWINGS. JOISTS BEARING ABOVE A COLUMN LINE SHALL H/
 CONCRETE MIX DE CONCRETE MIX DE INTERIOR SLAB ON WATER TO CEI AIR CONTENT: FOOTINGS & FOUN 	ESIGN SHALL CONFORM TO ACI 301 A ESIGN PERAMETERS: N GRADE: MENT RATIO (W/C): ≤ 0.48 : 3% +/- 0.5% NDATION WALLS MENT RATIO (W/C): ≤ 0.48	EDITIONS OF ACI 301, 305, 306, 311, 315, 318 AND 347. D 318. WATER SHALL NOT BE ADDED ON SITE, UNLESS CALLED OUT ON THE APPRO	OVED MIX DESIGN.	 JOISTS SHALL BE WELDED TO SUPPORTS, TYPICA LIGHT-WEIGHT MECHANICAL DUCTS, CONDUIT, AN LOADS GREATER THAN 100LBS SHALL BE HUNG W CHOARD POINT, AS SHOWN ON THE DETAILS.

- WATER TO CEMENT RATIO (W/C): ≤ 0.48
- AIR CONTENT: 6.5% +/- 1%

5. CONCRETE SLABS ON GRADE SHALL HAVE CONSTRUCTION JOINTS OR CUT JOINT AT 12FT O.C. MAXIMUM IN EACH DIRECTION. CUT SLAB BETWEEN 4 AND 12 HOURS AFTER CASTING SLAB. ISOLATE COLUMNS, WALLS, AND PIERS FROM SLABS AS SHOWN ON DRAWINGS. DO NOT CUT SLABS-ON-DECK OR PRECAST TOPPING SLABS.

SEE ARCHITECTURAL DRAWINGS FOR SLAB DEPRESSIONS. PITCH SLAB TO DRAIN WITHOUT REDUCING THICKNESS OF CONCRETE SECTION. PROVIDE CONSTRUCTION JOINTS IN EXPOSED WALLS AT A MAXIMUM SPACING OF 40FT. COORDINATE LOCATION OF JOINT WITH ARCHITECTURAL DRAWINGS. PROVIDE

CONSTRUCTION JOINTS IN UNEXPOSED WALLS AT A MAXIMUM SPACING OF 60FT.

8. ALL JOINTS IN CONCRETE CONSTRUCTION SHALL BE KEYED WITH A MINIMUM 2X4 KEYWAY. PROPERLY CONSOLIDATE CONCRETE WHEN CASTING.

9. DO NOT PLACE CONDUIT, PIPES, OR DUCTS WITHIN COLUMNS, BEAMS, WALLS, OR SLAB SYSTEMS WITHOUT APPROVAL FROM STRUCTURAL ENGINEER.

LL CONFORM TO THE LATEST ACI DETAILING MANUAL. PROVIDE COVER TO REINFORCEMENT AS LISTED IN ACI 318.

WIRE FABRIC- ASTM A185 OF REINFORCING SHALL BE DONE COLD. DO NOT HEAT REINFORCEMENT.

AS FOLLOWS, UNLESS NOTED OTHERWISE. STAGGER SPLICES OF REINFORCING BY 24 INCHES AT ALTERNATE BARS.

JOIST TOP AND BOTTOM BARS – 48DB I/WALL VERTICAL BARS – 48DB

IN PLACE DURING CASTING OPERATIONS.

EMASONRY UNITS: NORMAL WEIGHT, F'M=2000, MORTAR TYPE S, GROUT STRENGTH – 2000PSI.

JCTION SHALL COMPLY WITH THE LATEST VERSION OF ACI 530.1. SEE IBC 2018 FOR HOT AND COLD WEATHER PROCEDURES.) IN A RUNNING-BOND PATTERN.

AMS WITH 2 #5 AT ALL FLOOR LINES, ROOF LINES, TOP OF WALL, AND AT 12'-0" O.C. MAXIMUM SPACING IN WALL

CING AT CENTER OF CORES OF CMU CONSTRUCTION, OR AS INDICATED ON STRUCTURAL DRAWINGS. HOLD REINFORCING IN PLACE SURING GROUTING LL REINFORCED CELLS WITH GROUT. FILL ALL CMU CELLS SOLID BELOW GRADE. SEE DRAWINGS FOR OTHER GROUTING. CONSOLIDATED GROUT.

R-TO-FLOOR AT JAMBS OF OPENINGS. AMETERS, UNLESS NOTED OTHERWISE.

ITAL JOINT REINFORCEMENT AT 16" O.C. MAX SPACING PER SPECIFICATION.

NG WILL NOT BE PERMITTED WITHOUT AN APPROVED WRITTEN PROCEDURE SUBMITTED THROUGH THE ARCHITECT. WAYS OR PREMANUFACTURED JOINTS AT ALL CONTROL JOINTS.

NDUIT, CHASES, OR OTHER EMBED ITEMS IN GROUTED CELLS WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.

IOINTS IN CMU AT A MAXIMUM SPACING OF 20FT, UNLESS NOTED OTHERIWSE. LOCATE CONTROL JOINTS IN EXTERIOR MASONRY PER ARCHITECTURAL DRAWINGS. 4. STRUCTURAL STEEL CONNECTIONS AND/OR STEEL STAIRS, GUARD RAILS, & HANDRAILS CING THROUGH CONTROL JOINTS. WRAP REBAR WITH BOND-BREAKING TAPE 2'-0" EACH SIDE OF JOINT. DO NOT SPLICE REINFORCING WITHIN 4FT OF JOINTS. 5. STRUCTURAL & ARCHITECTURAL PRECAST RING CMU WALLS TO HAVE #5 REBAR GROUTED SOLID @ 48" O.C. U.N.O.

LACED ABOVE ALL OPENINGS AND RECESSES IN MASONRY CONSTRUCTION. /N ON THE CONSTRUCTION DRAWINGS SHALL BE AS FOLLOWS, FOR EVERY 4IN NOMINAL THICKNESS OF MASONRY:

1/4" PLATE, OR BOND BEAM WITH 2 #5 L-3.5X3.5X1/4" L-5X3.5X1/4" LLV L-5X3.5X1/4" LLV

GELS SHALL BE WELDED TOGETHER WITH 2" WELD AT 12" O.C.

N ON THE STRUCTURAL DRAWINGS SHALL BE AS FOLLOWS, FOR EVERY 6IN NOMINAL OF MASONRY THICKNESS (EG. 6" CMU)

1/4" PLATE, OR BOND BEAM WITH 1 #5 WT 4X9 WT 4X9 L-5X3.5X1/4" W/ BOT PL- 1/4"X5"

LL HAVE A MINIMUM OF 8" BEARING ON FULLY GROUTED CELL. RES SOLID UNDER LINTEL BEARING, BEAMS AND BEARING PLATES.

ETAILED, FABRICATED AND ERECTED PER AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND

DLTS SHALL BE INSTALLED PER AISC SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.

ES, CHANNELS, PLATES: ASTM A36

LTS: ASTM A307 NECTIONS NOT FULLY DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE SELECTED BY THE STEEL FABRICATOR FROM APPROPRIATE AISCC LOAD TABLES HOWN ON PLANS. DOUBLE ANGLE, SINGLE ANGLE, OR WELDED SHEAR PLATE CONNECTIONS SHALL BE USED. BOLTED CONNECTIONS SHALL USE A MINIMUM OF 2

BE PERFORMED BY CERTIFIED WELDERS WITH EXPERIENCE IN THAT TYPE OF JOINT. WELDING SHALL BE ACCORDING TO AMERICAN WELDING SOCIETY, CODE. IN LIEU OF AWS WELDING CERTIFICATES, WELDERS EMPLOYED ON THE WORK MAY PROVIDE WELDING TESTS THAT HAVE BEEN PERFORMED WITHIN THE

IERWISE, WELDS SHALL BE 3/16" THROAT THICKNESS. ALL WELDS SHALL USE E70XX ELECTRODES. SED TO VIEW WITH MANUFACTURER'S STANDARD PRIMER. DO NOT PRIME STEEL RECEIVING FIRE-PROOFING, OR AT WELDS. IF STEEL MEMBERS ARE NOT

ITRACTOR MAY ELECT TO NOT PRIME THIS STEEL. GALVANIZE ALL STEEL EXPOSED TO WEATHER.

DS SHALL BE PLACED ON BEAMS IN FIELD, ARC-WELDED THROUGH METAL FLOOR DECK. SEE STUD REPLACEMENT DETAIL. CH-CUT HOLES OR NOTCHES IN STEEL MEMBERS WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.

TRUCTURAL DRAWINGS SHALL BE ¾" DIAM., A325-N BOLTS UNLESS NOTED OTHERWISE. USE TWIST-OFF TYPE BOLTS FOR CONNECTIONS REQUIRING FULLY

ALL OTHER MISCELLANEOUS STEEL AS CALLED OUT OR REQUIRED BY ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS. NON-SHRINK GROUT UNDER BASE PLATES AND BEARING PLATES WHERE INDICATED. ANCHOR BOLTS SHALL BE EMBEDDED 12 X (DIAM OF BOLT) MEASURED TO

, DELIVER, AND ERECT METAL ROOF DECK, NON-COMPOSITE METAL DECK, AND COMPOSITE METAL DECK ACCORDING TO THE SPECIFICATIONS AND

IS OF THE STEEL DECK INSTITUTE (SDI). ERTIES SHALL BE (AT MINIMUM), THOSÉ LISTED IN VULCRAFT CATALOGS FOR THE TYPE AND GAGE SHOWN ON THE DRAWINGS.

BE ATTACHED TO SUPPORTING STRUCTURE AS NOTED ON PLANS. RS WHEN WELDING THROUGH DECK. POWDER DRIVEN FASTENERS, IF DESIRED FOR DECK ATTACHMENT, SHALL BE SUBMITTED FOR REVIEW.

ING THAT WILL HAVE CONCRETE POURED ON TOP OF IT OR IS LOCATED IN AN AREA THAT WILL HAVE HIGH HUMIDITY SHALL BE GALVANIZED. FOR ALL OTHER CKING SHALL BE PRIME-PAINTED.

ON-COMPOSITE DECK ENDS SHALL BE LAPPED 2" OVER SUPPORT. COMPOSITE DECK ENDS SHALL BE BUTTED OVER CENTER OF SUPPORT. ALLEY PLATES, GIRDER FILLERS, END CLOSERS, CANT STRIPS, SUMP PANS, EDGE FORMS AND OTHE ACCESSORIES AS SHOWN ON THE STRUCTURAL AND RAWINGS, OR AS NEEDED TO PROVIDE A COMPLETE DECK SYSTEM SHOWN ON THE DRAWINGS.

SUMP PANS AND OTHER ROOF DECK OPENINGS. SEE DETAILS. 1 STEEL BEAMS AND JOISTS WHENEVER POSSIBLE. PROVIDE UNISTRUT, ANGLES, OR TUBES TO ACCOMMODATE THIS. DO NOT HANG ANY LOADS FROM ROOF DECK E DECK. LOADS LESS THAN 100LBS MAY BE HUNG FROM CURED, COMPOSITE DECK. RESPONSIBILITYFOR DESIGN OF MEP SUPPORT SYSTEMS WILL BE WITH THE

, DELIVER, AND ERECT OPEN WEB STEEL JOISTS, JOIST GIRDERS, AND ACCESSORIES ACCORDING TO THE SPECIFICATIONS OF THE STEEL JOIST INSTITUTE (SJI). GN FOR JOIST SIZES SHOWN ON THE DRAWINGS IS PER VULCRAFT DESIGN CATALOG. SPECIAL JOIST PRELIMINARY SIZES SHOWN ARE BASED ON SNOW DRIFT AND SHOWN ON DOCUMENTS.

, EXTENDED ENDS, SLOPED BEARINGS, CEILING EXTENSIONS AND OTHER ACCESSORIES AS SHOWN ON THE STRUCTURAL AND ARCHITECTUAL DRAWINGS. ON DRAWINGS SHALL BE USED FOR ESTIMATING ONLY. FINAL SIZE, CONFIGURATION, AND QUANTITY OF BRIDGING SHALL BE DETEMINED BY THE JOIST JPLIFT BRIDGING MAY BE REQUIRED- SEE DRAWINGS.

ITERFERES WITH MECHANICAL DUCTWORK OR PIPING, BRIDING MAY BE REMOVED AFTER ROOF DECK ATTACHEMNT. NOTIFY STRUCTURAL ENGINEER OF TO REMOVAL. MANUFACTURER'S STANDARD RUST-INHIBITING PRIMER. JOISTS TO RECEIVE FIREPROOFING ARE NOT TO BE PAINTED.

SEAT DESIGN FOR JOISTS, IF JOIST MANUFACTURER WOULD LIKE TO STAGGER JOISTS ON EITHER SIDE OF A SUPPORT, THIS SHALL BE SUBMITTED FOR APPROVAL /INGS

30VE A COLUMN LINE SHALL HAVE ERECTION BOLTS IN THE BEARING SEAT. BOTTOM CHORDS SHALL BE ALSO EXTENDED TO THE FACE OF THE COLUMN. ELDED TO SUPPORTS, TYPICAL.

HANICAL DUCTS, CONDUIT, AND CEILING MAY BE HUNG AT ANY POINT ALONG THE JOIST BOTTOM OR TOP CHORD. HAN 100LBS SHALL BE HUNG WITHIN 6" OF TOP AND BOTTOM CHORD POINTS. LOADS HUNG OUTSIDE THIS RANGE SHALL HAVE ADDED BRACING TO NEAREST SHOWN ON THE DETAILS.

LIGHT GAGE STEEL:

- . LIGHT GAGE STEEL DESIGN, DETAILING AND ERECTION SHALL FOLLOW STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) GUIDELINES.
- INFORMATION. BOTTOM TRACK. STUDS SHALL NOT HAVE PUNCH-OUT LOCATED AT ENDS OF STUDS.
- 4. PROVIDE TRACK, BRIDGING, BLOCKING, HEADERS, CLIP-ANGLES, SLIDE CLIPS, FASTENERS, AND OTHER ACCESSORIES AS NEEDED TO SUPPLY A COMPLETED LIGHT-GAGE SYSTEM AS SHOWN ON THE DRAWING.
- PROVIDE 2 FULL HEIGHT STUDS AT JAMBS OF OPENINGS, UNLESS NOTED OTHERWISE.

SUBMITTALS:

- CONTRACTOR/SUPPLIER TO THE ENGINEER OF RECORD FOR REVIEW BEFORE FABRICATION. 2. CONCRETE MIX DESIGNS
- PRECAST DESIGNS 4. CONCRETE AND/OR CMU REINFORCING SHOPS
- 5. STRUCTURAL STEEL FRAMING SHOPS 6. STEEL JOIST SHOPS

DELEGATED DESIGNS:

- 2. THE DESIGN OF DELEGATED STRUCTURAL ITEMS MAY BE DEFERRED UNTIL AFTER A BUILDING PERMIT HAS BEEN ISSUED.
- THE DESIGN OF THE FOLLOWING STRUCTURAL COMPONENTS OF THE BUILDING HAVE BEEN DELEGATED TO THE CONTRACTOR/SUPPLIER.

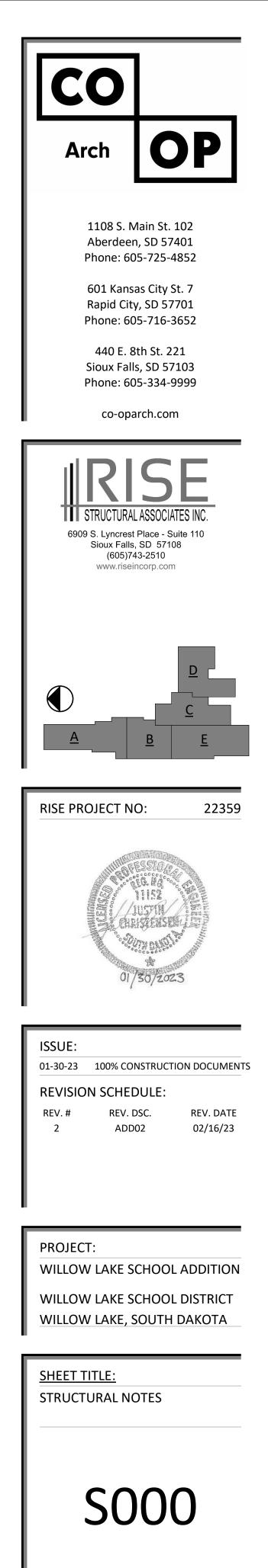
2. LIGHT GAGE CALLED OUT ON THE DRAWINGS SHALL HAVE A MINIMUM PROPERTIES CALLED OUT IN THE LATEST EDITION OF SSMA PRODUCT TECHNICAL

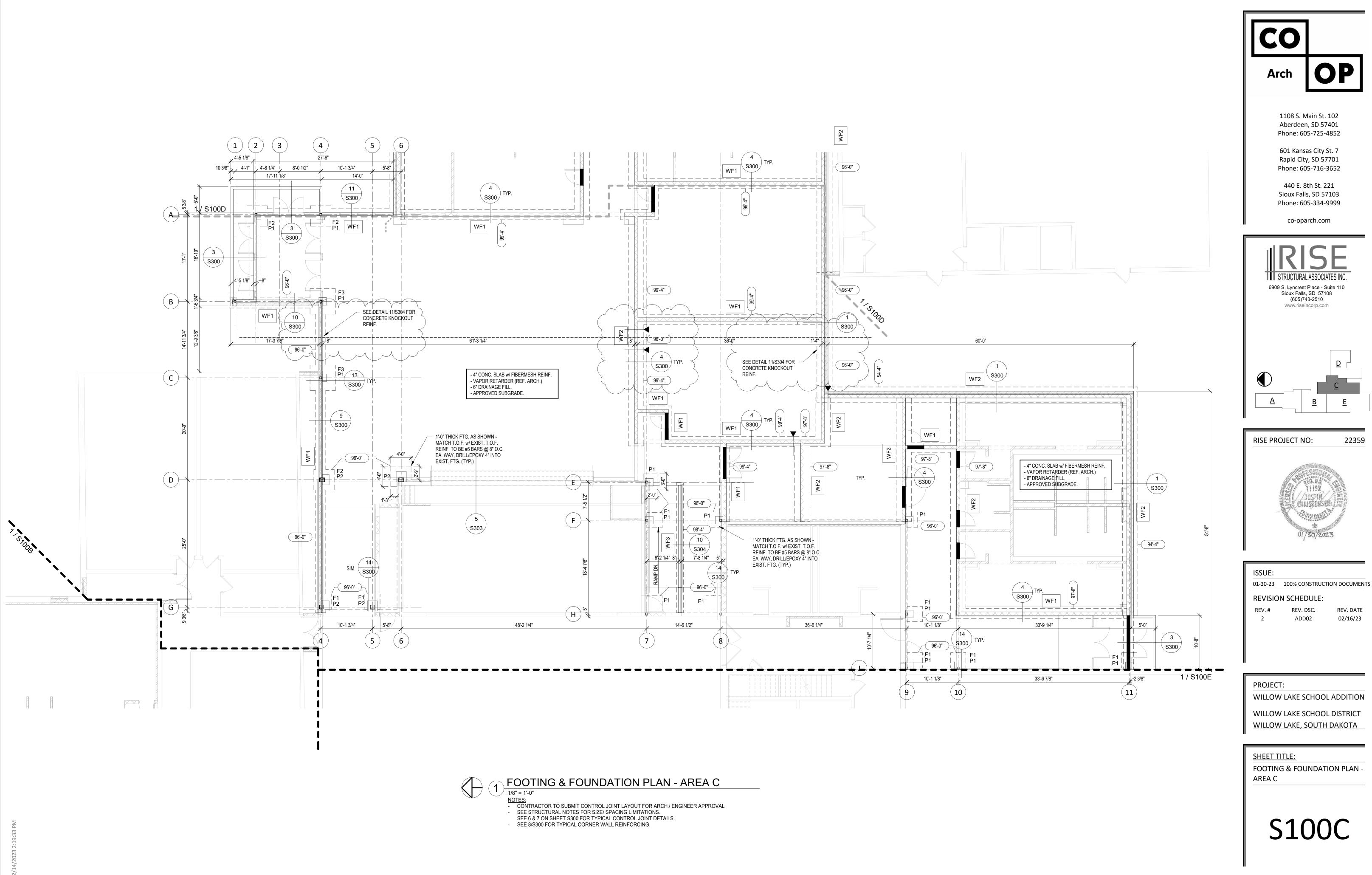
3. END TRACK GAGE SHALL MATCH WALL STUD GAGE. ALIGN STUDS BELOW STRUCTURAL MEMBERS ABOVE. PROVIDE FULL BEARING OF WALL STUDS TO TOP AND

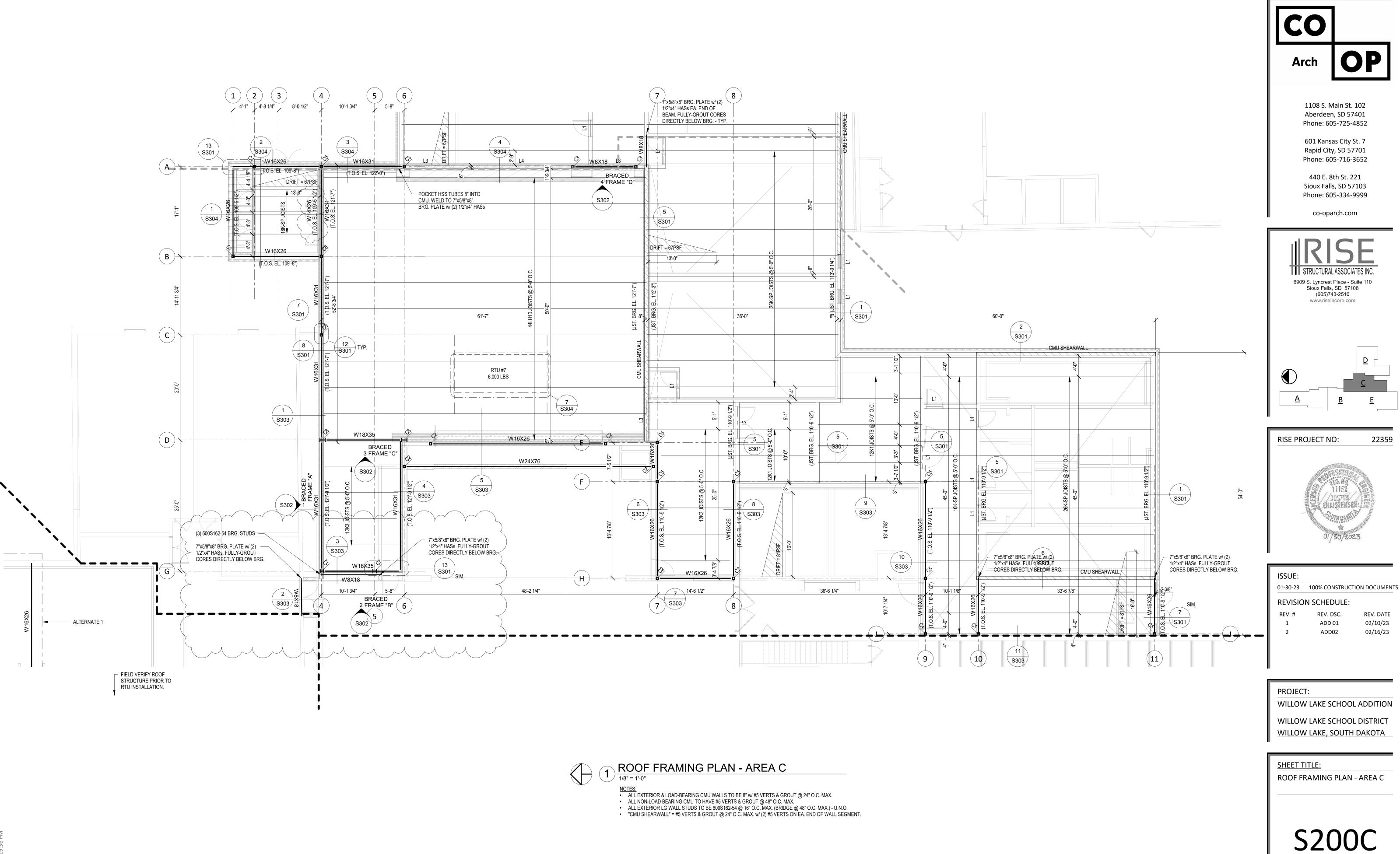
5. PROVIDE BRIDGING AT 4'-0" O.C. MAXIMUM SPACING IN BEARING , SHEAR AND EXTERIOR WALLS. PROVIDE FULL DEPTH BLOCKING AT ALL SHEAR PANEL EDGES. 6. SCREW SHEATHING FOR FLOORS & ROOFS WITH #8 SCREWS AT 6" O.C. AT PANEL EDGES AND 12" O.C. IN THE FIELD. STAGGER EDGES OF PANELS. 8. ALL WELDED CONNECTIONS SHALL BE DONE BY PERSONNEL CERTIFIED IN LIGHT-GAGE WELDING.

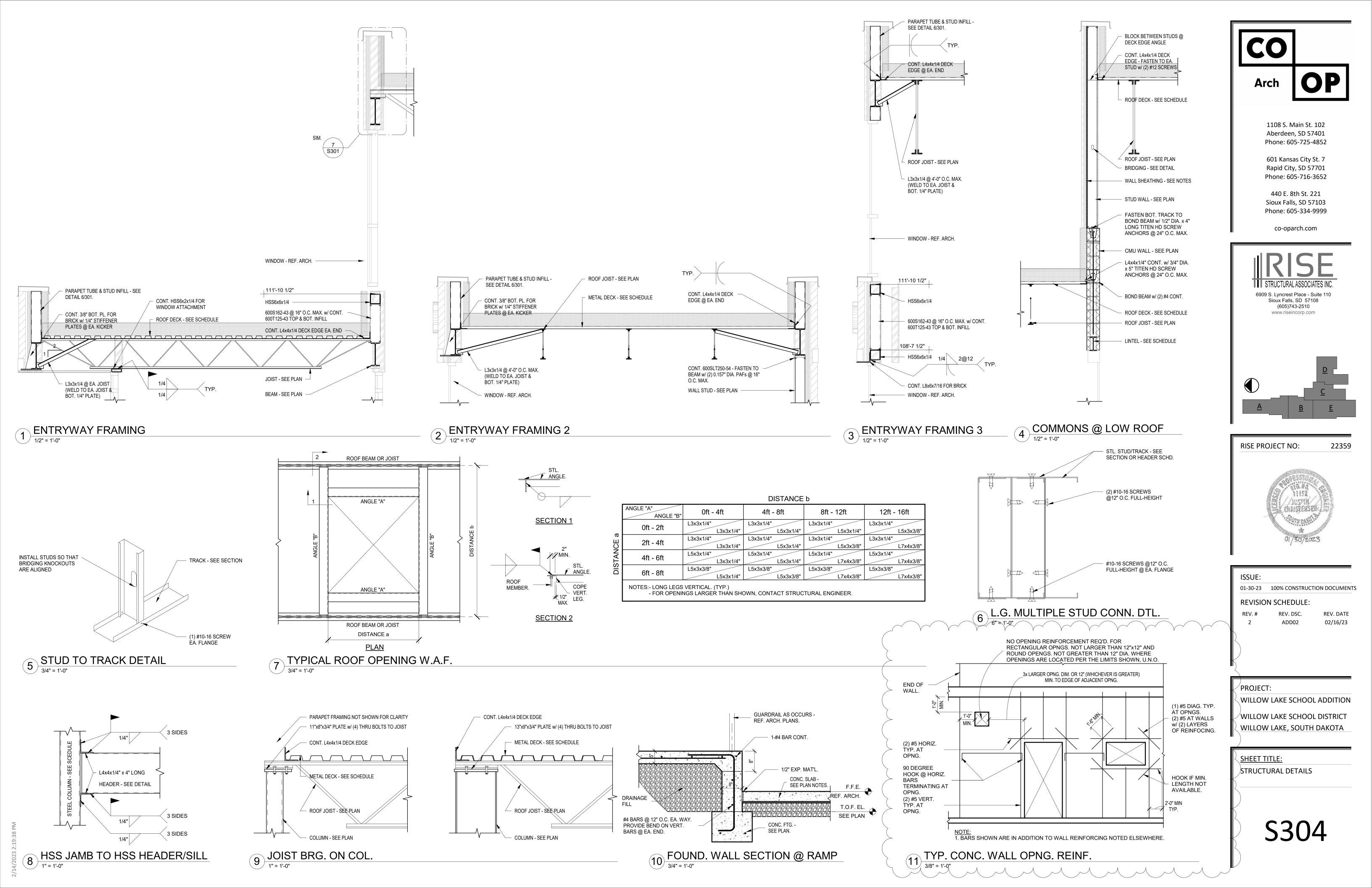
1. THE FOLLOWING STRUCTURAL COMPONENTS OF THE BUILDING WILL REQUIRE SHOP DRAWINGS AND/OR MIX DESIGNS TO BE SUBMITTED BY THE

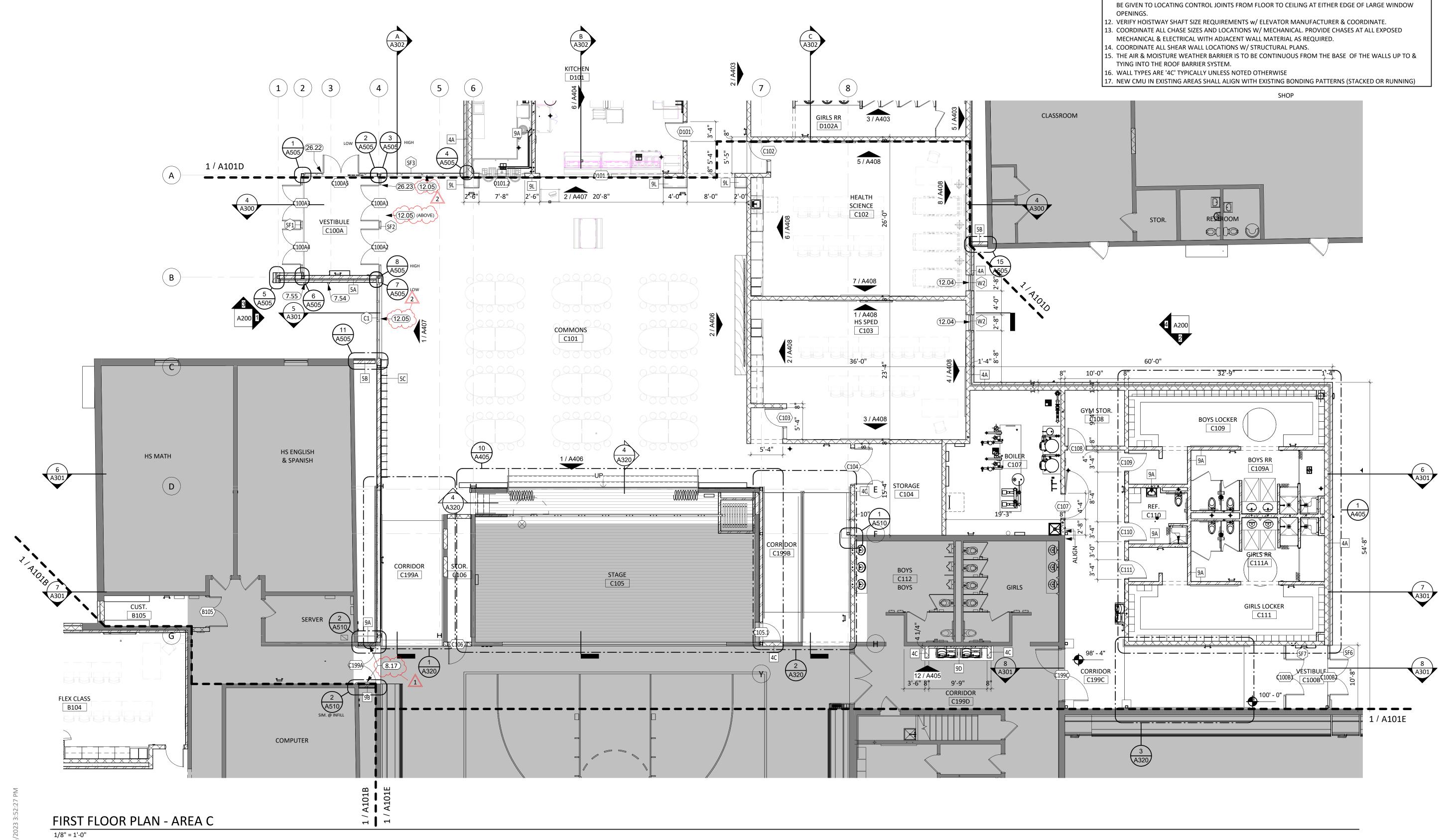
1. DESIGN ITEMS THAT HAVE BEEN DELEGATED WILL REQUIRE THE CONTRACTOR/SUPPLIER TO PROVIDE SHOP DRAWINGS AND CALCULATIONS TO THE ENGINEER OF RECORD THAT HAVE BEEN SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED.











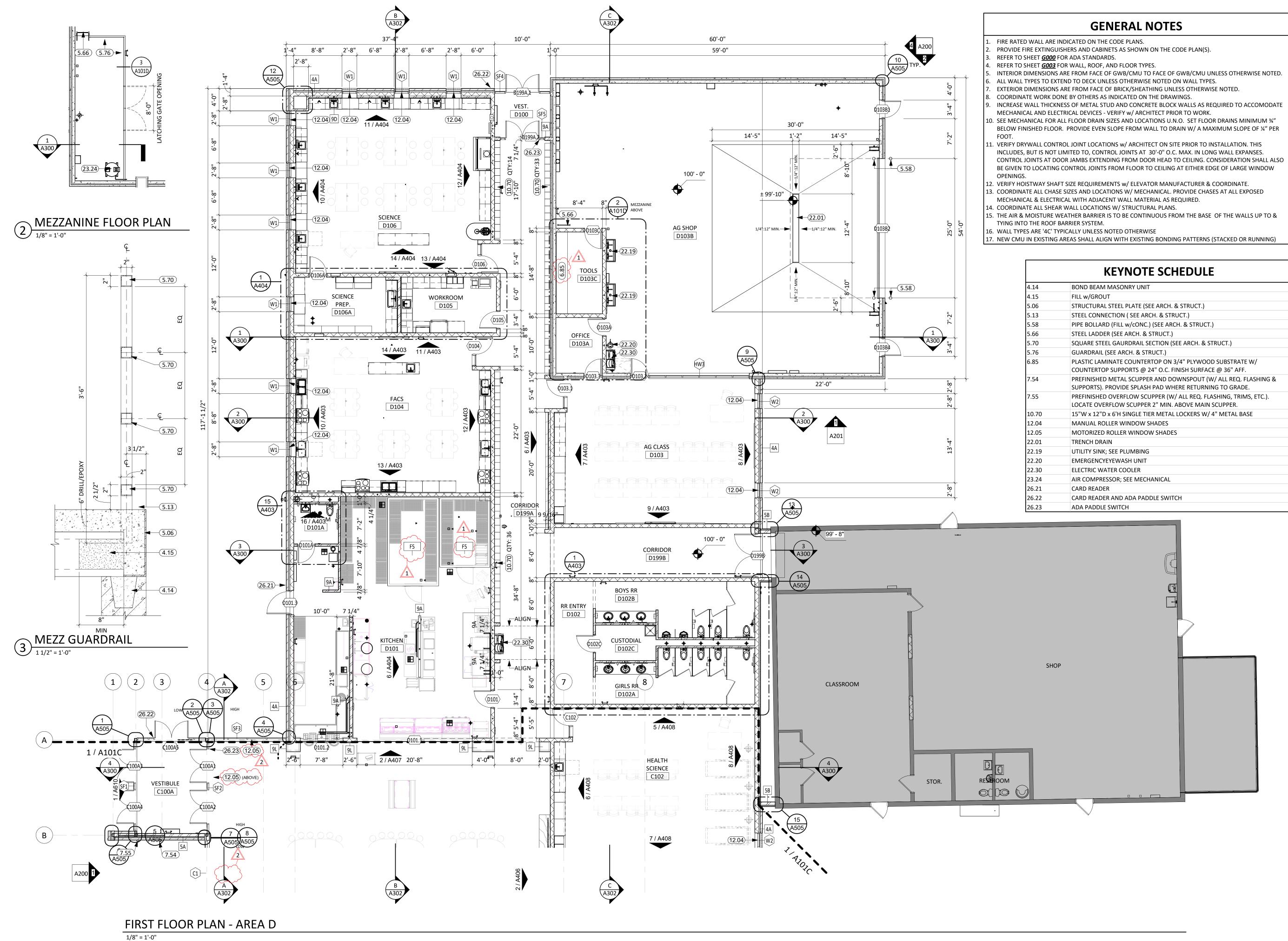
	KEYNOTE SCHEDULE		
7.54	PREFINISHED METAL SCUPPER AND DOWNSPOUT (W/ ALL REQ. FLASHING & SUPPORTS). PROVIDE SPLASH PAD WHERE RETURNING TO GRADE.	1.	FIRE RATED WALL AR
7.55	PREFINISHED OVERFLOW SCUPPER (W/ ALL REQ. FLASHING, TRIMS, ETC.). LOCATE OVERFLOW SCUPPER 2" MIN. ABOVE MAIN SCUPPER.	3. 4.	
8.17	ACCESS DOOR & FRAME; 2HR RATING. BASIS OF DESIGN: ACUDOR FB-5060-DW 24"X48"	5. 6.	ALL WALL TYPES TO E
12.04	MANUAL ROLLER WINDOW SHADES	7.	EXTERIOR DIMENSIO
12.05	MOTORIZED ROLLER WINDOW SHADES	8.	
26.22	CARD READER AND ADA PADDLE SWITCH	J.	MECHANICAL AND EL
26.23	ADA PADDLE SWITCH	1(D. SEE MECHANICAL FO
			BELOW FINISHED FLC FOOT.

GENERAL NOTES

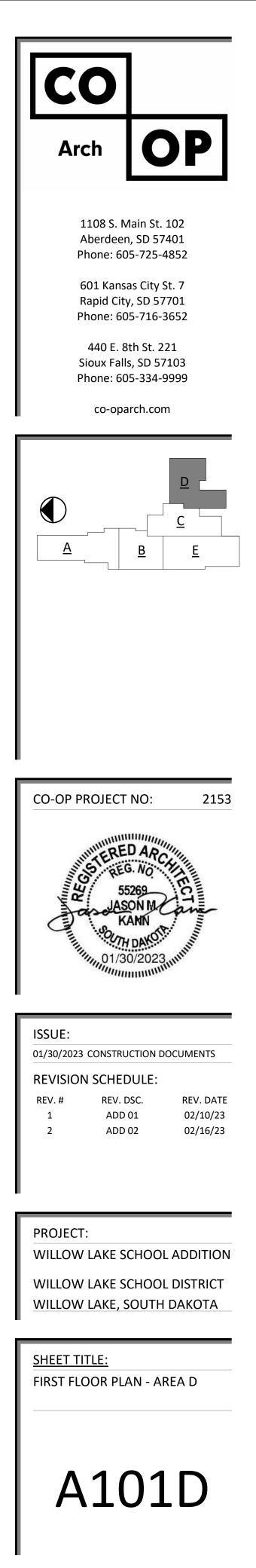
ARE INDICATED ON THE CODE PLANS.

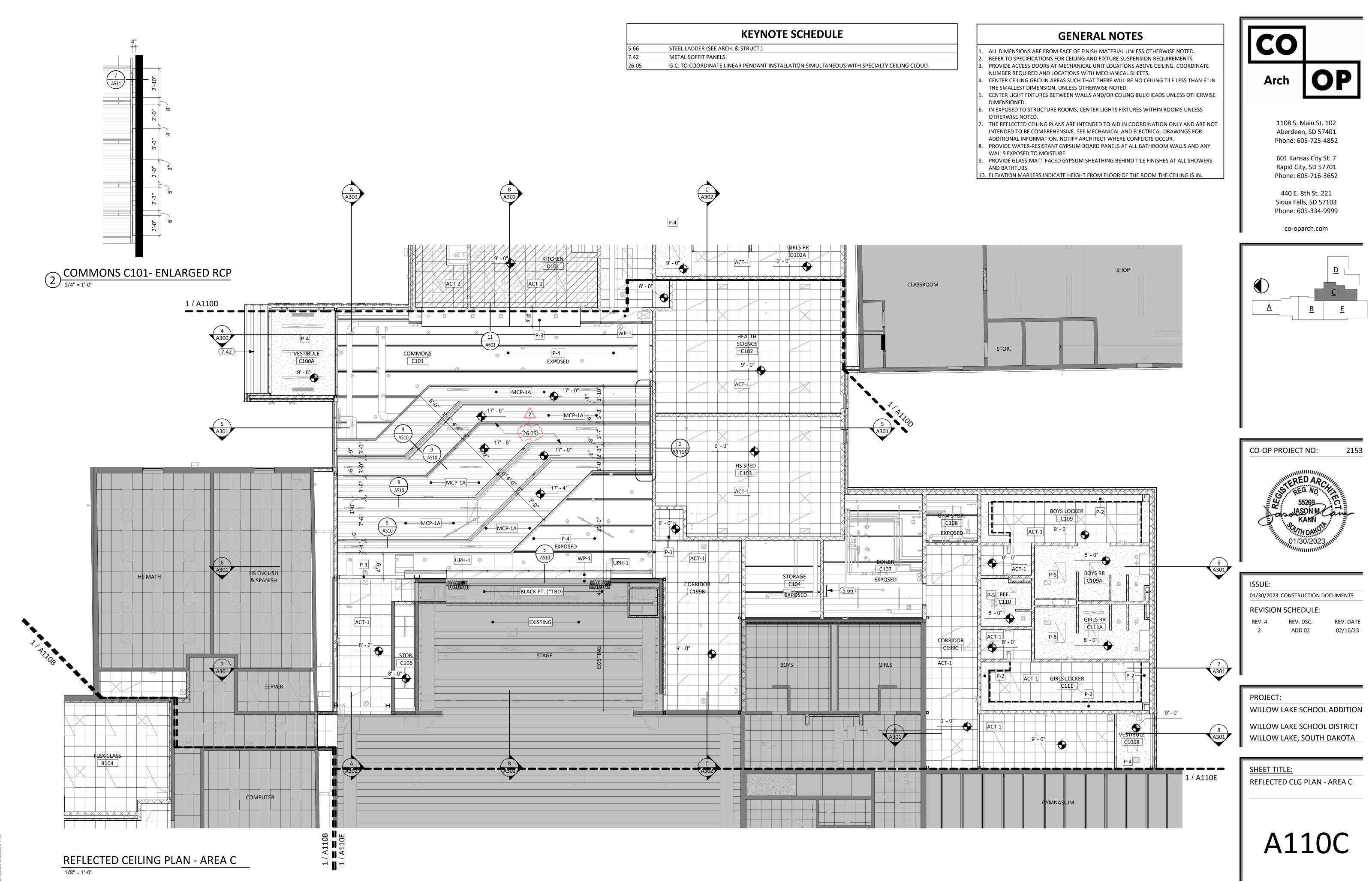
- INGUISHERS AND CABINETS AS SHOWN ON THE CODE PLAN(S).
- **5000** FOR ADA STANDARDS.
- **5003** FOR WALL, ROOF, AND FLOOR TYPES.
- SIONS ARE FROM FACE OF GWB/CMU TO FACE OF GWB/CMU UNLESS OTHERWISE NOTED. O EXTEND TO DECK UNLESS OTHERWISE NOTED ON WALL TYPES. IONS ARE FROM FACE OF BRICK/SHEATHING UNLESS OTHERWISE NOTED.
- RK DONE BY OTHERS AS INDICATED ON THE DRAWINGS.
- HICKNESS OF METAL STUD AND CONCRETE BLOCK WALLS AS REQUIRED TO ACCOMODATE D ELECTRICAL DEVICES - VERIFY w/ ARCHITECT PRIOR TO WORK.
- FOR ALL FLOOR DRAIN SIZES AND LOCATIONS U.N.O. SET FLOOR DRAINS MINIMUM ³/["] FLOOR. PROVIDE EVEN SLOPE FROM WALL TO DRAIN W/ A MAXIMUM SLOPE OF ¼" PER
- 11. VERIFY DRYWALL CONTROL JOINT LOCATIONS w/ ARCHITECT ON SITE PRIOR TO INSTALLATION. THIS INCLUDES, BUT IS NOT LIMITED TO, CONTROL JOINTS AT 30'-0" O.C. MAX. IN LONG WALL EXPANSES. CONTROL JOINTS AT DOOR JAMBS EXTENDING FROM DOOR HEAD TO CEILING. CONSIDERATION SHALL ALSO

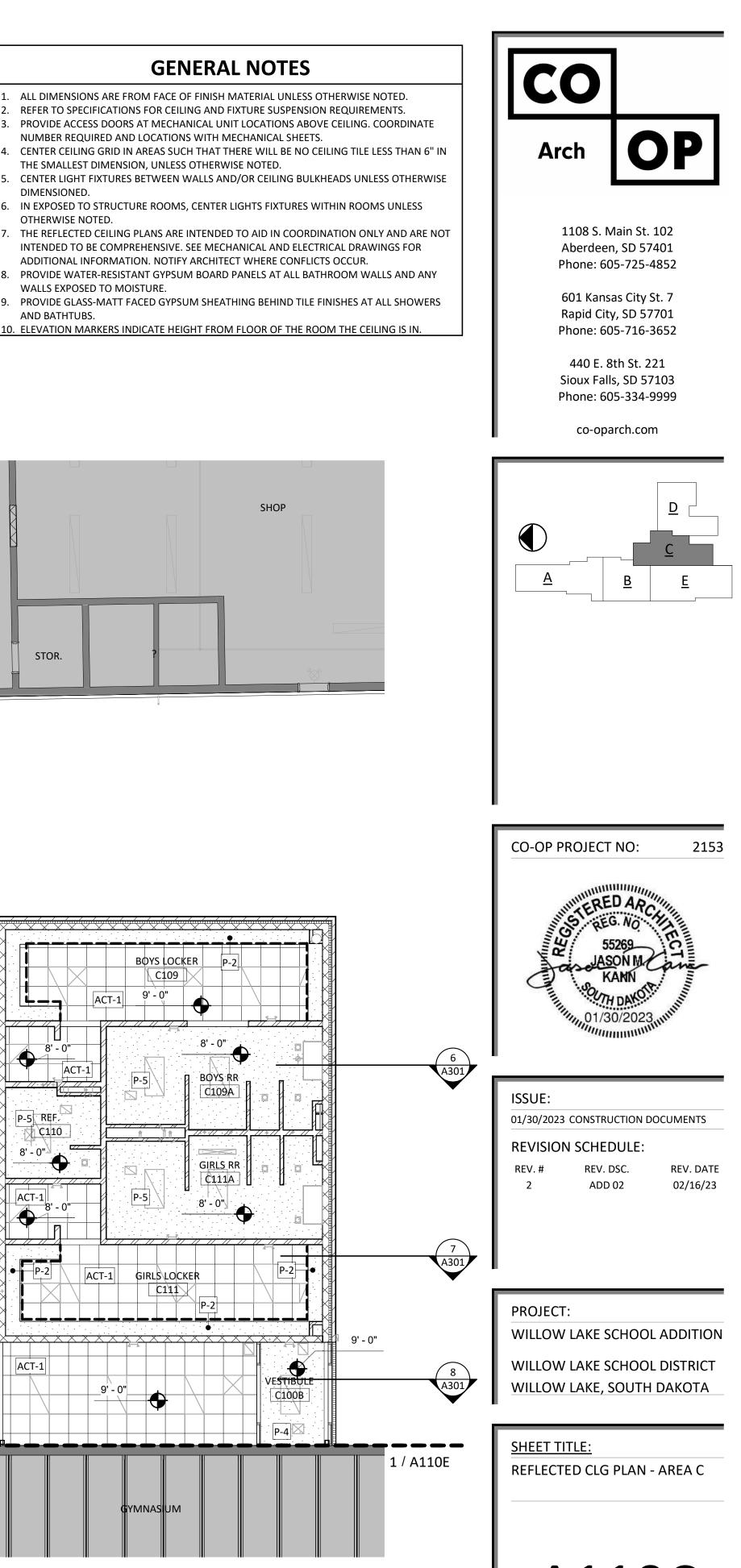
Arch OP
1108 S. Main St. 102 Aberdeen, SD 57401 Phone: 605-725-4852 601 Kansas City St. 7 Rapid City, SD 57701 Phone: 605-716-3652 440 E. 8th St. 221 Sioux Falls, SD 57103 Phone: 605-334-9999 co-oparch.com
CO-OP PROJECT NO: 2153
ISSUE: 01/30/2023 CONSTRUCTION DOCUMENTS REVISION SCHEDULE: REV. # REV. DSC. REV. DATE 1 ADD 01 02/10/23 2 ADD 02 02/16/23
PROJECT: WILLOW LAKE SCHOOL ADDITION WILLOW LAKE SCHOOL DISTRICT WILLOW LAKE, SOUTH DAKOTA
<u>SHEET TITLE:</u> FIRST FLOOR PLAN - AREA C
A101C

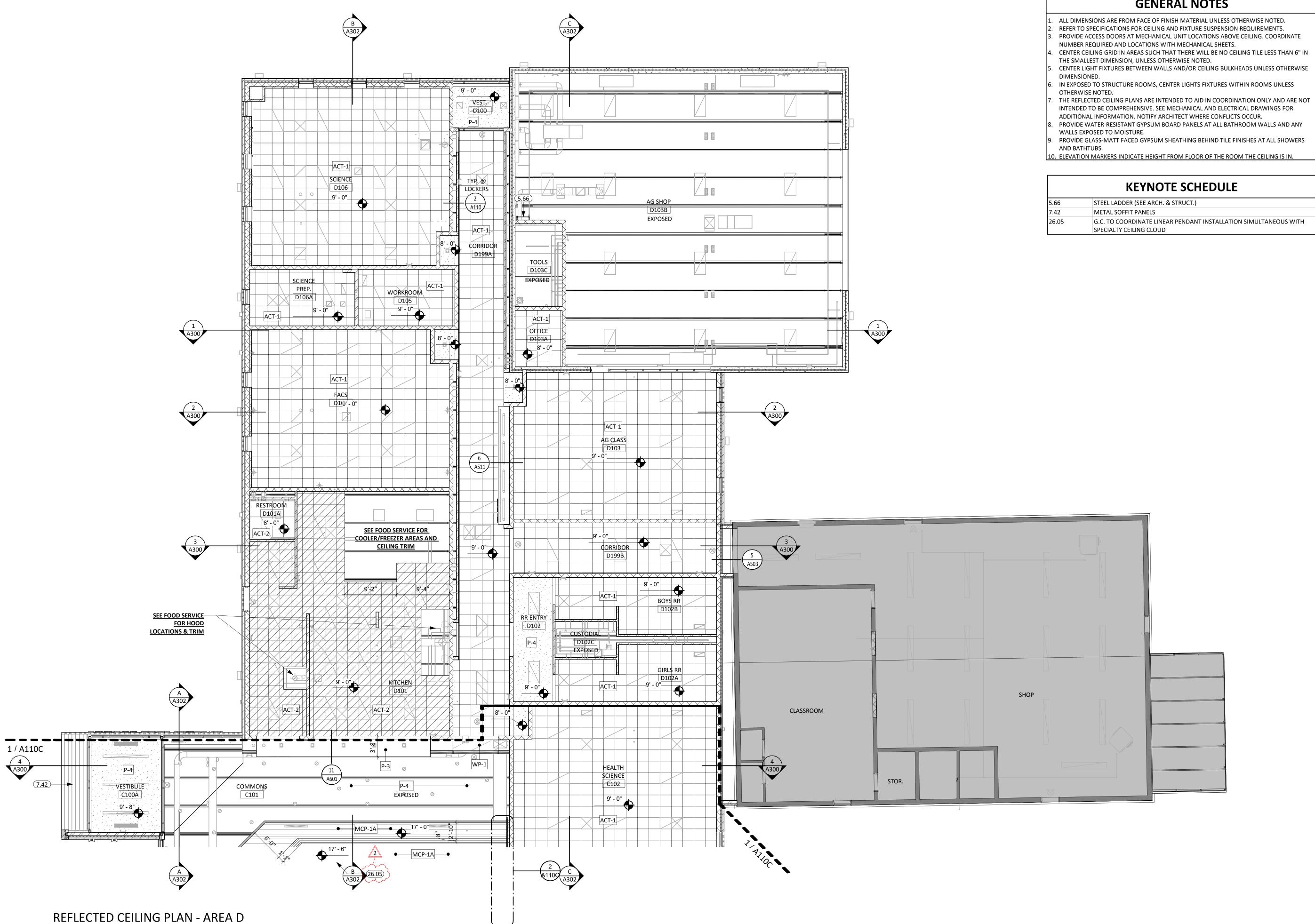


PREFINISHED METAL SCUPPER AND DOWNSPOUT (W/ ALL REQ. FLASHING & PREFINISHED OVERFLOW SCUPPER (W/ ALL REQ. FLASHING, TRIMS, ETC.).









1/8" = 1'-0"

GENERAL NOTES

ALL DIMENSIONS ARE FROM FACE OF FINISH MATERIAL UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS FOR CEILING AND FIXTURE SUSPENSION REQUIREMENTS. PROVIDE ACCESS DOORS AT MECHANICAL UNIT LOCATIONS ABOVE CEILING. COORDINATE

CENTER CEILING GRID IN AREAS SUCH THAT THERE WILL BE NO CEILING TILE LESS THAN 6" IN

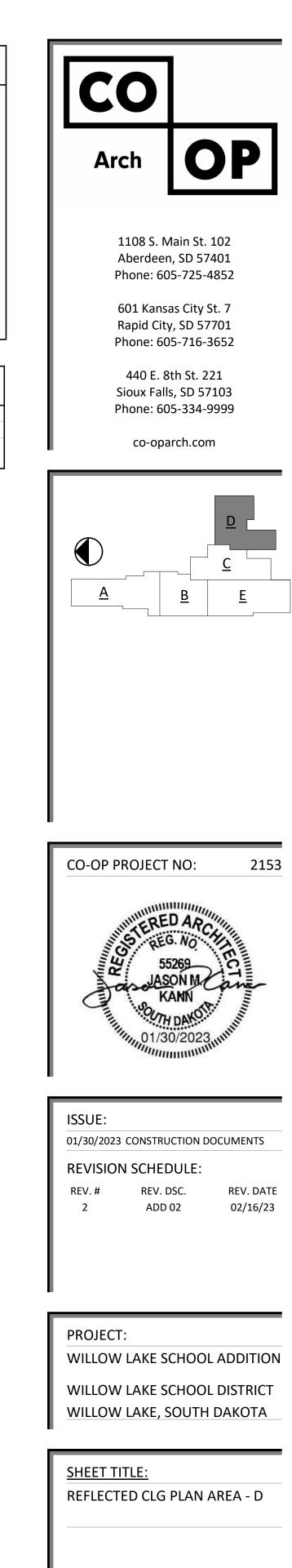
INTENDED TO BE COMPREHENSIVE. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION. NOTIFY ARCHITECT WHERE CONFLICTS OCCUR.

PROVIDE WATER-RESISTANT GYPSUM BOARD PANELS AT ALL BATHROOM WALLS AND ANY

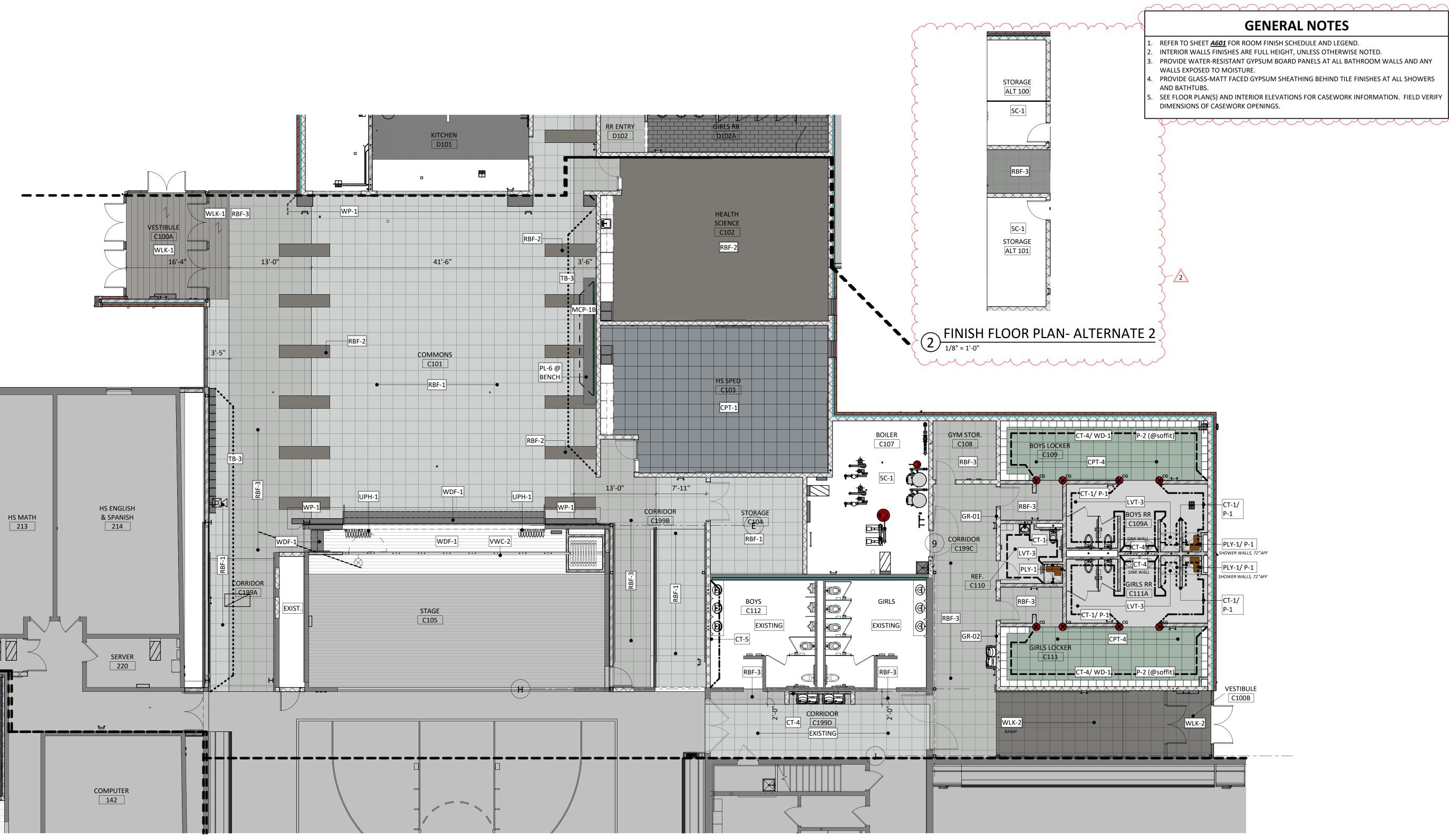
10. ELEVATION MARKERS INDICATE HEIGHT FROM FLOOR OF THE ROOM THE CEILING IS IN.

KEYNOTE SCHEDULE

G.C. TO COORDINATE LINEAR PENDANT INSTALLATION SIMULTANEOUS WITH



A110D

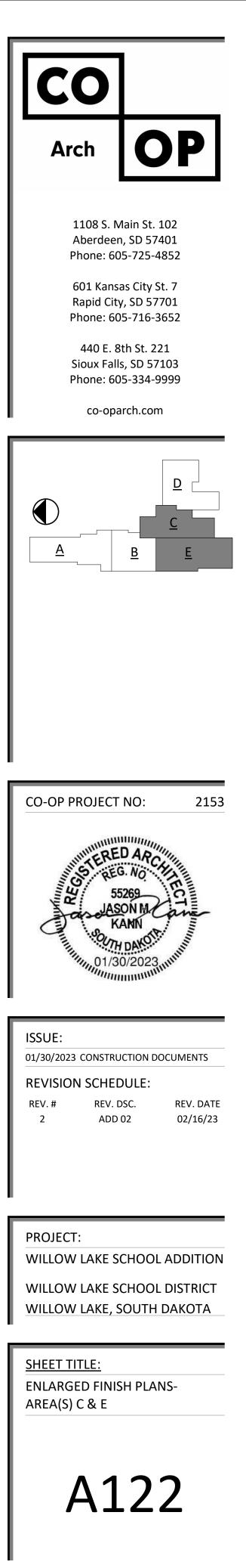


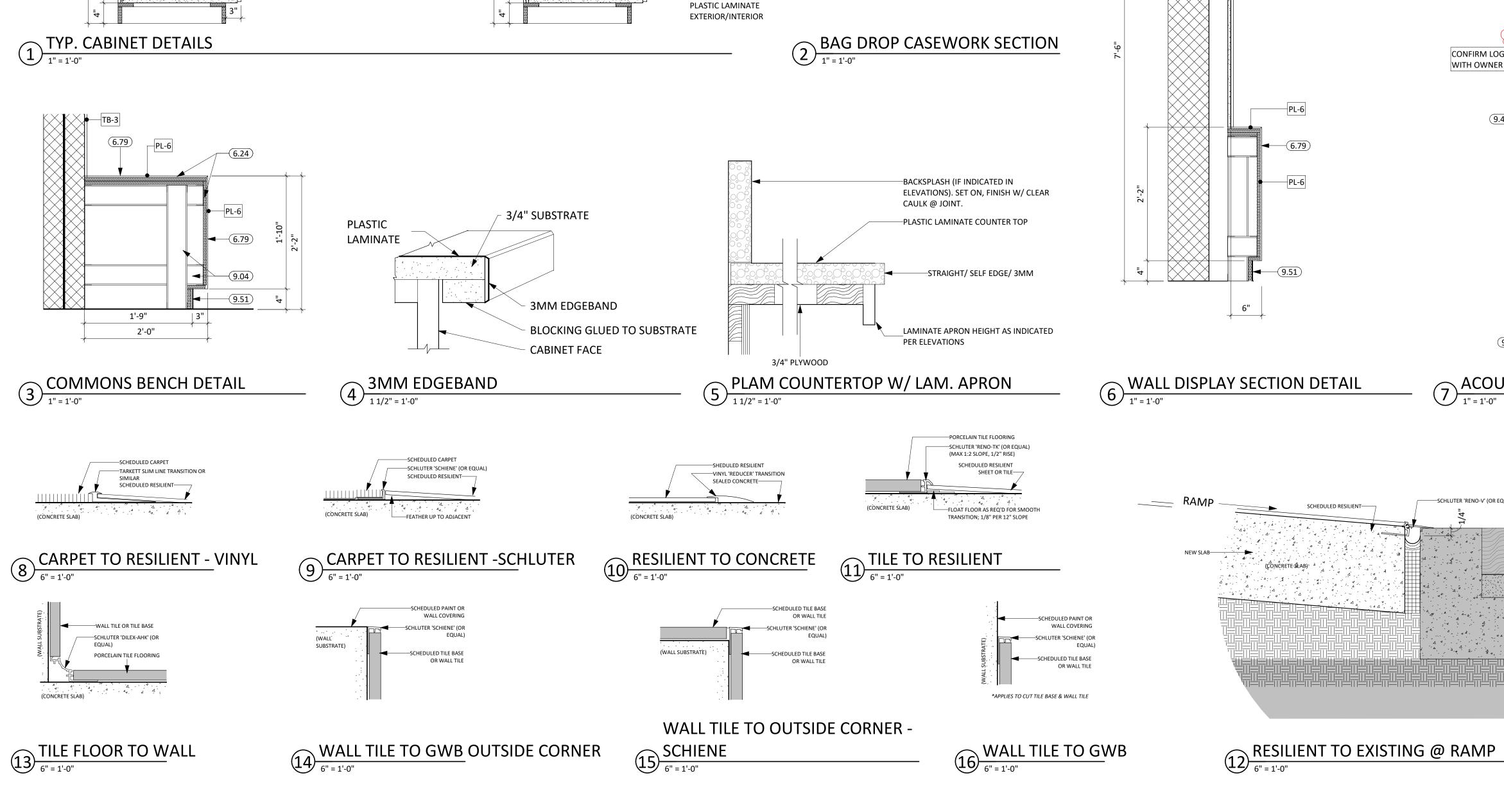
FINISH FLOOR PLAN - AREA C & E 1/8" = 1'-0"

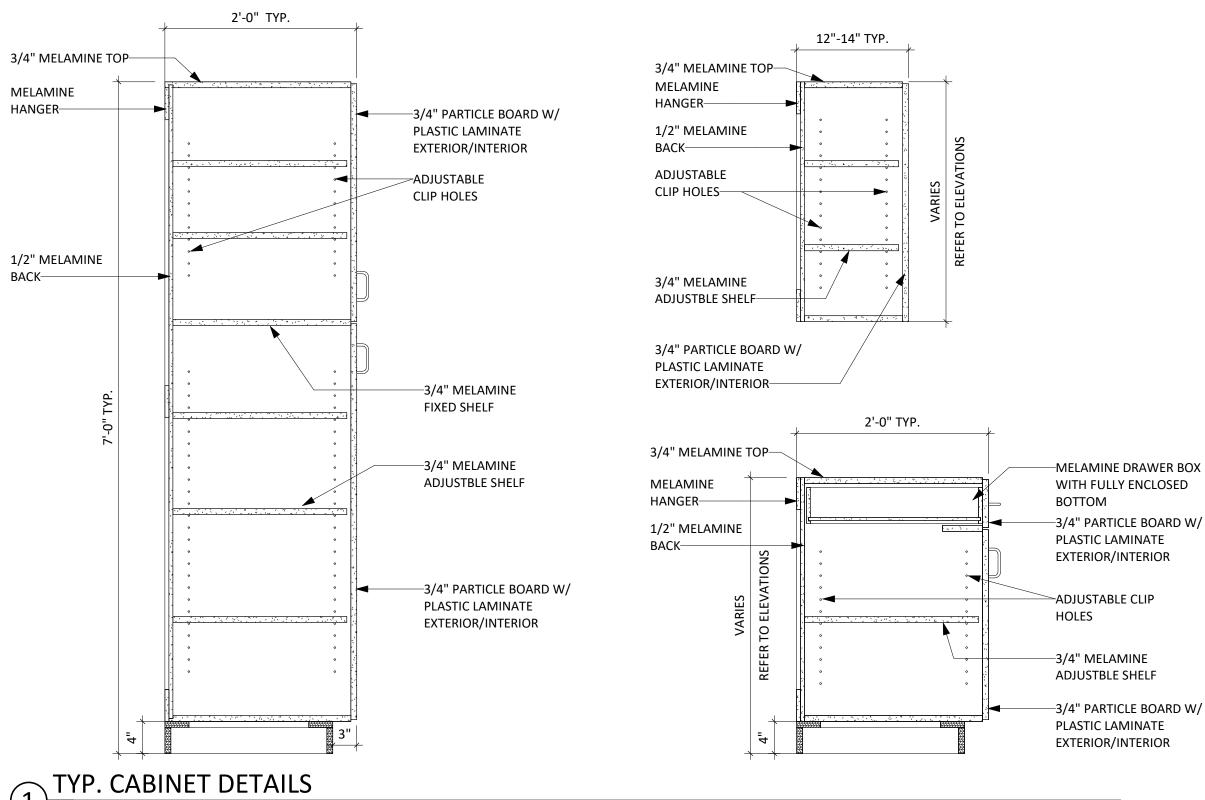
GENERAL NOTES

PROVIDE WATER-RESISTANT GYPSUM BOARD PANELS AT ALL BATHROOM WALLS AND ANY

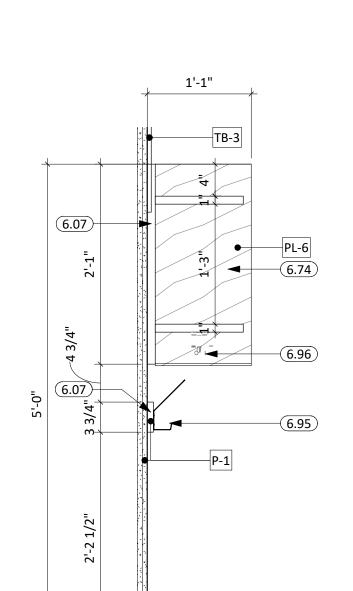
SEE FLOOR PLAN(S) AND INTERIOR ELEVATIONS FOR CASEWORK INFORMATION. FIELD VERIFY







MELAMINE DRAWER BOX WITH FULLY ENCLOSED BOTTOM -3/4" PARTICLE BOARD W/ PLASTIC LAMINATE EXTERIOR/INTERIOR



5.30 6.07 6.24 6.74 6.79 6.95 6.96 9.04 9.11 9.21 9.38 9.46 9.48 9.51

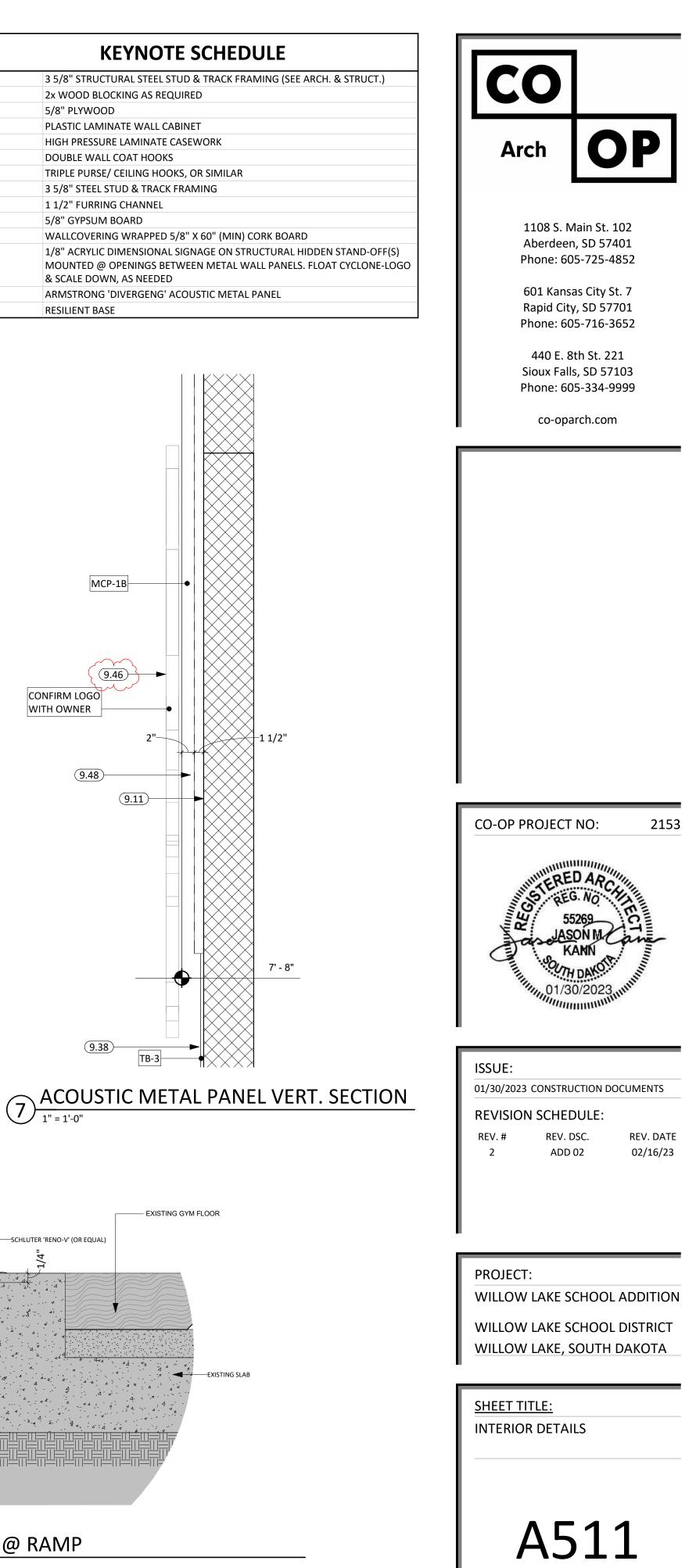
-(9.21)

-(5.30)

TB-3

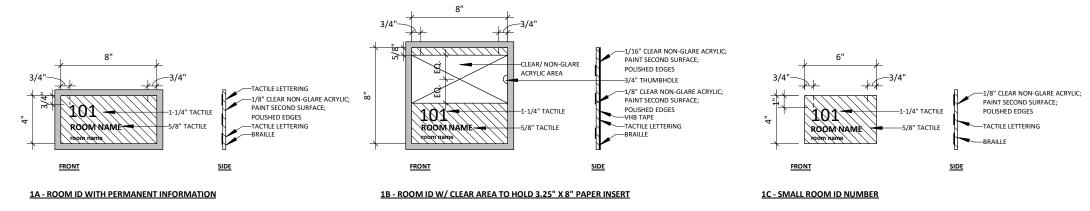
9.38

4C

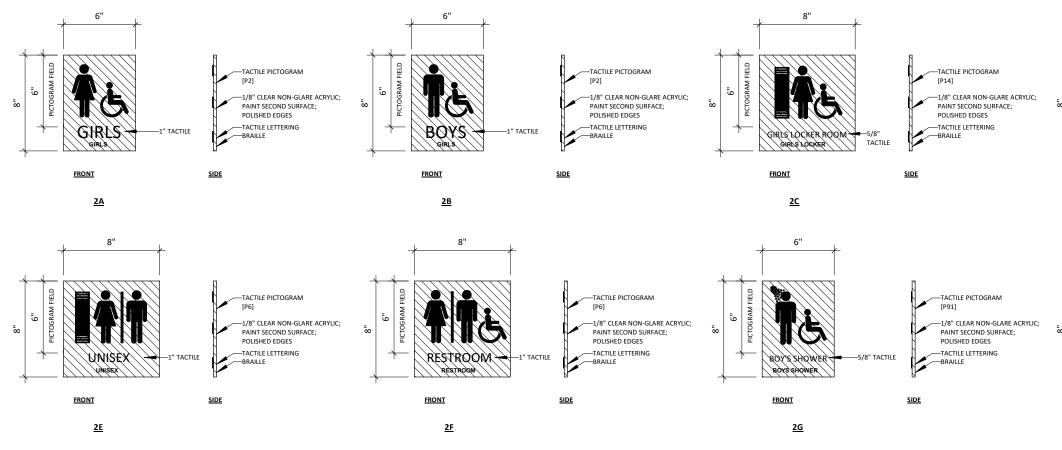


	ROOM SIGNAGE KEY								ROOM SIGN		
Room Numbei	r Name	Signage Type & Color	Signage Mount Type	Text Color	Signage Comments	Room Numbe	r Name	Signage Type & Color	Signage Mount Type	e Text Color	Signa
A101	WORK ROOM	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE		C108	GYM STORAGE	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME
A102	RR ENTRY	2A/ 2B KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	2 SIGNS REQUIRED, LOCATION OF SIGNAGE MOUNT *TBD	C109	BOYS LOCKER RM	2C KHAKI BROWN	DOOR MOUNT	BRIGHT WHITE	
A102A	BOYS	-	-	-		C109A	BOYS RR	-	-	-	
A102B	GIRLS	-	-	-		C110	REF. LOCKER RM	2E KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME
A103	ELEM. FLEX RM #1	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME	C111	GIRLS LOCKER RM	2D KHAKI BROWN	DOOR MOUNT	BRIGHT WHITE	
A103A	SM. GROUP	1C KHAKI BROWN	SIDE MOUNT W/ SIDE	BRIGHT WHITE	CONFIRM SIGNAGE NAME	C111A C112	GIRLS RR	-	-	-	EXISTING SIGNAGE
A103B	SPEECH	1C KHAKI BROWN	SIDE MOUNT W/ SIDE	BRIGHT WHITE	CONFIRM SIGNAGE NAME	C199A	CORRIDOR				
			LIGHT			C199B	CORRIDOR				
A103C	OT/PT	1C KHAKI BROWN	SIDE MOUNT W/ SIDE	BRIGHT WHITE	CONFIRM SIGNAGE NAME	C199C	CORRIDOR				
			LIGHT			C199C	CORRIDOR		-	-	
A103D	VESTIBULE	-	-	-				-	-	-	
A104	ELEM. FLEX RM #2	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME	D100	VESTIBULE				
A105	SMALL GROUP	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME	D101	KITCHEN		SIDE MOUNT	BRIGHT WHITE	
A106	SPEECH CLASSROOM	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME	D101A	RESTROOM	2F KHAKI BROWN		BRIGHT WHITE	
A107A	-	-	-	-	EXISTING SIGNAGE, VERIFY NEEDS	D102	RR ENTRY	2A/ 2B KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	2 SIGNS REQUIRED, LOCATION OF S
A107B	-	-	-	-	EXISTING SIGNAGE, VERIFY NEEDS	D102A	GIRLS RR	-	-	-	
A108	RECEPTION	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME WITH RECEPTION STAFF. MOUNT SIGN AT NEW	D102B	BOYS RR	-	-	-	
11200					OPERABLE WINDOW OPENING	D102C	CUSTODIAL	1C KHAKI BROWN	DOOR MOUNT	BRIGHT WHITE	
A199	CORRIDOR	-	-	-		D103	AG CLASSROOM	1A KHAKI BROWN	SIDE MOUNT W/ SIDE LIGHT	BRIGHT WHITE	CONFIRM SIGNAGE NAME
B101	MUSIC OFFICE		SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME. 2 SIGNS REQUIRED	D103A	AG OFFICE	1A KHAKI BROWN	DOOR MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME. 2 SIGNS
B102	STORAGE	1C KHAKI BROWN	DOOR MOUNT	BRIGHT WHITE		D103B	AG SHOP	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	LOCATION OF SIGNAGE MOUNT *T
B103	MUSIC ROOM	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME. 2 SIGNS REQUIRED	D103C	TOOLS	1C KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME
B103A	BAND STORAGE	1C KHAKI BROWN	DOOR MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME WITH BAND STAFF. 2 SIGNS REQUIRED	D104	FACS CLASSROOM	1A KHAKI BROWN	SIDE MOUNT W/ SIDE	BRIGHT WHITE	CONFIRM SIGNAGE NAME
B103B	PRACTICE RM. #1	1C KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE		-			LIGHT		
B103C	PRACTICE RM. #2	1C KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE		D105	WORK ROOM	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	
B104	FLEX CLASSROOM	1B KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	2 SIGNS REQUIRED	D106	SCIENCE CLASSROOM	1A KHAKI BROWN	SIDE MOUNT W/ SIDE	BRIGHT WHITE	CONFIRM SIGNAGE NAME
B105	CUSTODIAL	1C KHAKI BROWN	DOOR MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME	_			LIGHT		
B106	1-ON-1	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME	D106A	SCIENCE PREP ROOM	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME
B107	FLEX CLASSROOM	1B KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE		D199A	CORRIDOR	-	-	-	
B107A	ART STORAGE	1C KHAKI BROWN	DOOR MOUNT	BRIGHT WHITE		D199B	CORRIDOR	-	-	-	
B108	1-ON-1	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME	_					
B199A/ B199B	CORRIDOR	-	-	-							
C100A	VESTIBULE	-	-	-		NOTE:					
C100B	VESTIBULE	-	-	-		ALL RC	OOM NUMBERS ARE CO	ONNECTED TO THE ARCHITED	CTURAL PLAN ROOM	NUMBERING, N	OT EXISTING ROOM NUMBE
C101	COMMONS	-	-	-				BY SCHOOL STAFF PRIOR TO			
C102	HEALTH SCIENCE	1A KHAKI BROWN	SIDE MOUNT W/ SIDE	BRIGHT WHITE	CONFIRM SIGNAGE NAME				50 DAIT TAL5.		
C103	SPED CLASSROOM	1A KHAKI BROWN	SIDE MOUNT W/ SIDE	BRIGHT WHITE	CONFIRM SIGNAGE NAME						
C104	STORAGE	1C KHAKI BROWN	DOOR MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME	-					
C104	STAGE	1C KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME OR NEED. LOCATION OF SIGN NEAR STAIR ENTRY.	-					
C105	STORAGE	1C KHAKI BROWN	DOOR MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME	-					
C100	BOILER	1A KHAKI BROWN	SIDE MOUNT	BRIGHT WHITE	CONFIRM SIGNAGE NAME	4					
C107	DOILEIN										

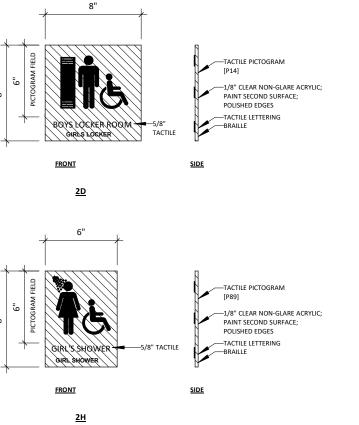
ROOM SIGNAGE - '1' SERIES



RESTROOM SIGNAGE - '2' SERIES



/BERING. GC TO CONFIRM ALL



gnage Comments
OF SIGNAGE MOUNT *TBD
IGNS REQUIRED
IT *TBD

Arch OP
1108 S. Main St. 102 Aberdeen, SD 57401 Phone: 605-725-4852
601 Kansas City St. 7 Rapid City, SD 57701 Phone: 605-716-3652
440 E. 8th St. 221 Sioux Falls, SD 57103
Phone: 605-334-9999 co-oparch.com
CO-OP PROJECT NO: 2153
THERED ARCHING
STERED ARCHINE
KAMN 01/30/2023
ISSUE: 01/30/2023 CONSTRUCTION DOCUMENTS
REVISION SCHEDULE:
2 ADD 02 02/16/23
PROJECT:
WILLOW LAKE SCHOOL ADDITION WILLOW LAKE SCHOOL DISTRICT
WILLOW LAKE, SOUTH DAKOTA
<u>SHEET TITLE:</u> INTERIOR SIGNAGE
Δ512

Addendum No. ME-1 To Mechanical & Electrical Plans and Specifications: Willow Lake School Addition Willow Lake, South Dakota

Addendum Dated: February 16, 2023 Original Plans & Specifications Dated: January 30, 2023

SCOPE OF THIS ADDENDUM: The following becomes part of the original plans and specifications, taking precedence over the items that may conflict. The bidder shall note receipt and make acknowledgement of the addendum on the bid form, incorporating its provision in the bid.

PLAN AND SPECIFICATION CHANGES AND CLARIFICATIONS:

- 1. Mechanical Table of Contents See the attached revised table of contents to include section 23 0900 under the scope of Ventilation and Air Conditioning Work (price to be included in HVAC bid, but still broken out under line items #1 & #2).
- 2. Sheet M202C See the attached revised sheet for temporary heat provisions in existing gym, and temporary re-installation of lavs in Boys 279.
- 3. Sheet M402C Add floor drain to shower in Ref C110 with piping as shown. This is the same style shower as the transfer SH-1A's in the locker rooms.
- 4. Sheet M502C See the attached revised sheet for revisions to hydronic piping.
- 5. Sheet M503D See the attached revised sheet for revisions to hydronic piping.
- 6. Sheet M704E See the attached revised sheet for clarification to TC/VC phasing.
- 7. Sheet M904 See the attached revised sheet for revisions to the exhaust fan schedule.
- 8. Sheet E202CD See the attached revised sheet for temp heater connection and stage panel demolition.
- 9. Sheet E302C See the attached revised sheet for new stage panel.
- 10. Sheet E304E See attached revised sheet for Electric Heat phasing note.
- 11. Sheet E402C See the attached revised sheet for coordination notes.
- 12. Sheet E600 See the attached revised sheet for riser diagram update.
- 13. Sheet E700 See the attached revised sheet for new panel schedule.
- 14. Sheet E702 See the attached revised sheet for Luminaire Schedule updates.

APPROVED EQUALS:

The following list of equipment manufacturers shall be added to the approved equals listed on the plan sheet schedules and considered as approved equals subject to meeting all requirements of the plans and specifications – final acceptance subject to shop drawing approval.

- 1. Slotted Fume Exhaust Hoods: Nordfab
- 2. Panelboards and Gear: Siemens

Sichmeller Engineering (605) 225-4344

Attachments:	Revised Mechanical Table of Contents Sheet M202C – Area C – Plumbing & Hydronics Demolition Plan Sheet M502C – Area C – Abaya Canda Plymbing & Hydronics Plan
	Sheet M502C – Area C – Above Grade Plumbing & Hydronics Plan Sheet M503D – Area D – Above Grade Plumbing & Hydronics Plan Sheet M704E – Area E – HVAC Plan

Sheet M904 – Mechanical Schedules

Sheet E202CD - Area C & D - Electrical Demolition Plan

Sheet E302C – Area C – Power & Data Plan

Sheet E304E – Area E – Power & Data Plan

Sheet E402C – Area C – Lighting Plan

Sheet E600 – Electrical Details

Sheet E700 – Electrical Schedules

Sheet E702 – Electrical Schedules – Continued 2

Table of Contents	
DivisionSection Title	Pages
DIVISION 21 – FIRE PROTECTION 21 1000Fire Suppression Systems	
DIVISION 22 - PLUMBING 22 0500General Plumbing Requirements	6 3
DIVISION 23 – HEATING, VENTILATION AND AIR CONDITIONING	
23 0500 General HVAC Requirements	7
23 0510Basic HVAC Materials and Methods	
23 0593 Testing, Adjusting, and Balancing (Air and Water)	3
23 0700 HVAC Systems Insulation	5
23 0900 Controls & Control Sequences	13
23 2113 Hydronic Piping Systems	16
23 2123 HVAC Hydronic Pumps	4
23 7000 Ventilation and Air Conditioning	
FIRE PROTECTION WORK SHALL INCLUDE:	

SECTION 21 1000

PLUMBING, & HYDRONICS WORK SHALL INCLUDE:

SECTION 22 4000, 23 2113, & 23 2123

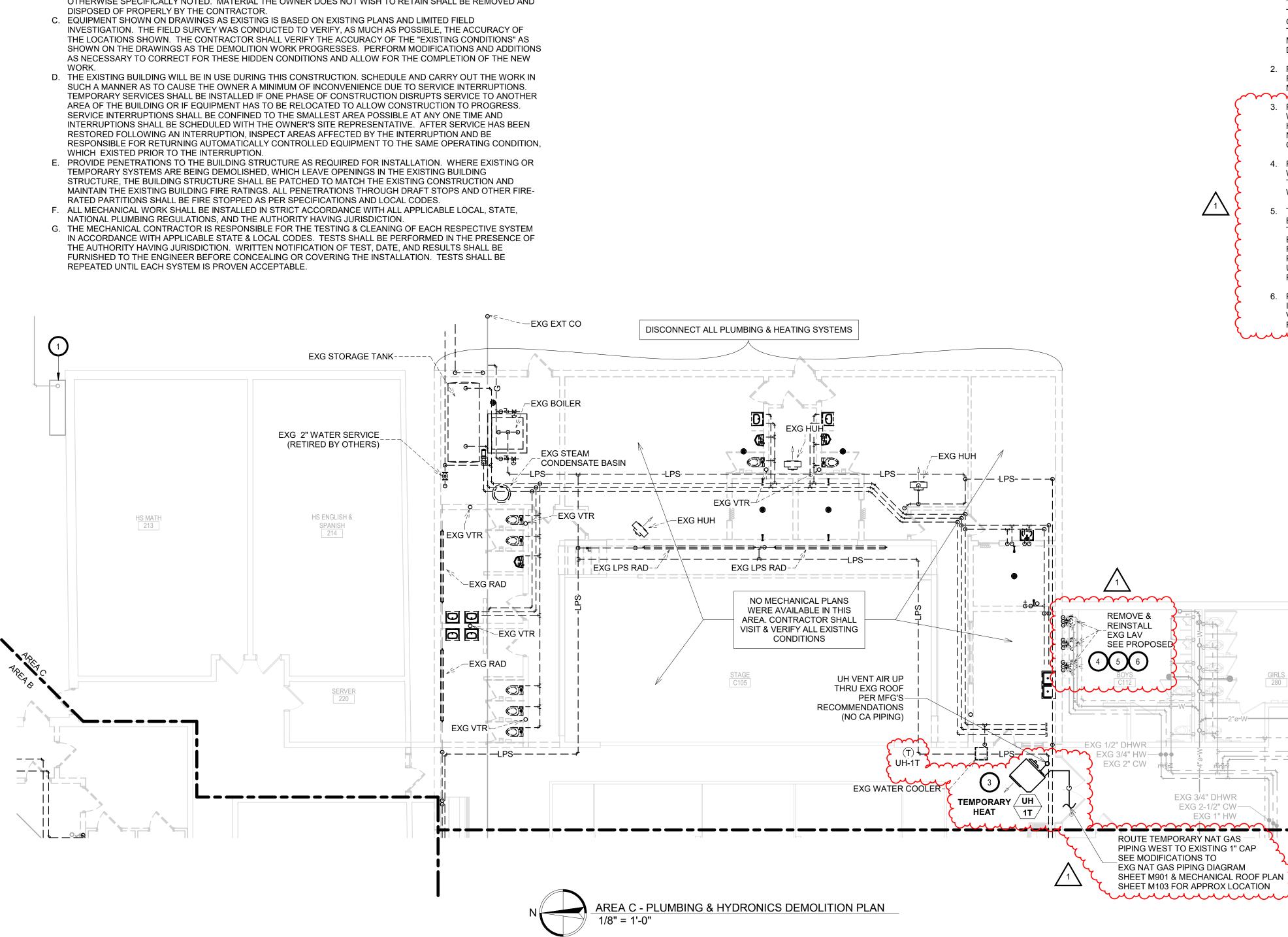
& SECTIONS 22 0500, 22 0510, 22 0700, 23 0500, 23 0510, & 23 0700 AS APPLIES

VENTILATION AND AIR CONDITIONING WORK SHALL INCLUDE:

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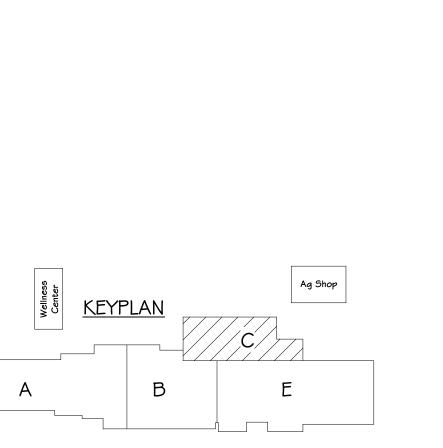
SECTION 23 0593, 23 0900, & 23 7000 & SECTIONS 23 0500, 23 0510 & 23 0700 AS APPLIES MECHANICAL GENERAL NOTES:

- A. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES, INCLUDING ANY NECESSARY DEMOLITION.
- B. REMOVE MECHANICAL EQUIPMENT IN THE AREAS SHOWN ON THE PLAN, DISCONNECT SERVICES AND REMOVE TO A POINT OUT OF THE WAY OF THE GENERAL DEMOLITION. MARK ON THE PLAN TO CLEARLY SHOW WHERE THESE SERVICES ARE STOPPED. DEMOLITION WORK SHALL BE COORDINATED WITH THE OWNER. SHOULD QUESTIONS ARISE REGARDING THE REMOVAL OF EQUIPMENT, CONFER WITH THE OWNER BEFORE SUCH EQUIPMENT IS DEMOLISHED. MATERIALS REMOVED BY DEMOLITION SHALL REMAIN THE PROPERTY OF THE OWNER UNLESS OTHERWISE SPECIFICALLY NOTED. MATERIAL THE OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED AND
- WORK
- RATED PARTITIONS SHALL BE FIRE STOPPED AS PER SPECIFICATIONS AND LOCAL CODES.
- NATIONAL PLUMBING REGULATIONS, AND THE AUTHORITY HAVING JURISDICTION.
- REPEATED UNTIL EACH SYSTEM IS PROVEN ACCEPTABLE.



# KEYNOTES

- 1. EXISTING GRADE ELEVATIONS WILL CHANGE. EXISTING GAS METERFIT WILL HAVE TO BE RAISED BY UTILITY TO ACCOMMODATE PROPOSED GRADE CHANGES. EXISTING NORTHWESTERN ENERGY NATURAL GAS METER #23464. PLUMBING CONTRACTOR TO COORDINATE WITH KIRBY WICKS OF NWE AT 605-353-7609 FOR ANY UTILITY REQUIRED CHANGES TO THE METER FIT (ANY NWE COSTS ASSOCIATED WITH THE NATURAL GAS METERFIT WILL BE BILLED DIRECTLY TO THE OWNER). PC TO MODIFY EXISTING NATURAL GAS PIPING AFTER NWE METERFIT TO ACCOMMODATE THE ADDITIONAL NATURAL GAS PIPING. SEE MODIFICATIONS TO EXISTING NATURAL GAS PIPING DIAGRAM.
- 2. PC TO DISCONNECT AND REMOVE EXISTING PLUMBING FIXTURE, DOMESTIC WATER AND INSTALL CAP NEAR MAIN
- $\cdot$ 3. PC TO PROVIDE & INSTALL UH-1T, REZNOR UDX-400 WITH 332 MBH OUTPUT, POWER VENTING, WITH HANGING VIBRATION ISOLATION, AND LOW VOLTAGE NON-PROGRAMMABLE T-STAT, CLEAR LOCKABLE COVER, AND CONTROL WIRING.
- 4. PC TO DEMO ALL WASTE, VENT, AND WATER PIPING IN WALL TO BE DEMO'D. DEMO WASTE BELOW GRADE TO THE SOUTH TO ALLOW FOR TEMPORARY EXTERIOR WALL INSTALLATION.
- 5. TEMPORARY WASTE, VENT, COLD AND HOT WATER TO BE ROUTED UNINSULATED SURFACE MOUNTED TO TEMPORARY WALL. NO PIPING WILL BE ALLOWED IN EXTERIOR WALL. DEMO AND PATCHING OF CONCRETE FLOOR BY OTHERS. ROUTE HOT, COLD, AND VENT PIPING DOWN WEST OF THE COUNTERTOP, AND ROUTE UNDER COUNTERTOP TO EACH LAV. TEMPORARILY REINSTALL EXISTING LAVS.
- 8. REMOVE AND SALVAGE LAVS AFTER TEMPORARY WALL IS TAKEN DOWN. DEMO ALL TEMPORARY WASTE, VENT, AND WATER PIPING. SEE PROPOSED TO REINSTALL LAVS IN FINAL WALL.



INSTALL CAP NEAR MAIN

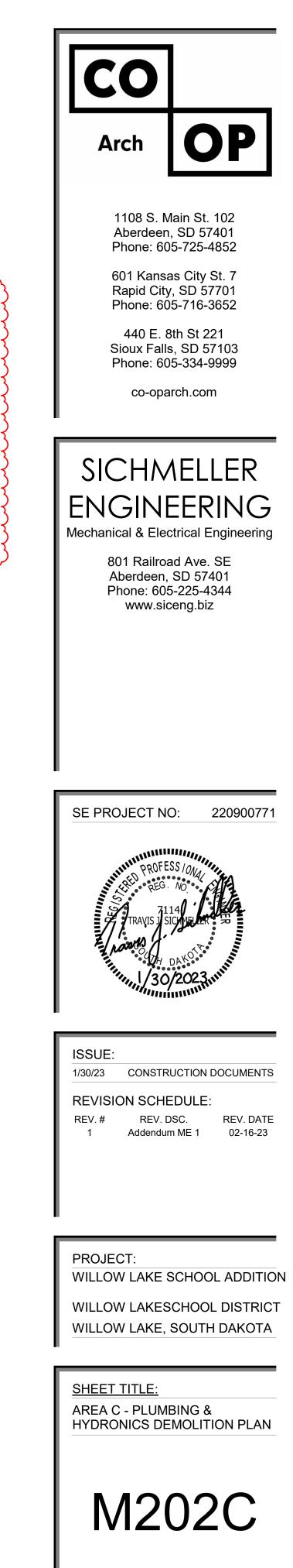
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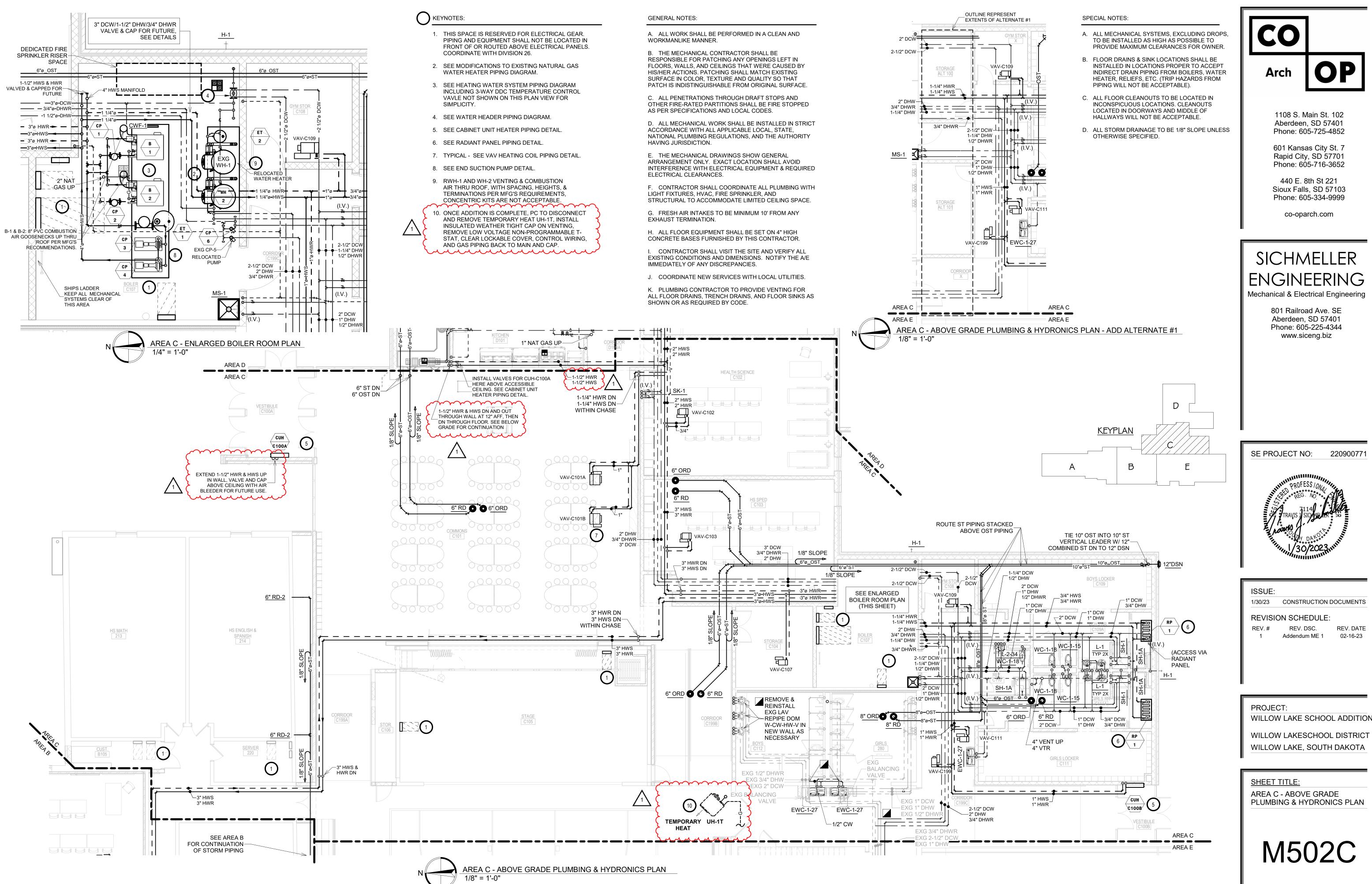
AREA C AREA E

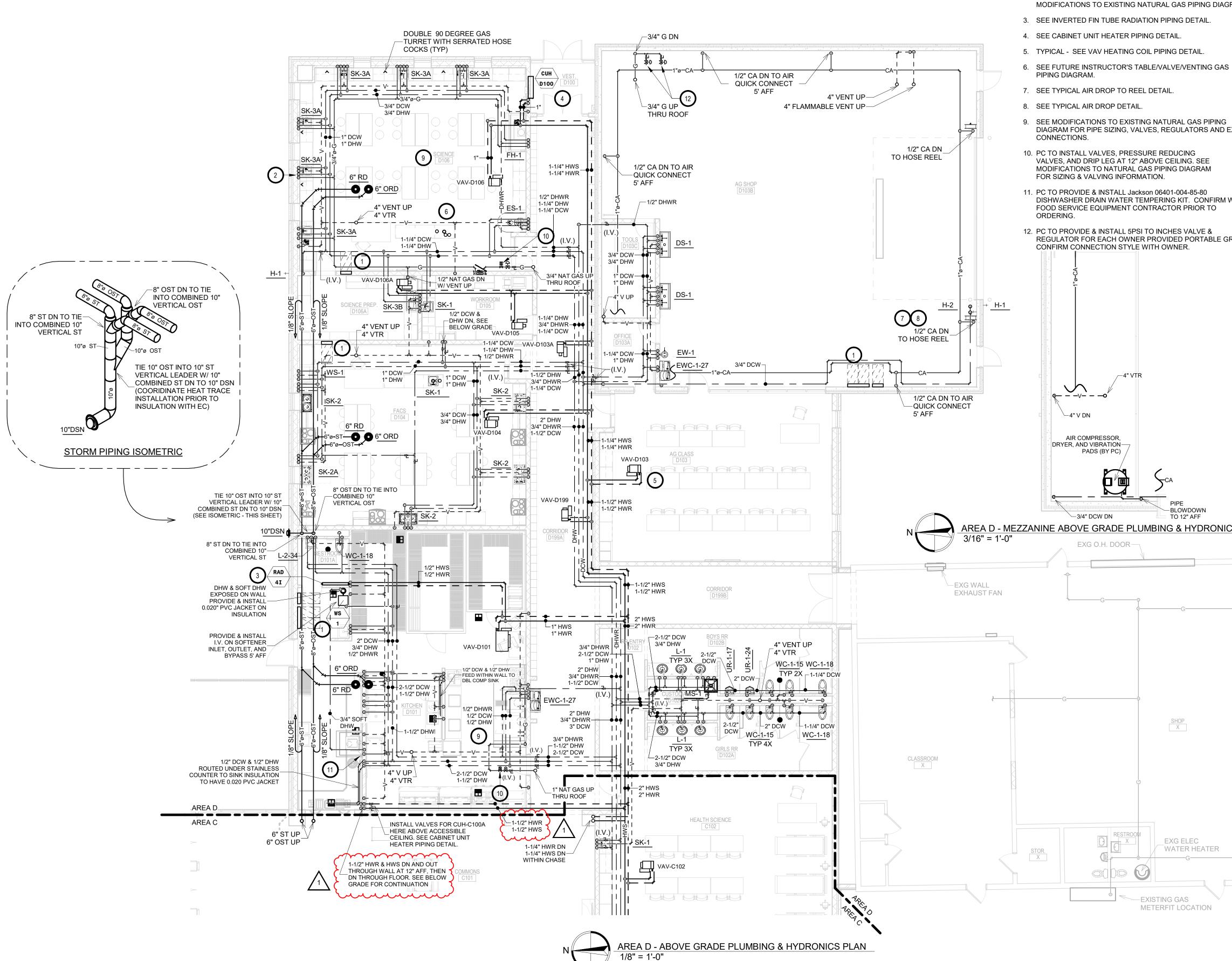
EXG 1" CW

EXG 1" HW-

EXG 1/2" DHWR







| KEYNOTES:                                                                                                                                                                                                | GENERAL NOTES:                                                                                                                                                                                                                               |                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <ol> <li>THIS SPACE IS RESERVED FOR ELECTRICAL GEAR. PIPING AND<br/>EQUIPMENT SHALL NOT BE LOCATED IN FRONT OF OR ROUTED<br/>ABOVE ELECTRICAL PANELS. COORDINATE WITH DIVISION 26.</li> </ol>            | A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER.                                                                                                                                                                            |                                                                                     |
| <ol> <li>TYPICAL - 1/2" WELDED NAT GAS DN TO GAS TURRET, SEE<br/>MODIFICATIONS TO EXISTING NATURAL GAS PIPING DIAGRAM.</li> <li>SEE INVERTED FIN TUBE RADIATION PIPING DETAIL.</li> </ol>                | B. THE MECHANICAL CONTRACTOR SHALL BE<br>RESPONSIBLE FOR PATCHING ANY OPENINGS LEFT IN<br>FLOORS, WALLS, AND CEILINGS THAT WERE CAUSED BY<br>HIS/HER ACTIONS. PATCHING SHALL MATCH EXISTING<br>SURFACE IN COLOR, TEXTURE AND QUALITY SO THAT | Arch <b>OP</b>                                                                      |
| 4. SEE CABINET UNIT HEATER PIPING DETAIL.                                                                                                                                                                | PATCH IS INDISTINGUISHABLE FROM ORIGINAL SURFACE.                                                                                                                                                                                            |                                                                                     |
| 5. TYPICAL - SEE VAV HEATING COIL PIPING DETAIL.                                                                                                                                                         | OTHER FIRE-RATED PARTITIONS SHALL BE FIRE STOPPED<br>AS PER SPECIFICATIONS AND LOCAL CODES.                                                                                                                                                  | 1108 S. Main St. 102                                                                |
| <ol> <li>SEE FUTURE INSTRUCTOR'S TABLE/VALVE/VENTING GAS<br/>PIPING DIAGRAM.</li> <li>SEE TYPICAL AIR DROP TO REEL DETAIL.</li> </ol>                                                                    | D. ALL MECHANICAL WORK SHALL BE INSTALLED IN STRICT<br>ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE,<br>NATIONAL PLUMBING REGULATIONS, AND THE AUTHORITY<br>HAVING JURISDICTION.                                                              | Aberdeen, SD 57401<br>Phone: 605-725-4852                                           |
| 8. SEE TYPICAL AIR DROP DETAIL.                                                                                                                                                                          | E. THE MECHANICAL DRAWINGS SHOW GENERAL                                                                                                                                                                                                      | 601 Kansas City St. 7<br>Rapid City, SD 57701                                       |
| <ol> <li>SEE MODIFICATIONS TO EXISTING NATURAL GAS PIPING<br/>DIAGRAM FOR PIPE SIZING, VALVES, REGULATORS AND EXACT<br/>CONNECTIONS.</li> </ol>                                                          | ARRANGEMENT ONLY. EXACT LOCATION SHALL AVOID<br>INTERFERENCE WITH ELECTRICAL EQUIPMENT & REQUIRED<br>ELECTRICAL CLEARANCES.                                                                                                                  | Phone: 605-716-3652<br>440 E. 8th St 221                                            |
| <ol> <li>PC TO INSTALL VALVES, PRESSURE REDUCING<br/>VALVES, AND DRIP LEG AT 12" ABOVE CEILING. SEE<br/>MODIFICATIONS TO NATURAL GAS PIPING DIAGRAM<br/>FOR SIZING &amp; VALVING INFORMATION.</li> </ol> | F. CONTRACTOR SHALL COORDINATE ALL PLUMBING WITH<br>LIGHT FIXTURES, HVAC, FIRE SPRINKLER, AND<br>STRUCTURAL TO ACCOMMODATE LIMITED CEILING SPACE.                                                                                            | Sioux Falls, SD 57103<br>Phone: 605-334-9999                                        |
| 11. PC TO PROVIDE & INSTALL Jackson 06401-004-85-80<br>DISHWASHER DRAIN WATER TEMPERING KIT. CONFIRM WITH                                                                                                | G. FRESH AIR INTAKES TO BE MINIMUM 10' FROM ANY EXHAUST TERMINATION.                                                                                                                                                                         | co-oparch.com                                                                       |
| FOOD SERVICE EQUIPMENT CONTRACTOR PRIOR TO<br>ORDERING.                                                                                                                                                  | H. ALL FLOOR EQUIPMENT SHALL BE SET ON 4" HIGH CONCRETE BASES FURNISHED BY THIS CONTRACTOR.                                                                                                                                                  | ·                                                                                   |
| 12. PC TO PROVIDE & INSTALL 5PSI TO INCHES VALVE &<br>REGULATOR FOR EACH OWNER PROVIDED PORTABLE GRILLE.                                                                                                 | I. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE A/E                                                                                                                                         | SICHMELLER                                                                          |
| CONFIRM CONNECTION STYLE WITH OWNER.                                                                                                                                                                     | IMMEDIATELY OF ANY DISCREPANCIES.<br>J. COORDINATE NEW SERVICES WITH LOCAL UTILITIES.                                                                                                                                                        | 1                                                                                   |
| 1"ø-CA-                                                                                                                                                                                                  | K. PLUMBING CONTRACTOR TO PROVIDE VENTING FOR<br>ALL FLOOR DRAINS, TRENCH DRAINS, AND FLOOR SINKS AS                                                                                                                                         | ENGINEERING<br>Mechanical & Electrical Engineering                                  |
|                                                                                                                                                                                                          | SHOWN OR AS REQUIRED BY CODE.                                                                                                                                                                                                                | 801 Railroad Ave. SE<br>Aberdeen, SD 57401<br>Phone: 605-225-4344<br>www.siceng.biz |
|                                                                                                                                                                                                          | SPECIAL NOTES:                                                                                                                                                                                                                               |                                                                                     |
| 4" VTR                                                                                                                                                                                                   | A. ALL MECHANICAL SYSTEMS, EXCLUDING DROPS,                                                                                                                                                                                                  |                                                                                     |
|                                                                                                                                                                                                          | TO BE INSTALLED AS HIGH AS POSSIBLE TO<br>PROVIDE MAXIMUM CLEARANCES FOR OWNER.                                                                                                                                                              |                                                                                     |
| AIR COMPRESSOR,<br>DRYER, AND VIBRATION-7                                                                                                                                                                | B. FLOOR DRAINS & SINK LOCATIONS SHALL BE<br>INSTALLED IN LOCATIONS PROPER TO ACCEPT<br>INDIRECT DRAIN PIPING FROM BOILERS, WATER<br>HEATER, RELIEFS, ETC. (TRIP HAZARDS FROM<br>PIPING WILL NOT BE ACCEPTABLE).                             |                                                                                     |
|                                                                                                                                                                                                          | C. ALL FLOOR CLEANOUTS TO BE LOCATED IN<br>INCONSPICUOUS LOCATIONS. CLEANOUTS<br>LOCATED IN DOORWAYS AND MIDDLE OF<br>HALLWAYS WILL NOT BE ACCEPTABLE.                                                                                       | SE PROJECT NO: 220900771                                                            |
|                                                                                                                                                                                                          | D. ALL STORM DRAINAGE TO BE 1/8" SLOPE UNLESS                                                                                                                                                                                                |                                                                                     |
| EZZANINE ABOVE GRADE PLUMBING & HYDRONICS PLAN<br>EXG O.H. DOOR                                                                                                                                          | OTHERWISE SPECIFIED.                                                                                                                                                                                                                         | TRAVIS J SICHERER                                                                   |
|                                                                                                                                                                                                          |                                                                                                                                                                                                                                              | ISSUE:                                                                              |
|                                                                                                                                                                                                          |                                                                                                                                                                                                                                              | 1/30/23 CONSTRUCTION DOCUMENTS                                                      |
|                                                                                                                                                                                                          |                                                                                                                                                                                                                                              | REVISION SCHEDULE:                                                                  |
| G                                                                                                                                                                                                        |                                                                                                                                                                                                                                              | REV. # REV. DSC. REV. DATE<br>1 Addendum ME 1 02-16-23                              |
| SHOP<br>X                                                                                                                                                                                                |                                                                                                                                                                                                                                              |                                                                                     |
|                                                                                                                                                                                                          |                                                                                                                                                                                                                                              |                                                                                     |
|                                                                                                                                                                                                          |                                                                                                                                                                                                                                              | PROJECT:                                                                            |
| EXG HUH-                                                                                                                                                                                                 |                                                                                                                                                                                                                                              | WILLOW LAKE SCHOOL ADDITION                                                         |
| DESTROOM                                                                                                                                                                                                 |                                                                                                                                                                                                                                              | WILLOW LAKESCHOOL DISTRICT                                                          |
| STOR.                                                                                                                                                                                                    |                                                                                                                                                                                                                                              | WILLOW LAKE, SOUTH DAKOTA                                                           |

<u>KEYPLAN</u>

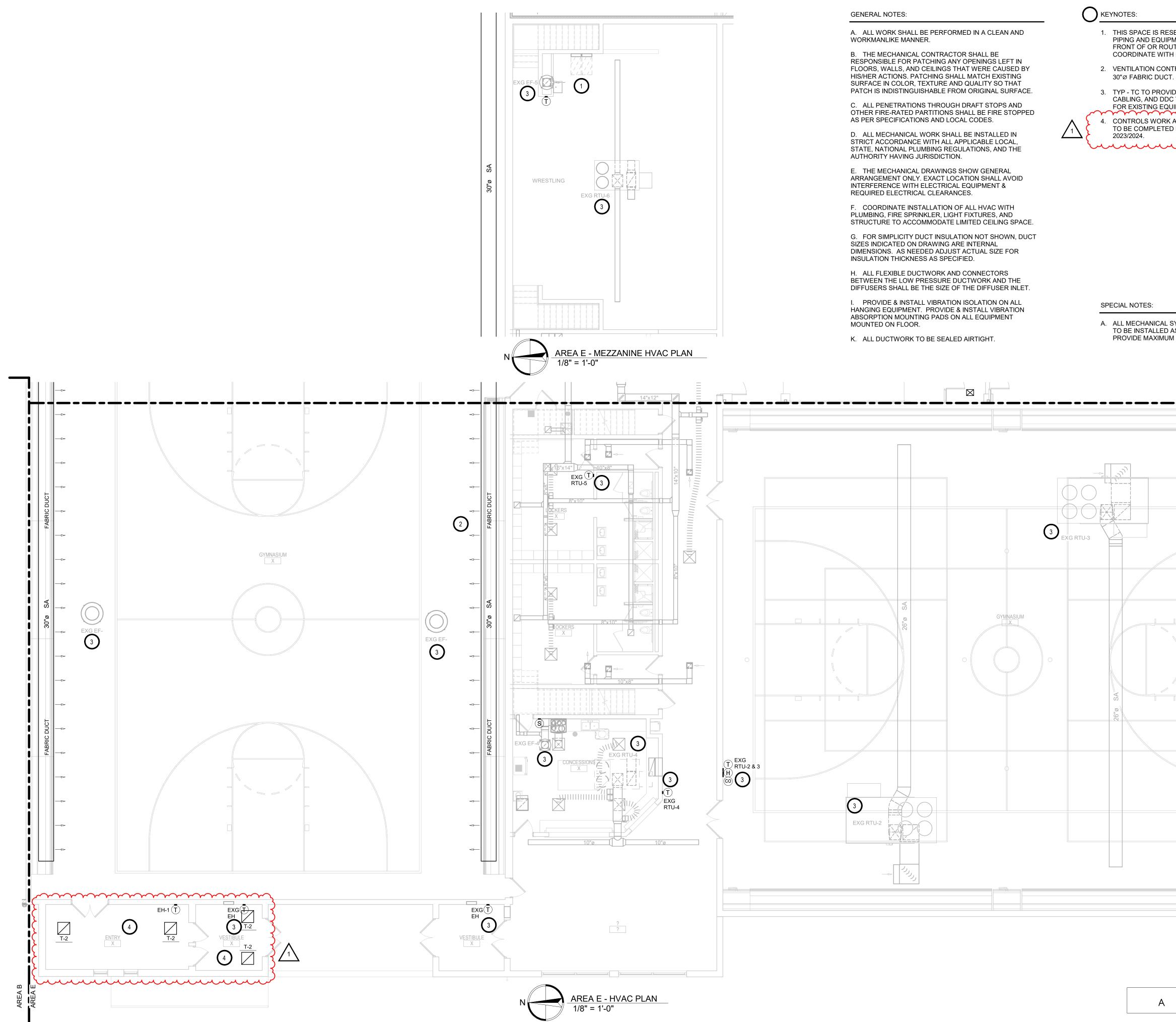
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KEYNOTES:

SHEET TITLE: AREA D - ABOVE GRADE PLUMBING & HYDRONICS PLAN

M503D



1. THIS SPACE IS RESERVED FOR ELECTRICAL GEAR. PIPING AND EQUIPMENT SHALL NOT BE LOCATED IN FRONT OF OR ROUTED ABOVE ELECTRICAL PANELS. COORDINATE WITH DIVISION 26. 2. VENTILATION CONTRACTOR TO PROVIDE AND INSTALL ΟΡ Arch 3. TYP - TC TO PROVIDE NEW T-STATS, CONTROL CABLING, AND DDC TEMPERATURE CONTROL SYSTEM FOR EXISTING EQUIPMENT, SEE SPECS. CONTROLS WORK AND TRANSFER REGISTERS WORK TO BE COMPLETED PRIOR TO HEATING SEASON OF 1108 S. Main St. 102 Aberdeen, SD 57401 Phone: 605-725-4852 601 Kansas City St. 7 Rapid City, SD 57701 Phone: 605-716-3652 440 E. 8th St 221 Sioux Falls, SD 57103 Phone: 605-334-9999 co-oparch.com SICHMELLER ENGINEERING A. ALL MECHANICAL SYSTEMS, EXCLUDING DROPS, TO BE INSTALLED AS HIGH AS POSSIBLE TO PROVIDE MAXIMUM CLEARANCES FOR OWNER. Mechanical & Electrical Engineering 801 Railroad Ave. SE Aberdeen, SD 57401 Phone: 605-225-4344 www.siceng.biz AREA C AREA E SE PROJECT NO: 220900771 ISSUE: 1/30/23 CONSTRUCTION DOCUMENTS **REVISION SCHEDULE:** REV. # REV. DSC. REV. DATE 02-16-23 Addendum ME 1 PROJECT: WILLOW LAKE SCHOOL ADDITION WILLOW LAKESCHOOL DISTRICT WILLOW LAKE, SOUTH DAKOTA SHEET TITLE: AREA E - HVAC PLAN D

<u>KEYPLAN</u>

В

А

M704E

|                                                                                                                                                                                                                                                               |                                                                                                                                                                                     |                                  |                                                                                       |                                                                                        |                                                                                       |                                                                                       |              |              | PACK                   | AGED R                                                                                            | <b>OOFTOP</b>                                | UNIT              | SCH              | EDULE                  | - NA            | TURAL             | _ GAS           | HEAT                  |                     |        |     |              |       |                             |            |     |            |      |                       |                         | RTU                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------|--------------|------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------|------------------|------------------------|-----------------|-------------------|-----------------|-----------------------|---------------------|--------|-----|--------------|-------|-----------------------------|------------|-----|------------|------|-----------------------|-------------------------|-----------------------|
|                                                                                                                                                                                                                                                               |                                                                                                                                                                                     |                                  |                                                                                       |                                                                                        | SUPPLY                                                                                | POWERED                                                                               |              |              |                        | COOLING                                                                                           |                                              |                   |                  | HOT GAS REHEAT         |                 |                   |                 | NATURAL GAS HE        | ATING               |        |     |              | MOTOR |                             |            |     | ELECTRICAL |      |                       |                         |                       |
| EQUIP. MANUFACTURER & MODEL<br>NO.                                                                                                                                                                                                                            | LOCATION                                                                                                                                                                            | SERVING                          | SUPPLY<br>AIR<br>CFM                                                                  | OUTSIDE<br>Air<br>CFM                                                                  | FAN<br>E.S.P.<br>(IN)                                                                 | EXHAUST<br>FAN<br>E.S.P.<br>(IN)                                                      | NOM.<br>Tons | TOTAL<br>MBH | EAT<br>(DB/WB)<br>(°F) | LAT<br>(DB/WB)<br>(°F)                                                                            | EER                                          | IEER              | MBH              | LAT<br>(DB/WB)<br>(°F) | %RH             | MBH<br>Input      | MBH<br>OUTPUT   | EAT<br>(DB)<br>(°F)   | LAT<br>(DB)<br>(°F) | STAGES | QTY | HP<br>(EACH) | FRPM  | FAN TYPE/<br>Size (IN) Each | V./PH./CY. | FLA | MCA        | MOCP | MIN<br>SCCR<br>(KAIC) | UNIT<br>WEIGHT<br>(LBS) | NOTES                 |
| RTU-7 JCI JV28T3DX2K1CARA6L2                                                                                                                                                                                                                                  | NEW ADDITION ROOF                                                                                                                                                                   | EXG GYMNASIUM                    | 9,700                                                                                 | 3,400                                                                                  | 2.27                                                                                  | 0.2                                                                                   | 27 1/2       | 306.5        | 80.1/66.4              | 60.2/56.3                                                                                         | 10.5                                         | 13.8              | -                | -                      | -               | 620.0             | 502.2           | 36.9                  | 84.8                | MOD    | 1   | 15           | 1077  | -                           | 208/3/60   | -   | 178.3      | 200  | 65                    | 5,040<br>+ CURB         | 1,3,4,6,7,<br>9,10,11 |
| RTU-8 JCI JV40T3DH2K1CARA6L2                                                                                                                                                                                                                                  | NEW ADDITION ROOF                                                                                                                                                                   | CLASSROOM ADDITION VAV TERMINALS | 14,860                                                                                | 3,700                                                                                  | 2.33                                                                                  | 0.2                                                                                   | 40           | 427.6        | 78.9/65.0              | 58.4/55.5                                                                                         | 10.8                                         | 15.2              | -                | -                      | -               | 800.0             | 648.0           | 44.9                  | 85.3                | MOD    | 1   | 20           | 1006  | -                           | 208/3/60   | -   | 223.2      | 275  | 65                    | 6,877<br>+ CURB         | 1,2,3,6,7,<br>9,10,11 |
| RTU-9 JCI ZT120S24R2D6BCD2E2                                                                                                                                                                                                                                  | NEW ADDITION ROOF                                                                                                                                                                   | SHOP                             | 3,140                                                                                 | 1,090                                                                                  | 1.55                                                                                  | 0.2                                                                                   | 10           | 117.4        | 80.6/65.6              | 54.6/53.1                                                                                         | 13.1                                         | 21.2              | -                | -                      | -               | 240.0             | 194.0           | 40.5                  | 97.7                | 2      | 1   | 3            | 1264  | -                           | 208/3/60   | -   | 75.6       | 90   | 65                    | 1,725<br>+ CURB         | 1,4,5,6,7,<br>9,10,11 |
| RTU-10 JCI ZT150S24R2D6BCD2A2                                                                                                                                                                                                                                 | EXG ROOF                                                                                                                                                                            | AREA B REMODEL VAV TERMINALS     | 4,500                                                                                 | 1,350                                                                                  | 1.25                                                                                  | 0.2                                                                                   | 12 1/2       | 149.4        | 79.7/65.5              | 55.9/54.5                                                                                         | 12.5                                         | 20.2              | -                | -                      | -               | 240.0             | 194.0           | 31.6                  | 71.5                | 2      | 1   | 5            | 1466  | -                           | 208/3/60   | -   | 83.1       | 100  | 65                    | 1,743<br>+ CURB         | 1,2,5,6,7,            |
| NOTES: 1. PROVIDE UNIT WITH FACTORY UNE<br>ROVIDE UNIT CONFIGURED FOR W.<br>3. PROVIDE UNIT CONFIGURED FOR S<br>5. PROVIDE UNIT CONFIGURED FOR S<br>5. PROVIDE UNIT WITH SINGLE MALL<br>6. PROVIDE MAD INSTALL P. TRAP FE<br>7. PROVIDE FACTORY AUTHORIZED SI | AV APPLICATION WITH FACTORY INS<br>INSULATED CONSTRUCTION, 4-STAC<br>INGLE ZONE VAV APPLICATION WITH<br>CONSTRUCTION WITH FOAM FACE IN<br>R MANUFACTURERS RECOMMENDATIONS<br>ARTUP. |                                  | OUTLET, THROUGH TH<br>STEEL HEAT EXCHANC<br>CONVENIENCE OUTLET<br>ITH STAINLESS STEEL | HE BASE ELECTRICAL<br>SER, CIRCUIT BREAK<br>T, THROUGH THE BASE<br>L HEAT EXCHANGER, M | PROVISIONS, PHASE<br>ER DISCONNECT WITH<br>E ELECTRICAL PROVIS<br>NON-FUSED DISCONNEC | MONITOR, 2" MERV 8<br>SINGLE POINT POWER<br>GIONS, PHASE MONITO<br>T SWITCH WITH SING |              |              |                        | MIZER WITH MODULATING<br>IAIN PAN, FACTORY INSI<br>ITHALPY ECONOMIZER WIT<br>AND FLUE EXHAUST EXT | ALLED CONDENSATE OVERF<br>H POWERED EXHAUST. | FLOW SWITCH, HIGH | HEAT FLUE EXHAUS | T, FACTORY INSTALLED   | D LOUVERED HAIL | GUARDS, HINGED AC | CESS PANELS AND | SERVICE ISOLATION VAL | VES.                |        |     |              |       |                             |            |     |            |      |                       |                         |                       |

7. PHOLDE FRJUNT AUTIMUZZD SINITOF. 8. PROVIDE (1) ADDITIONAL SET OF DISPOSABLE FILTERS. 10. PROVIDE (1) ADDITIONAL SET OF DISPOSABLE FILTERS. 11. PROVIDE & INSTALL FULLY INSULATED MINIMUM 18' HIGH ROOF CURB. FOR ACOUSTICAL PURPOSES, FIELD INSTALL TWO LAYERS OF WATERPROOF SHEETROCK TOPPED WITH BATT INSULATION TO COMPLETELY FILL ALL VOIDS IN THE ROOF CURB. ALL ROOFING WORK TO BE BY OTHERS (ROOFING BID PACKAGE), PC, VC, & TC TO COORDINATE.

|        |                              |                        | DUST                      | COLL           | ECTOR S            | CHEDU         | ILE    |               |      |             |       |
|--------|------------------------------|------------------------|---------------------------|----------------|--------------------|---------------|--------|---------------|------|-------------|-------|
| EQUIP. | MANUFACTURER & MODEL         | SERVING                | LOCATION                  | CFM            | STATIC PRESS.      |               | E      | LECTRICAL     |      | UNIT WEIGHT | NOTES |
| NO.    |                              | ULITING .              | LUCATION                  | 01 m           | (IN W.G.)          | HP            | FRPM   | VOLT./PH./CY. | FLA  | (LBS)       | NOTED |
| DC - 1 | JET DC-1100VX-CK             | SEE PLANS              | AG SHOP D105B             | 1100           | 10.5               | 1 1/2         |        | 120/1/60      | 11.0 | 117         | 1,2   |
| NOTES: | 1. PORTABLE DUST COLLECTOR W |                        |                           |                |                    |               |        |               |      |             |       |
|        | 2. PROVIDE WITH TWO ANTI-STA |                        |                           |                |                    |               |        |               |      |             |       |
|        | BLAST GATES AT EACH PIECE    | OF OWNER EQUIPMENT. LE | NGIHS SHALL ACCOMMODATE E | QUIPMENT UP TO | 15 FEEL AWAY AND I | IN BOIH DIREC | IIONS. |               |      |             |       |

|              |                                                                                                      |                  |                   |                    |                |                |            | AIR              | CLE       | ANER                   | SCH                    | EDUL         | .E            |                        |                        |             |            |       |      |      |                 | AC    |
|--------------|------------------------------------------------------------------------------------------------------|------------------|-------------------|--------------------|----------------|----------------|------------|------------------|-----------|------------------------|------------------------|--------------|---------------|------------------------|------------------------|-------------|------------|-------|------|------|-----------------|-------|
|              |                                                                                                      |                  |                   |                    |                |                |            |                  | ELECTRIC  | PRE-HEAT               |                        | NATURA       | GAS HEAT      | (10:1 TU               | RNDOWN)                |             | ELECT      | RICAL |      |      | UNIT            |       |
| EQUIP<br>NO. | MANUFACTURER & MODEL                                                                                 | SERVING          | SUPPLY<br>AIR CFM | OUTSIDE<br>AIR CFM | E.S.P.<br>(IN) | T.S.P.<br>(IN) | FAN<br>RPM | CAPACITY<br>(KW) | STAGES    | EAT<br>(°F)<br>(DB/WB) | LAT<br>(°F)<br>(DB/WB) | MBH<br>Input | MBH<br>Output | EAT<br>(°F)<br>(DB/WB) | LAT<br>(°F)<br>(DB/WB) | MOTOR<br>HP | V./PH./CY. | FLA   | MCA  | MOCP | WEIGHT<br>(LBS) | NOTES |
| AC-1         | BLUE OX OX3000                                                                                       | AG SHOP<br>D105B | 3000              | -                  |                | -              | -          | -                | -         | -                      | -                      | -            | -             | -                      | -                      | 3/4         | 120/1/60   | 10.2  | 12.8 | 20   | 165             | 1,2,3 |
| AC-2         | BLUE OX OX3000                                                                                       | AG SHOP<br>D105B | 3000              | -                  |                | -              | -          | -                | -         | -                      | -                      | -            | -             | -                      | -                      | 3/4         | 120/1/60   | 10.2  | 12.8 | 20   | 165             | 1,2,3 |
| AC-3         | BLUE OX OX3000                                                                                       | AG SHOP<br>D105B | 3000              | -                  | -              | -              |            | -                | -         | -                      | -                      | -            | -             | -                      | -                      | 3/4         | 120/1/60   | 10.2  | 12.8 | 20   | 165             | 1,2,3 |
|              | <ol> <li>PROVIDE WITH (2) 24X</li> <li>PROVIDE WITH SILENCE</li> <li>PROVIDE WITH MAGNAHE</li> </ol> | R WITH 4 WAY D   | DIRECTIONAL       |                    | S AND (2       | 24X24X2        | 22 65%     | 8 POCKET         | BAG FILTE | RS.                    |                        |              |               |                        |                        |             |            |       |      |      |                 |       |

|               |                      |            |            |               |                 | MAX | MAX   |      |            | HEA         | TING COIL   | (EWT =180 | )°F)        |             |      | COIL          |                |                  |          |
|---------------|----------------------|------------|------------|---------------|-----------------|-----|-------|------|------------|-------------|-------------|-----------|-------------|-------------|------|---------------|----------------|------------------|----------|
| EQUIP.<br>NO. | MANUFACTURER & MODEL | MAX<br>CFM | MIN<br>CFM | INLET<br>SIZE | MAX<br>TERM APD | RAD | DISCH | CFM  | MIN<br>MBH | EAT<br>(°F) | LAT<br>(°F) | GPM       | LWT<br>(°F) | WPD<br>(FT) | ROWS | CONN.<br>SIZE | RUNOUT<br>SIZE | WEIGHT<br>(LBS.) | NOTES    |
| VAV-218       | TITUS DESV           | 220        | 90         | 5             | 0.50            | 35  | 35    | 220  | 10.3       | 55.0        | 98.3        | 1.0       | 158.3       | 0.22        | 2    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| /AV-B101      | TITUS DESV           | 150        | 80         | 5             | 0.50            | 35  | 35    | 120  | 6.2        | 55.0        | 102.5       | 0.5       | 154.1       | 0.06        | 2    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| AV-B103       | TITUS DESV           | 1480       | 890        | 12            | 0.50            | 35  | 35    | 890  | 29.1       | 55.0        | 85.1        | 1.5       | 139.2       | 0.32        | 2    | 7/8"          | 3/4"           | 45               | 1,2,3,4, |
| AV-B103B      | TITUS DESV           | 200        | 100        | 5             | 0.50            | 35  | 35    | 195  | 7.4        | 55.0        | 90.1        | 0.5       | 148.8       | 0.06        | 2    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| AV-B104A      | TITUS DESV           | 510        | 310        | 8             | 0.50            | 35  | 35    | 310  | 13.6       | 55.0        | 95.4        | 1.0       | 151.5       | 0.29        | 2    | 1/2"          | 3/4"           | 32               | 1,2,3,4, |
| V-B104B       | TITUS DESV           | 510        | 310        | 8             | 0.50            | 35  | 35    | 310  | 13.6       | 55.0        | 95.4        | 1.0       | 151.5       | 0.29        | 2    | 1/2"          | 3/4"           | 32               | 1,2,3,4, |
| AV-B106       | TITUS DESV           | 120        | 70         | 5             | 0.50            | 35  | 35    | 120  | 6.2        | 55.0        | 102.5       | 0.5       | 154.1       | 0.06        | 2    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| V-B107A       | TITUS DESV           | 510        | 305        | 8             | 0.50            | 35  | 35    | 305  | 13.5       | 55.0        | 95.8        | 1.0       | 151.7       | 0.29        | 2    | 1/2"          | 3/4"           | 32               | 1,2,3,4, |
| V-B107B       | TITUS DESV           | 370        | 225        | 6             | 0.50            | 35  | 35    | 225  | 10.4       | 55.0        | 97.7        | 1.0       | 158.1       | 0.22        | 2    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| AV-B108       | TITUS DESV           | 120        | 65         | 5             | 0.50            | 35  | 35    | 120  | 6.2        | 55.0        | 102.5       | 0.5       | 154.1       | 0.06        | 2    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| V-B199A       | TITUS DESV           | 360        | 145        | 6             | 0.50            | 35  | 35    | 285  | 11.4       | 55.0        | 91.9        | 1.0       | 156.1       | 0.22        | 2    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| V-B199B       | TITUS DESV           | 510        | 205        | 8             | 0.50            | 35  | 35    | 405  | 14.9       | 55.0        | 88.9        | 1.0       | 148.7       | 0.29        | 2    | 1/2"          | 3/4"           | 32               | 1,2,3,4, |
| V-C101A       | TITUS DESV           | 2640       | 2195       | 16            | 0.50            | 35  | 35    | 2295 | 84.0       | 55.0        | 88.8        | 6.0       | 150.6       | 0.69        | 2    | 7/8"          | 1"             | 60               | 1,2,3,4, |
| AV-C101B      | TITUS DESV           | 2640       | 2195       | 16            | 0.50            | 35  | 35    | 2295 | 84.0       | 55.0        | 88.8        | 6.0       | 150.6       | 0.69        | 2    | 7/8"          | 1"             | 60               | 1,2,3,4, |
| AV-C102       | TITUS DESV           | 1010       | 895        | 10            | 0.50            | 35  | 35    | 895  | 29.2       | 55.0        | 85.1        | 2.0       | 149.3       | 0.46        | 2    | 7/8"          | 3/4"           | 38               | 1,2,3,4, |
| AV-C103       | TITUS DESV           | 890        | 785        | 10            | 0.50            | 35  | 35    | 785  | 28.0       | 55.0        | 87.9        | 2.0       | 150.6       | 0.46        | 2    | 7/8"          | 3/4"           | 38               | 1,2,3,4, |
| AV-C107       | TITUS DESV           | 180        | 75         | 5             | 0.50            | 35  | 35    | 140  | 6.6        | 55.0        | 98.3        | 0.5       | 152.4       | 0.06        | 2    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| AV-C109       | TITUS DESV           | 270        | 115        | 6             | 0.50            | 35  | 35    | 240  | 19.7       | 55.0        | 130.8       | 2.0       | 159.3       | 0.79        | 3    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| AV-C111       | TITUS DESV           | 240        | 100        | 5             | 0.50            | 35  | 35    | 230  | 10.5       | 55.0        | 97.2        | 1.0       | 157.9       | 0.22        | 2    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| AV-C199       | TITUS DESV           | 510        | 205        | 8             | 0.50            | 35  | 35    | 510  | 19.8       | 55.0        | 90.8        | 1.5       | 152.3       | 0.54        | 2    | 1/2"          | 3/4"           | 32               | 1,2,3,4, |
| AV-D101       | TITUS DESV           | 3100       | 1240       | 24x16         | 0.50            | 35  | 35    | 2315 | 96.7       | 55.0        | 93.5        | 5.0       | 139.3       | 0.68        | 2    | 7/8"          | 1'             | 89               | 1,2,3,4, |
| AV-D103       | TITUS DESV           | 1010       | 900        | 10            | 0.50            | 35  | 35    | 900  | 29.3       | 55.0        | 85.0        | 2.0       | 149.3       | 0.46        | 2    | 7/8"          | 3/4"           | 38               | 1,2,3,4, |
| AV-D103A      | TITUS DESV           | 120        | 65         | 5             | 0.50            | 35  | 35    | 120  | 6.2        | 55.0        | 102.5       | 0.5       | 154.1       | 0.06        | 2    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| AV-D104       | TITUS DESV           | 1060       | 935        | 10            | 0.50            | 35  | 35    | 935  | 29.6       | 55.0        | 84.2        | 2.0       | 148.9       | 0.46        | 2    | 7/8"          | 3/4"           | 38               | 1,2,3,4, |
| AV-D105       | TITUS DESV           | 170        | 70         | 5             | 0.50            | 35  | 35    | 130  | 6.4        | 55.0        | 100.3       | 0.5       | 153.2       | 0.06        | 2    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| AV-D106       | TITUS DESV           | 1190       | 1055       | 10            | 0.50            | 35  | 35    | 1055 | 40.1       | 55.0        | 90.0        | 4.0       | 159.0       | 1.08        | 2    | 7/8"          | 11             | 38               | 1,2,3,4, |
| AV-D106A      | TITUS DESV           | 200        | 185        | 5             | 0.50            | 35  | 35    | 185  | 7.3        | 55.0        | 91.3        | 0.5       | 149.4       | 0.06        | 2    | 1/2"          | 3/4"           | 30               | 1,2,3,4, |
| AV-D199       | TITUS DESV           | 1270       | 510        | 10            | 0.50            | 35  | 35    | 1270 | 36.3       | 55.0        | 81.3        | 2.5       | 149.5       | 0.62        | 2    | 7/8"          | 3/4"           | 38               | 1,2,3,4, |

SUGNU DATA STALL BE TAKEN FROM ANL STANDARD BBG (LATEST EDITION) POBLISHED DATA.
 INLET STATIC PRESUME FOR TERMINAL SELECTION IS 1.0°. TERMINAL S.P. INCLUDES COIL APD.
 PERFORMANCE BASED ON 30% PROPYLENE GLYCOL
 LH OR RF CONNECTION OF OIL PIPING VARIES, SEE PLAN.
 SEE VAV HEATING COIL PIPING DETAIL.

|               |                                 |                                                                             |                |               |             | LOW   | STATIC              |       |        |               | мо   | TOR           |      | UNIT            |                      |
|---------------|---------------------------------|-----------------------------------------------------------------------------|----------------|---------------|-------------|-------|---------------------|-------|--------|---------------|------|---------------|------|-----------------|----------------------|
| EQUIP.<br>NO. | MANUFACTURER & MODEL<br>(STYLE) | SERVING                                                                     | LOCATION       | TYPE          | CFM         | SPEED | PRESS.<br>(IN W.G.) | SONES | WATTS  | HP            | FRPM | VOLT./PH./CY. | FLA  | WEIGHT<br>(LBS) | NOTES                |
| EF - 6        | AEROVENT ACXD 120B              | EXHAUST - STORAGE C104, GYM STOR. C108,<br>BOYS C109, REF. C110, GIRLS C111 | NEW ROOF       | PRV           | 975         |       | 0.35                | 9.8   |        | 1/3           | 1268 | 120/1/60      | 7.2  | 92              | 1,2,3,4              |
| EF-7          | AEROVENT ATD 180B               | GREASE EXHAUST - KITCHEN D101                                               | NEW ROOF       | PRV           | 2550        |       | 0.50                | 11.5  | -      | 1             | 970  | 208/3/60      | 4.6  | 151             | 2,5,6,               |
| EF-8          | AEROVENT PCU 110                | CONDENSATE EXHAUST - KITCHEN D101                                           | NEW ROOF       | PRV           | 600         | -     | 0.50                | 4.0   | -      | 1/8           | 1025 | 120/1/60      | 3.8  | 72              | 2,3,4,6,             |
| EF - 9        | PANASONIC FV-0511VQ1            | EXHAUST - RESTROOM D101A                                                    | RESTROOM D101A | CEILING       | 80          |       | 0.25                | 0.6   | 10.8   | -             | 1172 | 120/1/60      | 0.27 | 9.3             | 7,8,1                |
| -F-S          | AEROVENT ACX8-1208              | EXHAUST - GIRLS RR D102A, BOYS RR D102B,                                    | NEW ROOF       |               | <b>5</b> 50 | ~~    |                     |       | $\sim$ | - <b>1</b> 8- | 983  | 12041/60      | ~    | $\sim$          | 1,2,00               |
| EF-11         | AEROVENT ACXD 130BE             | EXHAUST - FACS D104                                                         | NEW ROOF       | PRV           | 1440        |       | 0.35                | 13.5  |        | 3/4           | 1218 | 120/1/60      | 13.8 | 114             | 1,2,4,6,             |
| er-12         | PANASONIC TH SOVQS              | EXITALIST NORKROOM D105                                                     | WORKROOM DIE   | CETLING       | 250         |       | 0.25                | 2.5   | 65.8   |               | 990  | 20/1/00       | 9.52 | 17.0            | <del>ر ج ,8</del> ,1 |
| EF-13         | AEROVENT PC-083                 | EXHAUST - SCIENCE PREP D106A                                                | NEW ROOF       | PRV           | 220         | -     | 0.25                | 5.5   | -      | 1/30          | 1445 | 120/1/60      | 3.0  | 63              | 1,2,3,               |
| EF-14         | AEROVENT ACXD 130B              | EXHAUST - SCIENCE D106                                                      | NEW ROOF       | PRV           | 1080        | -     | 0.35                | 10.4  | -      | 1/4           | 1064 | 120/1/60      | 5.8  | 114             | 1,2,3,               |
| EF-15         | AEROVENT AFE 90C6               | EXHAUST - SCIENCE D106 FUME HOOD                                            | NEW ROOF       | PRV           | 780         | -     | 0.5                 | 20.0  | -      | 1/2           | 2706 | 120/1/60      | 9.8  | 557             | 2,4,6,               |
| EF-16         | AEROVENT ACXD 170B              | EXHAUST - SHOP D103B                                                        | NEW ROOF       | PRV           | 2200        | 1090  | 0.35                | 11.3  | -      | 1             | 943  | 208/3/60      | 4.6  | 126             | 1,2,3,4<br>10,11,    |
| EF-17         | PANASONIC FV-30VQ3              | EXHAUST - WORK ROOM A101                                                    | WORK ROOM A101 | CEILING       | 250         | -     | 0.25                | 2.5   | 65.8   | -             | 990  | 120/1/60      | 0.52 | 17.0            | 7,8,1                |
| EF-18         | AEROVENT ACXD 120B              | EXHAUST - BOYS A102 & GIRLS A103                                            | EXG ROOF       | PRV           | 650         |       | 0.35                | 7.2   |        | 1/8           | 1089 | 120/1/60      | 3.8  | 92              | 1,2,3                |
| EF-19         | AEROVENT ACX 240D               | EXHAUST - WELDING HOODS                                                     | NEW ROOF       | PRV           | 4000        |       | 1.5                 | 16.7  |        | 2             | 836  | 208/3/60      | 7.5  | 300             | 1,2,4,2              |
| EF-20         | AEROVENT ACX 300D               | AREA A RELIEF                                                               | EXG ROOF       | PRV           | 10000       |       | 0.25                | 16.4  | -      | 2             | 732  | 208/3/60      | 7.5  | 350             | 1,2,9,               |
| EF-21         | AEROVENT PC 083                 | EXHAUST - AREA B&C CHASE INCLOSURE                                          | EXG ROOF       | PRV           | 200         |       | 0.25                | 5.1   |        | 1/30          | 1391 | 120/1/60      | 3.0  | 63              | 1,2,3,               |
| EF-A          | BROAN MODEL 433004              | RANGEHOOD EXHAUST                                                           | FACS D106      | RANGE<br>HOOD | 190         |       | 0.1                 | 7.0   | 207    |               |      | 120/1/60      | 1.8  |                 | 16,17,               |

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PROVIDE A INSTALL WITH MALE FAN SPEED CONTROLLER FOR BALANCING.
PROVIDE & INSTALL WITH MALE FAN SPEED CONTROLLER FOR BALANCING.
PROVIDE & INSTALL WITH WITH INTER, RATCH FACTORY FUED FACTORY FOOF CURB. VERIFY SLOPE WITH GEASE TERMINATION KIT AND HINGED BASE KIT.
ALL ROOFING WITH INTEGRAL BACKORAFT DAMPER, FACTORY FUED DISCONNECT, AND ECM FAN WOTD KIT B SPEED FAN SPEED CONTROLLER.
PROVIDE & INSTALL MANGINO VIBRES (ROOFING BOT PACKAGE), V. A. TC TO CONDUTATE.
PROVIDE & INSTALL HANGINO VIBRES (ROOFING BOT CONNECTIONS ON SHORT PIECE OF FLEXIBLE DUCT WITH 2.3 FT STRAIGHT RUN OF 6" RIGID DUCT BEFORE WALL CAP TERMINATION OR BEFORE UP THEU ROOF TO GOOSENECX TERMINATION.
V CT O VERIFY EXISTING CONDITIONS. PROVIDE & INSTALL MORE OF CURBA DATER AS NECESSARY TO UTILIZE EXISTING ROOF CURB.
T.C. TO PROVIDE & INSTALL LIGHTED PILOT SWITCH WHERE SHOWN ON PLANS. WHEN SWITCH IS ENABLED, FAN TO BE EVABLED AT LOW SPEED INDICATED ON SCHEDULE.
T.C. TO PROVIDE & INSTALL LIGHTED PILOT SWITCH WHERE SHOWN ON PLANS. (24V POWER WIRING AND CONTROL WIRING BY CC). WHEN BETECTOR IS ENABLED, TC TO OVERRIDE FAN TO OFERATE WITH ILIGHTED PILOT SWITCH BY E.C.
FAN TO OPERATE WITH INTEGRAL SWITCH OF GRASE HOOD HO-1. E.C. TO PROVIDE & INSTALL CONTROL WIRING.
FORDUED WITH WITH INTEGRAL SWITCH BY E.C.
FAN TO OPERATE WITH INTEGRAL SWITCH BY E.C.
FAN TO OPERATE WITH INTEGRAL SWITCH BY E.C.
FAN TO OPERATE WITH INTEGRAL SWITCH WEIGHT ADDIVED ALL TWO-SPEED SWITCH. WHERE WOTED ON PLANS, WALL SWITCH CONTROL TO BE INSTALLED FOR ADA COMPLIANCE BY ECE (REPLACES INTEGRADARY ADAPTE

|          |    | $\smile$ |         | $\sim$ | $\sim$ | $\sim$ | $\sim$ | $\sim$ |  |                 |       |      |      |         |        |          |       |      |         |         |        |  |
|----------|----|----------|---------|--------|--------|--------|--------|--------|--|-----------------|-------|------|------|---------|--------|----------|-------|------|---------|---------|--------|--|
| / 1      | 1  |          | PROVIDE |        |        |        |        |        |  | <u>ک</u>        |       |      |      |         |        |          |       |      |         |         |        |  |
|          | ١, |          |         |        |        |        |        |        |  | BY EC.<br>SHOWN | ON PI | LANS | NEAR | WELDING | STATIO | NS. WHEN | SWITC | HISI | ENABLED | , ENABL | E FAN. |  |
| <b>A</b> |    | 21.      |         |        |        |        |        |        |  |                 |       |      |      |         |        | INSTALLE |       |      |         |         |        |  |

GRILLE - REGISTER - DIFFUSER SCHEDULE

| EQUIP.<br>NO. | MANUFACTURER & MODEL | NOMINAL SIZE | THROAT SIZE      | MAX CFM | MAX APD | THROW (50 FPM) | NC   | FRAME    | MATERIAL | FINISH | NOTES |
|---------------|----------------------|--------------|------------------|---------|---------|----------------|------|----------|----------|--------|-------|
| S-1           | TITUS TMS            | 24X24        | 6"Ø              | 100     | 0.03"   | 5'             | < 10 | LAY-IN   | STEEL    | WHITE  | 1     |
| S-2           | TITUS TMS            | 24X24        | 8"ø              | 230     | 0.04"   | 9'             | 14   | LAY-IN   | STEEL    | WHITE  | 1     |
| S-3           | TITUS TMS            | 24X24        | 10"ø             | 410     | 0.06"   | 14 '           | 20   | LAY-IN   | STEEL    | WHITE  | 1     |
| S-4           | TITUS ML-39 3-SLOT   | 48" X 6-3/4" | 47-1/4" X 5-7/8" | 360     | 0.07"   | 22'            | 28   | SURFACE  | ALUMINUM | WHITE  | 1,4   |
| S-5           | TITUS ML-39 1-SLOT   | 48" X 3-1/4" | 47-1/4" X 2-3/8" | 100     | 0.05"   | 16'            | 19   | SURFACE  | ALUMINUM | WHITE  | 1,6   |
| S-6           | TITUS 300RL          | 8X6          | 6X4              | 50      | 0.04"   | 10'            | < 10 | SURFACE  | STEEL    | WHITE  | 1     |
| S-7           | TITUS 300RL          | 10X8         | 8X6              | 110     | 0.04"   | 15'            | < 10 | SURFACE  | STEEL    | WHITE  | 1     |
| S-8           | TITUS 300RL          | 12X10        | 10X8             | 200     | 0.04"   | 20'            | < 10 | SURFACE  | STEEL    | WHITE  | 1     |
| S-9           | TITUS 300RL          | 16X12        | 14X10            | 350     | 0.04"   | 27 '           | 13   | SURFACE  | STEEL    | WHITE  | 1     |
| S-10          | TITUS S300FL         | 16X10        | 14X8             | 265     | 0.04"   | 23 '           | < 10 | DUCT MTD | STEEL    | WHITE  | 1,2,5 |
| S-11          | TITUS PAS-AA         | 24X24        | 8X8              | 230     | 0.09"   | 12'            | 20   | LAY-IN   | STEEL    | WHITE  | 1     |
| S-12          | TITUS PAS-AA         | 24X24        | 10X10            | 325     | 0.08"   | 14'            | 21   | LAY-IN   | STEEL    | WHITE  | 1     |
| R-1           | TITUS 350RL          | 24X12        | 22X10            | 800     | 0.07"   |                | 30   | LAY-IN   | STEEL    | WHITE  | 1,3   |
| R-2           | TITUS 350RL          | 24X24        | 22X22            | 1800    | 0.07"   |                | 34   | LAY-IN   | STEEL    | WHITE  | 1,3   |
| R-3           | TITUS 350RL          | 10X8         | 8X6              | 110     | 0.04"   |                | 20   | SURFACE  | STEEL    | WHITE  | 1,3,4 |
| R-4           | TITUS 350RL          | 50X16        | 48X14            | 1480    | 0.02"   |                | 30   | SURFACE  | STEEL    | WHITE  | 1,3   |
| R-5           | TITUS 33RS           | 38X98        | 36X96            | 9700    | 0.04"   |                | 27   | SURFACE  | STEEL    | WHITE  | 1     |
| R-6           | TITUS 350RL          | 24X8         | 22X6             | 250     | 0.02"   |                | 22   | LAY-IN   | STEEL    | WHITE  | 1,3   |
| E-1           | TITUS 350FL          | 10X8         | 8X6              | 100     | 0.03"   |                | 19   | SURFACE  | ALUMINUM | WHITE  | 1,2,3 |
| E-2           | TITUS 350FL          | 24X8         | 22X6             | 250     | 0.02"   |                | 22   | LAY-IN   | ALUMINUM | WHITE  | 1,3   |
| E-3           | TITUS 350FL          | 24X24        | 22X22            | 540     | 0.01"   |                | 22   | LAY-IN   | ALUMINUM | WHITE  | 1,2,3 |
| E-4           | TITUS 350FL          | 12X12        | 10X10            | 220     | 0.03"   |                | 22   | SURFACE  | ALUMINUM | WHITE  | 1,3   |
| T-1           | TITUS 350RL          | 24X12        | 22X10            | 800     | 0.07"   |                | 30   | LAY-IN   | STEEL    | WHITE  | 1,3,4 |
| T-2           | TITUS 350RL          | 24X24        | 22X22            | 1800    | 0.07"   |                | 34   | LAY-IN   | STEEL    | WHITE  | 1,3,4 |
| T-3           | TITUS 350RL          | 18X18        | 16X16            | 500     | 0.02"   |                | 25   | SURFACE  | STEEL    | WHITE  | 1,3   |
| T-4           | TITUS MLR-39 2-SLOT  | 60" X 5"     | 59-1/4" X 4-1/8" | 250     | 0.03"   |                | 15   | SURFACE  | ALUMINUM | WHITE  | 1,6   |
| T-5           | TITUS MLR-39 2-SLOT  | 36" X 5"     | 35-1/4" X 4-1/8" | 150     | 0.03"   |                | 13   | SURFACE  | ALUMINUM | WHITE  | 1,6   |
| T-6           | TITUS 350RL          | 10X8         | 8X6              | 100     | 0.03"   |                | 19   | SURFACE  | STEEL    | WHITE  | 1,3   |

 EGUIP. NO.
 MANUFACTURER & MODEL
 SERVING
 CO CAP (BT

 DSA-10A
 SMUSUNG ACCOGENNUCH/AA CELLING CASETTE
 SM GROUP A103A
 9,

 DSA-10B
 SMUSUNG ACCOGENNUCH/AA CELLING CASETTE
 SME GROUP A103B
 9,

 DSA-10B
 SMUSUNG ACCOGENNUCH/AA CELLING CASETTE
 SPEECH A103B
 9,

 DSA-10C
 SMUSUNG ACCOGENNUCH/AA CELLING CASETTE
 OT/PT A103C
 9,

 DSA-10D
 SMUSUNG ACCOGENNUCH/AA CELLING CASETTE
 CORRIDOR A199
 9,1

 DSA-11A
 SMUSUNG ACCOGENNUCH/AA CELLING CASETTE
 SM GROUP A105
 17,\*

 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE
 SM GROUP A105
 17,\*

 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE
 SM GROUP A105
 17,\*

 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE
 SM GROUP A105
 17,\*

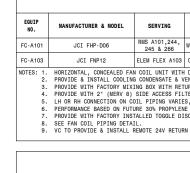
 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE
 SPEECH A106
 17,\*

 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE
 SPEECH A106
 17,\*

 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE
 SPEECH A106
 17,\*

 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE<

| EQUIP.   |                                                                                 |                   | COOLING CAPACITY      | HEATING CAPACITY       | REFRIGERA       | NT PIPING            |      |
|----------|---------------------------------------------------------------------------------|-------------------|-----------------------|------------------------|-----------------|----------------------|------|
| NO.      | MANUFACTURER & MODEL                                                            | SERVING           | (BTU/HR)              | (BTU/HR @47F)          | LIQUID          | SUCTION              |      |
| DSC-10   | SAMSUNG AJ036BXJ4CH/AA                                                          | DSA-10A/B/C/D     | 6,500 - 32,000        | 7,600 - 36,000         | (4) 1/4"        | (2) 3/8"<br>(2) 1/2" |      |
| DSC-11   | SAMSUNG AJ036BXJ4CH/AA                                                          | DSA-11A/B         | 6,500 - 32,000        | 7,600 - 36,000         | (2) 1/4"        | (2) 1/2"             |      |
| NOTES: 1 | . FURNISH AND INSTALL LINE S                                                    | T FOR EACH INDOO  | R UNIT SERVED, BOTH S | UCTION & LIQUID LINE 1 | TO BE INSULATED | . F                  | RUN  |
| 2        | . PROVIDE & INSTALL ALL REQU                                                    | IRED ACCESSORIES  | FOR MULTI ZONE CONFIG | URATION.               |                 |                      |      |
| 3        | <ul> <li>ROOFING WORK BY ROOFING COL<br/>CURB, AND INSTALL RL/RS NE/</li> </ul> |                   |                       |                        |                 | AIL FOR LINESE       | ſS/F |
| 4        | . PROVIDE & INSTALL 24" MIN H                                                   | HIGH EQUIPMENT RA | ILS WITH VIBRATION IS | OLATION SPRINGS FOR M  | DUNTING ON EXIS | TING FLAT ROOF       |      |



|        | MANUFACTURER & MODEL                    | EQUIP<br>NO. |
|--------|-----------------------------------------|--------------|
|        | FRASER-JOHNSTON TC17B3621S              | CU-A103      |
| ER DI  | PROVIDE & INSTALL LIQUID LINE FILT      | NOTES: 1.    |
| ND L   | PROVIDE & INSTALL HARD START KIT A      | 2.           |
| FRIG   | PROVIDE & INSTALL PRE-INSULATED RE      | 3.           |
| LL TR  | ROOFING WORK BY ROOFING CONTRACTOR, A   | 4.           |
| MANUF  | CURB, AND INSTALL RL/RS NEATLLY ON PRE- |              |
| IT RAI | PROVIDE & INSTALL 24" MIN HIGH EQUIPMEN | 5.           |

| EQUIP.<br>NO.      | MANUFACTURER<br>& MODEL    | LOCATION         |
|--------------------|----------------------------|------------------|
| IH-1               | ACME MANUFACTURING TIV     | EXG FLAT ROOF    |
| NOTES: 1<br>2<br>3 | Thorize hearnene anoner re | OR CURBS AND MIN |

| EQUIP.<br>NO. | MANUFACTURER &<br>Model                                                        | SERVING         |
|---------------|--------------------------------------------------------------------------------|-----------------|
| HD - A        | VENTAIRE FEH4                                                                  | WELDING STAT    |
| NOTES:        | 1. PRE-MANUFACTURED SLO<br>2. PROVIDE SLOTTED HOOD<br>3. PROVIDE & INSTALL BL/ | BASE CONSTRUCTE |

|                      | D                                                                                                                                                                                                                                                                   | UCTWORK                                                                                                                                            |                                                                                                                 |                                                                                                                                                             |                                                                                   |                                                                  |                                                                  | INSULATION                       | THICKNESS (E                | XTERIOR WRAP UNL                                           | ESS OTHERWISE N                                               | OTED)         |                                            |             |            |                       |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------|-----------------------------|------------------------------------------------------------|---------------------------------------------------------------|---------------|--------------------------------------------|-------------|------------|-----------------------|
| SYSTEM               | NAX DIMENSION OF<br>Rectangular ducts or<br>Diameter of Round ducts                                                                                                                                                                                                 | GALVANIZED<br>SHEET METAL<br>GAUGE NUMBER                                                                                                          | PRESSURE<br>RATING                                                                                              | CONSTRUCTION                                                                                                                                                | RECTANGULAR<br>Supply Air<br>Before Vav                                           | ROUND<br>Supply Air<br>Before Vav                                | RECTANGULAR<br>Supply Air<br>After Vav                           | ROUND<br>Supply Air<br>After Vav | RETURN AIR                  | EXHAUST AIR<br>DUCT<br>(INCLUDING<br>FUME HOOD<br>EXHAUST) | EXHAUST AIR<br>DUCT<br>SERVING<br>Welding<br>Hoods<br>In Shop | TRANSFER AIR  | PLENUM TO<br>Plenum<br>Transfer<br>Sleeves | OUTSIDE AIR | RELIEF AIR | NOTES                 |
|                      | UP THRU 12"                                                                                                                                                                                                                                                         | 26                                                                                                                                                 |                                                                                                                 | WHEN LONGEST                                                                                                                                                |                                                                                   |                                                                  |                                                                  |                                  |                             | 1-1/2"                                                     | 1-1/2" FULL<br>LENGTH OF                                      |               |                                            |             |            |                       |
| ow                   | OVER 12" THRU 30"                                                                                                                                                                                                                                                   | 24                                                                                                                                                 | 1                                                                                                               | SIDE IS 36" OR<br>GREATER, SHALL                                                                                                                            |                                                                                   |                                                                  |                                                                  |                                  |                             | WITHIN 15'<br>OF POWER                                     | RECTANGULAR<br>DUCT,                                          |               |                                            |             |            | 1.0                   |
| RESSURE              | OVER 30" THRU 54"                                                                                                                                                                                                                                                   | 22                                                                                                                                                 | 2" W.G.                                                                                                         | BE CONSTRUCTED<br>USING DUCTMATE                                                                                                                            | -                                                                                 | -                                                                | 1/2"<br>LINER                                                    | 1-1/2"                           | 1/2"<br>LINER               | ROOF<br>VENTILATOR                                         | EXPOSED<br>SPIRAL                                             | 1/2"<br>LINER | 1/2"<br>LINER                              | 2"          | 2"         | 1,2,<br>3,4,5,<br>7.8 |
| DUCTWORK             | OVER 54" THRU 84"                                                                                                                                                                                                                                                   | 20                                                                                                                                                 |                                                                                                                 | 35/25 SLIDE ON<br>SYSTEM, TDF                                                                                                                               |                                                                                   |                                                                  |                                                                  |                                  |                             | OR FUME<br>HOOD EXHAUST                                    | RUNOUTS                                                       |               |                                            |             |            | 7,8                   |
|                      | OVER 84"                                                                                                                                                                                                                                                            | 18                                                                                                                                                 |                                                                                                                 | FLANGE                                                                                                                                                      |                                                                                   |                                                                  |                                                                  |                                  |                             | (SEE NOTE 7)                                               | UN-INSULATED<br>PAINTGRIP                                     |               |                                            |             |            |                       |
|                      | UP THRU 18"                                                                                                                                                                                                                                                         | 24                                                                                                                                                 |                                                                                                                 | SHALL BE                                                                                                                                                    |                                                                                   |                                                                  |                                                                  |                                  |                             |                                                            |                                                               |               |                                            |             |            |                       |
| EDIUM<br>RESSURE     | OVER 19" THRU 48"                                                                                                                                                                                                                                                   | 22                                                                                                                                                 | -3" W.G.                                                                                                        | CONSTRUCTED<br>USING DUCTMATE                                                                                                                               | 1-1/2"                                                                            | 1-1/2"                                                           |                                                                  | -                                | _                           |                                                            |                                                               |               |                                            |             |            | 1,2,<br>3,6,          |
| UCTWORK              | OVER 48" THRU 72"                                                                                                                                                                                                                                                   | 20                                                                                                                                                 | 0                                                                                                               | 35/25 SLIDE ON<br>SYSTEMS, TDF                                                                                                                              | 1 1/2                                                                             | 1 1/2                                                            |                                                                  |                                  |                             |                                                            |                                                               |               |                                            |             |            | 8                     |
|                      | OVER 73" THRU 96"                                                                                                                                                                                                                                                   | 18                                                                                                                                                 |                                                                                                                 | FLANGE                                                                                                                                                      |                                                                                   |                                                                  |                                                                  |                                  |                             |                                                            |                                                               |               |                                            |             |            |                       |
| 2.<br>3.<br>4.<br>5. | FOLLOW ALL SMACNA STAN<br>ALL DUCTWORK 18" AND GI<br>ALL SYSTEMS TO BE COMPI<br>CONCEALED DUCTS MAY BE<br>AIR IN COMMONS CIO1 ARI<br>ALL EXPOSED UNINSULATE<br>MEDIUM PRESSURE DUCTWO<br>GREASE EXHAUST DUCT SH<br>ALL DUCTWORK ROUTED OU<br>TOP OF ALL EXTERIOR DU | REATER IN WIDTH<br>LETELY INSULATH<br>INSULATED WITH<br>E CONSIDERED E:<br>D DUCTWORK SHAR<br>RK ROUTED EXPOS<br>ALL BE 16GA WEH<br>ISIDE SHALL BE | H SHALL BE<br>ED UNLESS (<br>H RIGID BO/<br>XPOSED AND<br>LL BE PAINI<br>SED AND AB(<br>LDED BLACK<br>INSULATED | CROSS-BROKEN.<br>DTHERWISE NOTED.<br>ARD OR FLEXIBLE F<br>MUST BE INSULATE<br>IGRIP DUCT (SPIRA<br>DVE COMMONS C101<br>IRON WRAPPED WIT<br>WITH 2" RIGID IN | D WITH RIGID<br>L WHERE ROUND<br>CLOUD CEILING<br>H 3M FIRE BAR<br>ISULATION WITH | INSULATION.<br>).<br>SHALL BE IN<br>RIER DUCT WR/<br>VENTURECLAD | DO NOT INSUL<br>SULATED WITH I<br>AP 15A OR EQU<br>1577CW SMOOTI | NTE LOW PRESS                    | URE ROUNDS EX<br>NSULATION. | POSED IN COMMONS                                           | \$ C101. ALL DUC                                              | TWORK ABOVE C |                                            |             |            |                       |

|                                             | PIPING                                              |                                                                 | INSU                           | LATION THICKN                 | IESS                               |       |
|---------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------|--------------------------------|-------------------------------|------------------------------------|-------|
| SYSTEM                                      | TYPE/MATERIAL                                       | FITTINGS                                                        | PIPE SIZES<br>1" OR<br>SMALLER | PIPE SIZES<br>1-1/4"<br>TO 2" | PIPE SIZES<br>2-1/2" AND<br>LARGER | NOTES |
| DOMESTIC COLD, HOT, AND<br>HOT RECIRC       | TYPE L COPPER                                       | SOLDER, PRO-PRESS                                               | 1/2"                           | 1"                            | 1-1/2"                             | 1,2   |
| BELOW GRADE STORM PIPING                    | SEE SPECIFICATIONS (SCH 40<br>PVC WHERE PERMITTED)  | SEE SPECIFICATIONS (SCH 40 DWV SOLVENT<br>WELD WHERE PERMITTED) |                                | NONE                          |                                    | 1,3   |
| ABOVE GRADE STORM PIPING                    | SEE SPECIFICATIONS (SCH 40<br>PVC WHERE PERMITTED)  | SEE SPECIFICATIONS (SCH 40 DWV SOLVENT<br>WELD WHERE PERMITTED) |                                | 1"                            |                                    | 1,3   |
| BELOW GRADE SANITARY<br>WASTE & VENT PIPING | SEE SPECIFICATIONS (SCH 40<br>PVC WHERE PERMITTED)  | SEE SPECIFICATIONS (SCH 40 DWV SOLVENT<br>WELD WHERE PERMITTED) |                                | NONE                          |                                    | 1     |
| ABOVE GRADE SANITARY<br>WASTE & VENT PIPING | SEE SPECIFICATIONS (SCH 40<br>PVC WHERE PERMITTED)  | SEE SPECIFICATIONS (SCH 40 DWV SOLVENT<br>WELD WHERE PERMITTED) | NONE                           | , WITH EXCEP<br>SEE NOTE 3    |                                    | 1,3   |
| CONDENSATE DRAIN<br>PIPING/VENTING          | TYPE M COPPER, SCH 40 PVC<br>OR ABS WHERE PERMITTED | SOLDER, PRO-PRESS, SOLVENT WELD                                 |                                | 1/2"                          |                                    | 1,3   |
| HOT WATER SUPPLY,<br>HOT WATER RETURN       | TYPE L COPPER,<br>SCH 40 BLACK STEEL                | SOLDER, PRO-PRESS,<br>SEE SPECS FOR STEEL FITTINGS              | 1/2"                           | 1"                            | 1-1/2"                             | 1,2   |

|               |                         |                      |             | STORAGE            | RECOVERY @         |            |       |       |           | ELECTRIC   | AL   | PIPING CO | NNECTIONS | DIMEN          | SIONS        | SHIPPING        |      |
|---------------|-------------------------|----------------------|-------------|--------------------|--------------------|------------|-------|-------|-----------|------------|------|-----------|-----------|----------------|--------------|-----------------|------|
| NO.           | MANUFACTURER &<br>Model | SERVING              | LOCATION    | CAPACITY<br>(GAL.) | 100F RISE<br>(GPH) | FUEL       | INPUT | (MBH) | AFUE<br>% | V./PH./CY. | AMPS | c.w.      | н.w.      | HEIGHT<br>(IN) | DIA.<br>(IN) | WEIGHT<br>(LBS) | NOTE |
| EXG<br>VH - 1 | HTP PH199-119           |                      | BOILER C107 | 119                | 230                | NAT<br>GAS | 40    | - 199 | 96        | 120/1/60   | -    | 1-1/2"    | 1-1/2"    | 74             | 27           | 405<br>+ WATER  | 1    |
| H-2           | HTP PH199-119           | DOM. HOT WATER 140°F | BOILER C107 | 119                | 230                | NAT<br>GAS | 40    | - 199 | 96        | 120/1/60   | -    | 1-1/2"    | 1-1/2"    | 74             | 27           | 405<br>+ WATER  | 2,3, |

1. A the standars with elebw bown to existing flow of that south that condensate does not fool on flow. Route condensate first along back wall to minimize this flow flow.
 3. \* PORED CONCRETE HOUSEKEFING PAD BY PC. PAD TO ACCOMMODATE WATER HEATERS & FLOOR MOUTED EXPANSION TANK ET-2.
 6. DOMESTIC HOT WATER TO BE STORED AT 140°F.
 7. PROVIDE & INSTALL WATES INTELLISTATION UR. LFISIONUL DIGITAL WATER TEMPERING SYSTEM WITH DIGITAL MIXED OUTLET TEMPERATURE CONTROL & MONITORING. 120V POWER & PLUG PROVIDED & INSTALLED BY EC. DOMESTIC HOT WATER TO BE STORED AT 140°F AND TEMPERED TO 120°F, CONTROLLED BY TC.

|        |                                         |                                    |                 |        |                             | WA                    | TER              | S0F             | TENER              | SCH             | EDULE                  |              |               |                             |                 |             |       | (   | ws    |
|--------|-----------------------------------------|------------------------------------|-----------------|--------|-----------------------------|-----------------------|------------------|-----------------|--------------------|-----------------|------------------------|--------------|---------------|-----------------------------|-----------------|-------------|-------|-----|-------|
| EQUIP. | MANUFACTURER                            | SERVING                            | LOCATION        |        | SOFTENER<br>E capacity      | CONTINUOUS<br>Service | BACKWASH<br>RATE | RESIN<br>VOLUME | BRINE<br>TANK SALT | TANK<br>CONFIG. | CONTINUOUS<br>Flow     |              | ING<br>CTIONS | FLOOR SPACE<br>Requirements | SYSTEM<br>Dry   | ELECT       | RICAL |     | NOTES |
| NO.    | & MODEL                                 | SERVING                            | LUCATION        | GRAINS | SALT<br>DOSAGE<br>LBS/CU.FT | FLOW RATE<br>(GPM)    | (GPM)            | (CU.FT)         | CAPACITY<br>(LBS)  | CONFIG.         | PRESSURE<br>DROP (PSI) | CW<br>IN/OUT | DRAIN         | (LXWXHIN<br>Inches)         | WEIGHT<br>(LBS) | V./PH./CY.  | MOP   | FLA | NUTES |
| WS-1   | CULLIGAN<br>SOO10441 WITH<br>FRP VESSEL | KITCHEN<br>DISHWASHER<br>HOT WATER | KITCHEN<br>D101 | 31,736 | 12                          | 5.0                   | 2.4              | 0.5             | 200                | SIMPLEX         | 10                     | 1"           | 1/2"          | 30"X18"X28"                 | 150             | 120/1/60    | 5     | 3.5 | 1,2   |
| NOTES: | 1. PROVIDE UNIT<br>2. PROVIDE WITH      |                                    |                 |        |                             |                       |                  |                 |                    |                 |                        |              |               | SS VALVE, AND PR            | E-WIRED P       | OWER CABLE. |       |     |       |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                     | NA                                                                                                                         | TURAL                                                                                                      | GAS                                                                                                                     | BOILE                                                                                                                    | R SC                                                                                          | HED                                                                 | ULE                                                                                           |                                                                             |                                                                   |                                         |                                | B                              |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------|--------------------------------|--------------------------------|
| EQUIP. | MANUFACTURER & MODEL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | LOCATION                                                                                                                                                                                                                                                                         |                                                                                                                                                                                     | SYSTEM                                                                                                                     | RELIEF                                                                                                     | INPUT                                                                                                                   | OUTPUT                                                                                                                   | AFUE %                                                                                        | MIN                                                                 | VOLUME                                                                                        |                                                                             | MOTOR                                                             |                                         | UNIT<br>WEIGHT                 | 10750                          |
| NO.    | MANUFACIURER & MODEL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | LOCATION                                                                                                                                                                                                                                                                         | MEDIA                                                                                                                                                                               | PRESSURE<br>(PSI)                                                                                                          | PRESSURE<br>(PSI)                                                                                          | MBH                                                                                                                     | MBH                                                                                                                      | AFUE %                                                                                        | EWT                                                                 | (GAL)                                                                                         | HP                                                                          | V./PH./CY.                                                        | FLA                                     | (LBS)                          | NOTES                          |
| B-1    | THERMAL SOLUTIONS<br>EVS-1500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | MECH/ELEC<br>ROOM                                                                                                                                                                                                                                                                | 30%<br>GLYCOL                                                                                                                                                                       | 30                                                                                                                         | 75                                                                                                         | 500-1500                                                                                                                | 417-1,251                                                                                                                | 87%                                                                                           | 135°F                                                               | 17.4                                                                                          | 1-1/2                                                                       | 120/1/60                                                          | 7.5                                     | 1,327<br>+FLUID                | 1,2,3,4,5,6,<br>7,8,9,10,11,12 |
| B-2    | THERMAL SOLUTIONS<br>EVS-1500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | MECH/ELEC<br>ROOM                                                                                                                                                                                                                                                                | 30%<br>GLYCOL                                                                                                                                                                       | 30                                                                                                                         | 75                                                                                                         | 500-1500                                                                                                                | 417-1,251                                                                                                                | 87%                                                                                           | 135°F                                                               | 17.4                                                                                          | 1-1/2                                                                       | 120/1/60                                                          | 7.5                                     | 1,327<br>+FLUID                | 1,2,3,4,5,6,<br>7,8,9,10,11,12 |
|        | <ol> <li>UNITS SHALL BE COMMENDA<br/>ADJACENT COMBUSTION</li> <li>PER MFG'S RECOMMENDA<br/>ADJACENT COMBUSTION</li> <li>PC TO PROVIDE &amp; INST<br/>ON PLANS. ROOFING W</li> <li>VC TO PROVIDE AND IN<br/>SPLIT RING STANDOFFS<br/>HAZARDS.</li> <li>SEE HEATING WATER SY</li> <li>INSTALL ON EXISTING<br/>PROVIDE FACTORY AUTH</li> <li>PROVIDE FACTORY AUTH</li> <li>PROVIDE AND INSTALL<br/>ELBOW DOWN ONTO CENT</li> <li>PERFORMANCE BASED ON</li> <li>PROVIDE WITH FULL LO</li> <li>PROVIDE WITH FACTORY</li> <li>MATNAIN MANUFACTURE</li> </ol> | TIONS, VC TO PRR<br>AIR GOOSNECK PEF<br>ALL 8° SCH.40 PI<br>ORK BY ROOFING (J<br>STALL VENTING DJ<br>AND ELBOW DOWN<br>STEM PIPING DIA(<br>4° POURED CONCRE<br>ORIZED STARTUP.<br>BOILER DRAIN VAI<br>ER OF EXISTING F<br>30% PROPYLENE (<br>CKUP GAS REGULA'<br>INSTALLED LOW V | DVIDE & INST<br>3 MANUFACTUR<br>C COMBUSTIO<br>CONTRACTOR.<br>AAIN T SECTI<br>ONTO CENTER<br>GRAM.<br>ETE HOUSEKEE<br>LVE AND EXTE<br>LOOR DRAIN<br>SLYCOL.<br>FOR.<br>VATER CUT OF | ALL 6" AL29-<br>R'S RECOMME<br>N AIR THRU R<br>ON INTO BOIL<br>OF EXISTING<br>PING PAD. E<br>ND TO EXISTI<br>SUCH THAT DR. | 4C DOUBLE WA<br>NDATIONS. I<br>DOF AND TERM<br>ER. PC TO PR<br>FLOOR DRAIN<br>KTEND PAD AS<br>NG FLOOR DRA | LL (1" AIR GAF<br>NSTALL GUY WIF<br>INATE WITH GOO<br>DVIDE AND INSI<br>SUCH THAT DRA<br>NECESSARY TO<br>IN. DRAIN PIPJ | ) VENT THRU F<br>RES IF REQUIRE<br>DSENECK W/ BIF<br>FALL P-TRAP WI<br>AINAGE DOES NO<br>ACCOMMODATE F<br>ING TO BE SUPF | OOF. SEE P<br>D BY VENTI<br>D SCREEN 4<br>TH RIGID D<br>T POOL ON<br>UMPS, PUMP<br>ORTED APPR | PLANS FOR<br>ING MANUF.<br>ABOVE<br>RAIN PIP<br>FLOOR OR<br>CLEARAN | VENT LENG<br>ACTURER.<br>FINISHED RO<br>ING, SUPPOR<br>TOP LEDGE<br>CES, & BOIN<br>Y 6" ABOVE | THS. TERM<br>DOF AS SHO<br>RTED APPRO<br>OF FLOOR<br>LER CLEARA<br>FINISHED | DXIMATELY 6" A<br>DRAIN. ROUTE<br>ANCES, SEE PLA<br>FLOOR WITH SP | BOVE FIN<br>PIPING T<br>NS.<br>LIT RING | ISHED FLOOR V<br>O MINIMIZE TF | VITH<br>RIP                    |

|                  |                                                                                                                                                                                     |                                                                 |             | P   | JMP \$ | SCHEDU                      | ILE    |              |            |      |              | EXG<br>CP-5 & CP |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------|-----|--------|-----------------------------|--------|--------------|------------|------|--------------|------------------|
| EQUIP.           |                                                                                                                                                                                     |                                                                 |             |     | HEAD   |                             |        | E            | LECTRICAL  |      |              |                  |
| NO.              | MANUFACTURER & MODEL                                                                                                                                                                | SERVING                                                         | LOCATION    | GPM | (FEET) | TYPE                        | HP (W) | RPM          | V./PH./CY. | FLA  | WEIGHT (LBS) | NOTES            |
| CP - 1           | BELL & GOSSETT<br>E-90 2AAB                                                                                                                                                         | BOILER CIRCULATOR<br>FOR B-1                                    | BOILER C107 | 125 | 20 '   | IN-LINE                     | 1-1/2  | 1800         | 208/3/60   | 6.6  | 67           | 1,2,8            |
| CP-2             | BELL & GOSSETT<br>E-90 2AAB                                                                                                                                                         | BOILER CIRCULATOR<br>FOR B-2                                    | BOILER C107 | 125 | 20'    | IN-LINE                     | 1-1/2  | 1800         | 208/3/60   | 6.6  | 67           | 1,2,8            |
| CP - 3           | BELL & GOSSETT<br>E-1510 2BD                                                                                                                                                        | PRIMARY HEATING<br>WATER LOOP                                   | BOILER C107 | 180 | 80'    | BASE MOUNTED<br>END SUCTION | 7-1/2  | 1800         | 208/3/60   | 24.2 | 342          | 1,2,3,4,5,6,7,8  |
| CP-4             | BELL & GOSSETT<br>E-1510 2BD                                                                                                                                                        | BACKUP HEATING<br>WATER LOOP                                    | BOILER C107 | 180 | 80'    | BASE MOUNTED<br>END SUCTION | 7-1/2  | 1800         | 208/3/60   | 24.2 | 342          | 1,2,3,4,5,6,7,8  |
| EXG<br>CP-5      | ARMSTRONG E13.2B                                                                                                                                                                    | EXG WH-1<br>DOM. RECIRC                                         | BOILER C107 | 3.0 | 9'     | IN-LINE                     | 1/6    | 3400         | 120/1/60   | 2.0  | 14.8         | 1,10,12          |
| CP-6             | ARMSTRONG R40-45 SS                                                                                                                                                                 | WH-2<br>DOM. RECIRC                                             | BOILER C107 | 4.5 | 25 '   | IN-LINE                     | 1/6    | 4000         | 120/1/60   | 2.0  | 10.21        | 1,10,11          |
| 3<br>4<br>5<br>6 | <ul> <li>PERFORMANCE BASED ON 30</li> <li>T.C. TO PROVIDE VFD, E.</li> <li>PROVIDE &amp; INSTALL TRIPL</li> <li>PROVIDE WITH SHAFT GROU</li> <li>PC TO PROVIDE LASER ALI</li> </ul> | C. TO INSTALL.<br>E DUTY VALVE AND SUCTION DIFFU<br>NDING KITS. | SER.        |     |        |                             |        | FILTER FEEDE | R).        |      |              |                  |

8. SEE HEALING WALEN SYSTEM FILING DIAARAM. 9. SEE MODIFICATIONS TO MATURAL GAS WATER HEATER PIPING DIAGRAM. 10. PUMP SHALL BE STAINLESS STEEL CONSTRUCTION AND PROVIDED WITH SHUT-OFF FLANGES. SEE NATURAL GAS WATER HEATER PIPING DIAGRAM. TIMER & AQUASTAT CONTROL BY PC. 11. PUMP IS EXISTING - FOR INFORMATION ONLY.

|        |                                                                                                                         |                                             |                   | EXP                    | ANSIO                       | N TA    | NK       | SCHEI      | DULE        |                 |                            |                      |                            |                 | ET              |
|--------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------|------------------------|-----------------------------|---------|----------|------------|-------------|-----------------|----------------------------|----------------------|----------------------------|-----------------|-----------------|
| EQUIP. |                                                                                                                         |                                             |                   | CALCULATED             | SYSTEM VOLUME               | TEMP RA | NGE (°F) | PRESSURE R | ANGE (PSIG) | REQ'D<br>TANK   | REQ'D                      | ACTUAL               | ACTUAL                     | SHIPPING        |                 |
| NO.    | MANUFACTURER & MODEL                                                                                                    | SERVING                                     | LOCATION          | SYSTEM VOLUME<br>(GAL) | WITH SAFETY<br>Factor (Gal) | MAX     | MIN      | MAX        | MIN         | VOLUME<br>(GAL) | ACCEPTANCE<br>VOLUME (GAL) | TANK<br>VOLUME (GAL) | ACCEPTANCE<br>VOLUME (GAL) | WEIGHT<br>(LBS) | NOTES           |
| ET-1   | BELL & GOSSETT B200                                                                                                     | NEW HEATING WATER<br>LOOP                   | BOILER C107       | 715                    | 820                         | 180     | 40       | 75         | 12          | 144.17          | 88.4                       | 158.0                | 158.0                      | 435 +<br>WATER  | 1,2,3,<br>4,5,6 |
| ET-2   | AMERICAN WHEATLEY<br>BDT-013                                                                                            | DOMESTIC WATER<br>SYSTEM                    | BOILER C107       | -                      | -                           | 240     | 40       | 150        | 12          | 13              | 13                         | 13                   | 13                         | 50 +<br>WATER   | 7,8             |
|        | 1. UNIT TO BE FLOOR MOUNTED<br>2. EXPANSION TANK SIZING SH<br>3. PC TO PROVIDE & INSTALL<br>4. SEE HEATING WATER SYSTEM | ALL BE BASED ON 30%<br>4" HIGH POURED CONCR | PROPYLENE GLYCOL. |                        |                             | •       |          |            |             |                 |                            |                      |                            |                 |                 |

PC 10 PMOVIDE & INSTALL 4\* INST POWHED CONCARTER POWER CONSERCETING PAGE.
 SEE HEATING WATER SYSTEM PIPING DIAGRAM.
 SEE HEATING WATER SYSTEM PIPING DIAGRAM.
 PROVIDE & INSTALL BAG R-4 4\* AIR SEPARATOR WITH STRAINER WITH PROPER SERVICE CLEARANCE AND PROPER PIPING TO FLOOR MOUNTED BLADDER STYLE EXPANSION TANK PER MANUFACTURER'S REQUIREMENTS.
 THE HEATING EXPANSION TANK HAS BEEN SIZED FOR 820 GALLONS, WHICH IS INCLUDES THE ADDITION, REMODEL AND EXISTING ELEMENTARY VOLUME OF 274 GALLONS. THIS IS 1.15 TIMES THE CALCULATED VOLUME OF 715 GALLONS.
 PROVIDE POTABLE WATER ASME RATED FULL ACCEPTANCE REPLACEABLE EPDM BLADDER STYLE UNIT, DIAPHRAGM STYLE SHALL NOT BE ACCEPTABLE.
 SEE MODIFICATIONS NATURAL GAS WATER HEATER PIPING DIAGRAM.

|                      |                                                                  |                                                                                      |                                     | H                          | от \                   | VATI                  | ER (  | CAB   |       | UN1           | T HEA           | TER           |     |             |                | СИН           |
|----------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------|----------------------------|------------------------|-----------------------|-------|-------|-------|---------------|-----------------|---------------|-----|-------------|----------------|---------------|
| EQUIP.               | MANUFACTURER & MODEL                                             | LOCATION                                                                             | CFM                                 | MBH                        | GPM                    | LAT                   | EWT   | LWT   | WPD   |               | ELECTRI         | CAL           |     | RUNOUT SIZE | UNIT<br>WEIGHT | NOTES         |
| NO.                  | MANOTACTORER & MODEL                                             | LOUATION                                                                             | UT IN                               | mon -                      |                        | LAI                   |       |       | (FT)  | HP            | V/PH/CY         | RPM           | FLA | NONCOT CITE | (LBS)          | NOTED         |
| CUH-C100A            | SIGMA SFF-A-10-SRI                                               | VEST. C100B                                                                          | 1000                                | 69.2                       | 8.167                  | 126.4                 | 180   | 160.0 | 1.591 | 1/6           | 120/1/60        | 1500          | 2.0 | 1-1/4"      | 150<br>+ WATER | 1,2,3,4,5,6,7 |
| CUH-C100B            | SIGMA SFF-A-04-SRI                                               | VEST. C100A                                                                          | 400                                 | 33.5                       | 4.0                    | 140.2                 | 180   | 160.0 | 2.39  | 1/10          | 120/1/60        | 1075          | 1.7 | 1"          | 125<br>+ WATER | 1,2,3,4,5,6,7 |
| CUH - D100           | SIGMA SFF-A-04-SRI                                               | VEST. D100                                                                           | 400                                 | 33.5                       | 4.0                    | 140.2                 | 180   | 160.0 | 2.39  | 1/10          | 120/1/60        | 1075          | 1.7 | 1"          | 125<br>+ WATER | 1,2,3,4,5,6,7 |
| 3.<br>4.<br>5.<br>6. | . PERFORMANCE BASED ON 30% PRÓ<br>. UNIT MOUNTED 3 SPEED SWITCH. | PYLENE GLYCOL.<br>UNIT TO BE CON<br>TANDARD COLOR N<br>NG DETAIL.<br>SET OF DISPOSAB | FIGURED F<br>OT ACCEPT<br>LE FILTER | OR FIELD<br>ABLE. CU<br>S. | INSTALLED<br>STOM COLO | DDC CONT<br>R TO BE S | ROLS. |       |       | IENT 101 - FF | XONT TOP IN, FR | ONT BOTTOM OU | Τ.  |             |                |               |

|               |                                                                                                 |                |                      | RA                  | DIANT                        | PANEL                | SCHED                   | ULE                                   |                    |                  |                   |        |       |
|---------------|-------------------------------------------------------------------------------------------------|----------------|----------------------|---------------------|------------------------------|----------------------|-------------------------|---------------------------------------|--------------------|------------------|-------------------|--------|-------|
| EQUIP.<br>NO. | MANUFACTURER & MODEL                                                                            | LOCATION       | PANEL QTY IN<br>Zone | BTU/HR<br>PER PANEL | BTU/HR<br>PER PANEL<br>GROUP | AVG<br>GPM PER PANEL | GPM PER PANEL<br>SERIES | PRESSURE<br>DROP PER<br>PANEL<br>(FT) | AVG. WATER<br>TEMP | OVERALL<br>WIDTH | OVERALL<br>LENGTH | FINISH | NOTES |
| RP - 1        | AIRTEX HPH2448                                                                                  | BOYS RR C109A  | 1                    | 1,500               | 1,500                        | 0.5                  | 0.5                     | 0.23                                  | 170                | 24 "             | 48"               | WHITE  | 1,2,3 |
| RP - 1        | AIRTEX HPH2448                                                                                  | GIRLS RR C111A | 1                    | 1,500               | 1,500                        | 0.5                  | 0.5                     | 0.23                                  | 170                | 24"              | 48"               | WHITE  | 1,2,3 |
|               | 1. PROVIDE WITH SINK SCREEN F<br>2. SEE RADIANT PANEL PIPING D<br>3. PERFORMANCE BASED ON 30% P | ETAIL.         | ACENT CEILING TI     | LES.                |                              |                      |                         |                                       |                    |                  |                   |        |       |

|        |                             | I                                                                                                | FINNE    | ED TU                 | BE RA      | ADI/         | ATI0         | N HE        | ATER    | SC     | HEDUL    | E    |       |             |        | LANS FOR<br>EMENT, "> |           |
|--------|-----------------------------|--------------------------------------------------------------------------------------------------|----------|-----------------------|------------|--------------|--------------|-------------|---------|--------|----------|------|-------|-------------|--------|-----------------------|-----------|
| EQUIP. |                             |                                                                                                  | CAPACITY |                       | AVG WATER  | FLOW         |              |             | ELEI    | MENT   |          |      |       | ENCL        | DSURE  |                       |           |
| NO.    | MANUFACTURER & MODEL        | TYPE AND/OR MOUNTING                                                                             | (BTU/HR) | LOCATIONS             | TEMP. (°F) | GPM/<br>FOOT | TUBE<br>SIZE | FIN SIZE    | FINS/FT | BTU/FT | LENGTH   | ROWS | GAUGE | LENGTH      | HEIGHT | DEPTH                 | NOTES     |
| RAD-XI | SIGMA SWE-12S-44C075        | CU-AL / STYLE "S" SLOPE TOP                                                                      | VARIES   | MULTIPLE<br>LOCATIONS | 170        | 0.1          | 3/4"         | 4" SQ.      | 48      | 1,118  | SEE PLAN | 1    | 16    | SEE<br>PLAN | 12"    | 5-1/4"                | 1,2,3,4,5 |
|        | 3. PROVIDE FULL BACK PLATE, | ATED ON PLAN AS INVERTED & MOUN<br>CORNERS, ACCESS TO VALVES.<br>TO SUPPORT PIPING WITHIN ENCLOS | URE.     | ,                     |            |              |              | PING DETAIL |         |        |          |      |       |             |        |                       |           |

| DUCTLESS SPLIT SYSTEM INDOOR UNIT SCHEDULE                     |                           |                |         |            |     |         |         |        |            |                 |           |  |
|----------------------------------------------------------------|---------------------------|----------------|---------|------------|-----|---------|---------|--------|------------|-----------------|-----------|--|
| COOLING                                                        | HEATING                   |                |         | ANT PIPING | ELE | CTRICAL |         |        | DIMENSIONS |                 | UNIT      |  |
| CAPACITY<br>(BTU/HR.)                                          | CAPACITY<br>(BTU/HR @47F) | LIQUID         | SUCTION | V./PH./CY. | FLA | MOCP    | WIDTH   | HEIGHT | DEPTH      | WEIGHT<br>(LBS) | NOTES     |  |
| 9,100                                                          | 10,000                    | 1/4"           | 3/8"    | 208/1/60   | 0.3 | N/A     | 22-5/8" | 10"    | 22-5/8"    | 25.6            | 1,2,3,4   |  |
| 9,100                                                          | 10,000                    | 1/4"           | 3/8"    | 208/1/60   | 0.3 | N/A     | 22-5/8" | 10"    | 22-5/8"    | 25.6            | 1,2,3,4   |  |
| 9,100                                                          | 10,000                    | 1/4"           | 3/8"    | 208/1/60   | 0.3 | N/A     | 22-5/8" | 10"    | 22-5/8"    | 25.6            | 1,2,3,4   |  |
| 9,100                                                          | 10,000                    | 1/4"           | 3/8"    | 208/1/60   | 0.3 | N/A     | 22-5/8" | 10"    | 22-5/8"    | 25.6            | 1,2,3,4   |  |
| 17,400                                                         | 20,000                    | 1/4"           | 1/2"    | 208/1/60   | 0.3 | N/A     | 22-5/8" | 10"    | 22-5/8"    | 26.0            | 1,2,3,4,5 |  |
| 17,400                                                         | 20,000                    | 1/4"           | 1/2"    | 208/1/60   | 0.3 | N/A     | 22-5/8" | 10"    | 22-5/8"    | 26.0            | 1,2,3,4,5 |  |
| E T-STAT.<br>LED ELECTRICAL<br>ILTERS FOR ALL<br>NDENSATE PUMP |                           | D OUTDOOR UNIT |         |            |     |         |         |        |            |                 |           |  |

| DUCTLESS SPLIT SYSTEM OUTDOOR UNIT SCHEDULE |                                                              |          |                      |                  |          |      |           |              |            |       |                 |         |  |  |
|---------------------------------------------|--------------------------------------------------------------|----------|----------------------|------------------|----------|------|-----------|--------------|------------|-------|-----------------|---------|--|--|
| ING CAPACITY                                | HEATING CAPACITY REFRIGERANT PIPING                          |          | NT PIPING            | E E              | LECTRICA | AL   |           |              | DIMENSIONS |       | UNIT            |         |  |  |
| (BTU/HR)                                    | (BTU/HR @47F)                                                | LIQUID   | SUCTION              | V./PH./CY.       | FLA      | MCA  | MOCP      | WIDTH        | HEIGHT     | DEPTH | WEIGHT<br>(LBS) | NOTES   |  |  |
| 00 - 32,000                                 | 7,600 - 36,000                                               | (4) 1/4" | (2) 3/8"<br>(2) 1/2" | 208/1/60         | 12.2     | 26.0 | 30        | 37"          | 39-5/16"   | 13"   | 168.7           | 1,2,3,4 |  |  |
| 00 - 32,000                                 | 7,600 - 36,000                                               | (2) 1/4" | (2) 1/2"             | 208/1/60         | 12.2     | 26.0 | 30        | 37"          | 39-5/16"   | 13*   | 168.7           | 1,2,3,4 |  |  |
| TI ZONÉ CONFIG                              | JCTION & LIQUID LINE T<br>JRATION.<br>FF RFFRIGERATION BL/BS |          |                      | RUN LINE SETS TH |          |      | & INSTALL | MTN 18" HTGH | 18X18 BODE |       |                 |         |  |  |

|                                        |                                                                                                                                                                                                                                                            |                                                                                                                            |                                                                                                                      |                                                                       | F                                                                 | AN CO                                                                 | DIL S                                        | CHE                        | DUL     | E        |          |     |         |             |         |          |           | FC V            |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------|----------------------------|---------|----------|----------|-----|---------|-------------|---------|----------|-----------|-----------------|
| EQUIP                                  |                                                                                                                                                                                                                                                            |                                                                                                                            |                                                                                                                      | SUPPLY                                                                | 0A                                                                | ESP                                                                   | DX<br>COOLING                                | HEATING COIL (EWT = 180.0) |         | EL       | ECTRICAL |     | WEIGHT  |             |         |          |           |                 |
| NO.                                    | MANUFACTURER & MODEL                                                                                                                                                                                                                                       | SERVING                                                                                                                    | LOCATION                                                                                                             | (CFM)                                                                 | (CFM)                                                             | (IN. W.G.)                                                            | MBH                                          | MBH                        | EAT     | LAT      | LWT      | GPM | WPD     | V/PH/CY     | MCA     | MOCP     | (LBS.)    | NOTES           |
| FC-A101                                | JCI FHP-D06                                                                                                                                                                                                                                                | RMS A101,244,<br>245 & 266                                                                                                 | WORK ROOM A101                                                                                                       | 500                                                                   | 140                                                               | 0.25                                                                  | N/A                                          | 28.7                       | 43.8    | 96.4     | 160.0    | 3.0 | 5.3     | 120/1/60    | 2.5     | 15       | 59        | 1,4,5,6,7,8,9   |
| FC-A103                                | JCI FNP12                                                                                                                                                                                                                                                  | ELEM FLEX A103                                                                                                             | CORRIDOR A199                                                                                                        | 1000                                                                  | 290                                                               | 0.25                                                                  | 27.9                                         | 46.9                       | 40.0    | 81.3     | 160.0    | 4.7 | 4.0     | 120/1/60    | 9.63    | 15       | 246       | 1,2,3,4,5,6,7,8 |
| 2.<br>3.<br>4.<br>5.<br>6.<br>7.<br>8. | HORIZONTAL, CONCEALED FAI<br>PROVIDE & INSTALL COOLIN<br>PROVIDE WITH FACTORY MIX<br>PROVIDE WITH FACTORY MIX<br>PROVIDE WITH FACTORY MIX<br>PROVIDE WITH FACTORY INS<br>SEE FAN COIL PIPING DETA<br>SEE FAN COIL PIPING DETA<br>VC TO PROVIDE & INSTALL I | G CONDENSATE & V<br>ING BOX WITH RET<br>SIDE ACCESS FIL<br>DIL PIPING VARIE<br>JRE 30% PROPYLEM<br>TALLED TOGGLE DI<br>IL. | VENT DRAIN PIPIN<br>TURN AIR AND OUT<br>LTERS AND (1) AD<br>ES, SEE PLANS. C<br>WE GLYCOL (PROPO<br>ISCONNECT SWITCH | G PER MANU<br>SIDE AIR CO<br>DITIONAL SI<br>OORDINATE I<br>SED SYSTEM | ACTURER'S<br>DNTROL DAMA<br>T OF DISPO<br>ANDING WIT<br>TO BE 100 | RECOMMENDATI<br>PERS.<br>DSABLE FILTER<br>TH THE PC PRI<br>NHIBITED W | ONS & PLUMB]<br>S.<br>OR TO ORDER]<br>ATER). | NG CODE                    | DOWN TO | ) MOP SI | INK.     |     | E NORMA | LLY CLOSED. | TC TO P | ROVIDE A | CTUATOR A | ND CONTROL.     |

| Α                             | IR COOLI                           | ED CONDE                 | NSING U               | NIT SCHE              | DULE                 |                     |        | CU        |
|-------------------------------|------------------------------------|--------------------------|-----------------------|-----------------------|----------------------|---------------------|--------|-----------|
| ERVICE                        |                                    | COOLING                  |                       |                       | ELECTRICAL           |                     | WEIGHT | NOTES     |
| ERVICE                        | AMB. TEMP                          | BTU/HR                   | SEER                  | V./PH./CY.            | MCA                  | MOCP                | (LBS.) | NUTES     |
| C-A103                        | 95.0                               | 32,100                   | 17.0                  | 208/1/60              | 21.4                 | 35                  | 265    | 1,2,3,4,5 |
| JID LINE SOLE<br>ANT LINESETS | ENOID VALVE.<br>. LINESETS AND INS | ,<br>ULATION TO BE UV RE |                       | ,                     |                      |                     |        |           |
|                               | CK(S) WITH UNISTRUE S              |                          | AIL FOR LINESETS/POWE | R TO CU THRU ROOF. PI | ROVIDE & INSTALL MIN | 18" HIGH 18X18 HOUF |        |           |

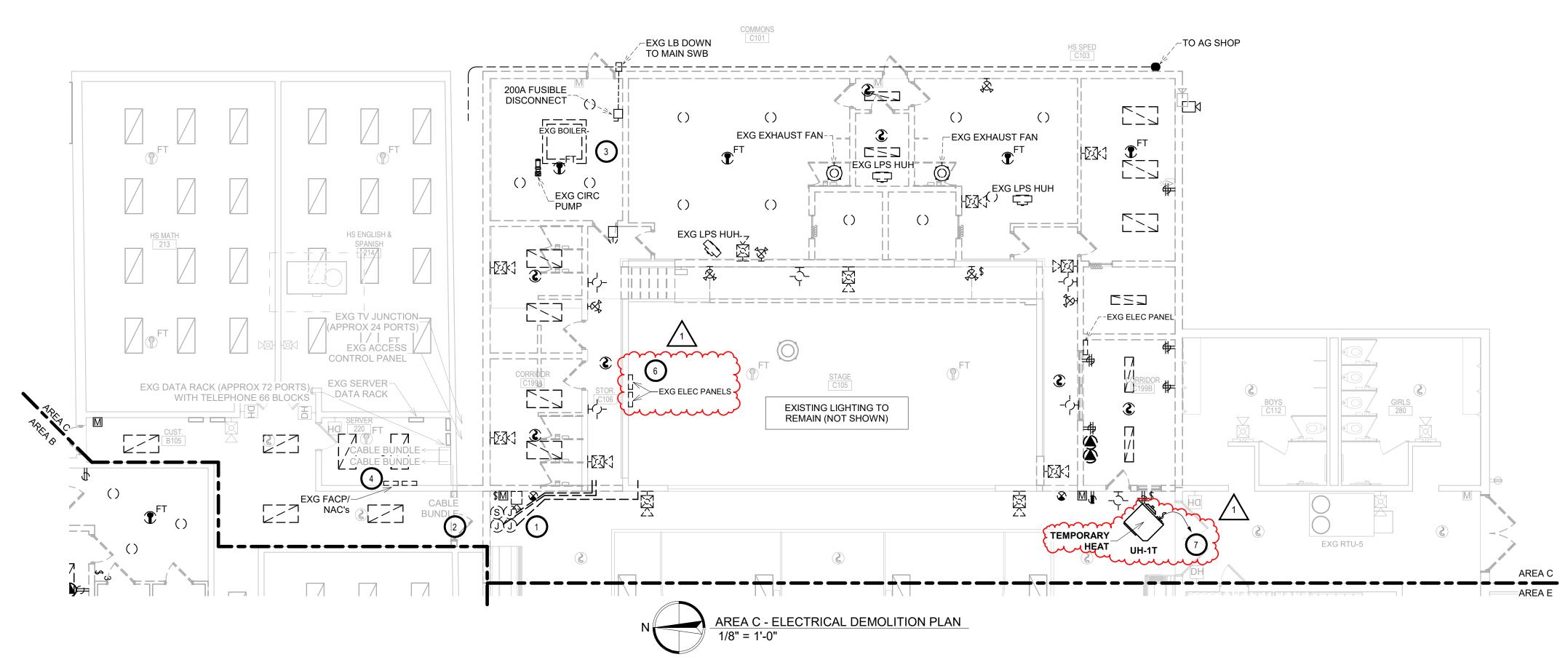
| LOCATION    | SERVING                                         | CFM       |      |     |       |     |     |     | NOTES |  |  |  |
|-------------|-------------------------------------------------|-----------|------|-----|-------|-----|-----|-----|-------|--|--|--|
| G FLAT ROOF | FC-A103 OUTSIDE AIR INTAKE                      | 1000      | 0.01 | 155 | 21X21 | 327 | 130 | Y/N | 1,2,3 |  |  |  |
|             | ACING & OVERHANG FOR STORM PR<br>UM 24" THROAT. | OTECTION. |      |     |       |     |     |     |       |  |  |  |

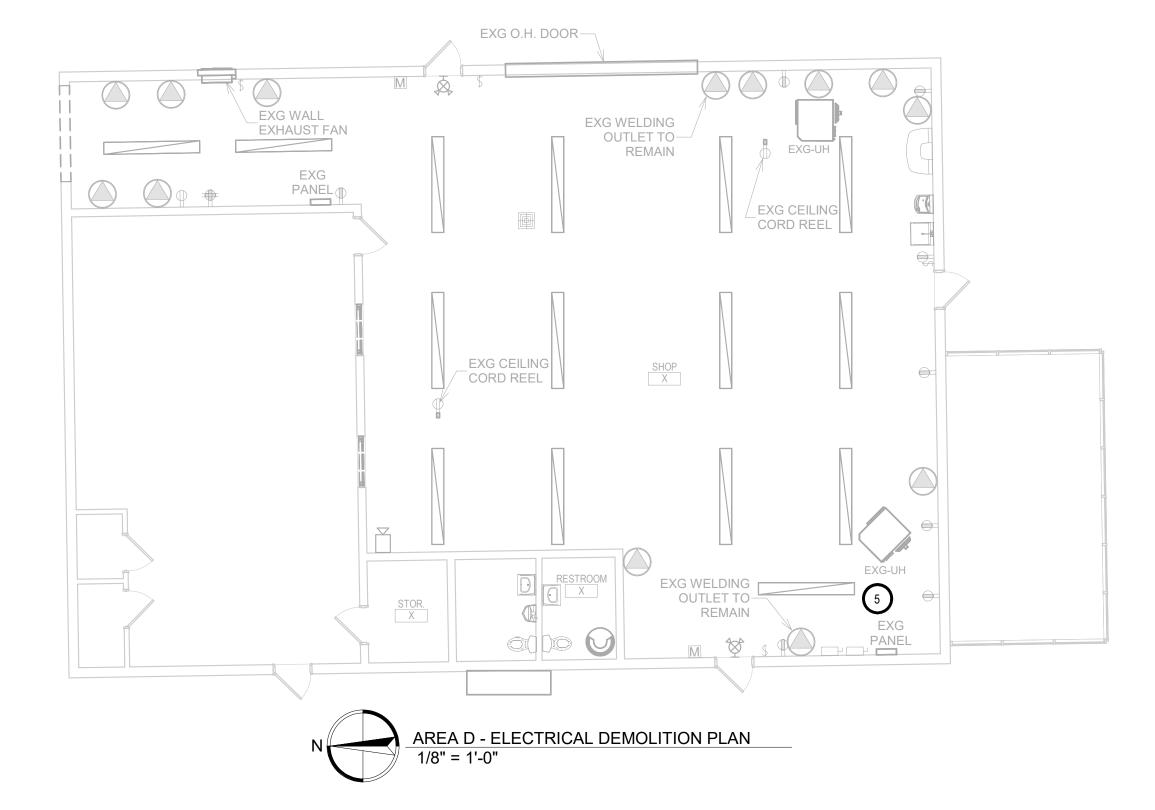
| SLOTTED FUME EXHAUST HOOD SCHEDULE |            |                         |                                          |                                            |            |               |                |                 |                        |                      | HD    |
|------------------------------------|------------|-------------------------|------------------------------------------|--------------------------------------------|------------|---------------|----------------|-----------------|------------------------|----------------------|-------|
|                                    | LOCATION   | EXHAUST<br>AIR<br>(CFM) | STATIC<br>PRESSURE<br>LOSS<br>(IN. W.G.) | EXHAUST<br>AIR<br>Connection<br>(IN. DIAM) | WIDTH (IN) | DEPTH<br>(IN) | HEIGHT<br>(IN) | NO. OF<br>SLOTS | SLOT<br>HEIGHT<br>(IN) | UNIT WEIGHT<br>(LBS) | NOTES |
| ОN                                 | SHOP D103B | 1,000                   | 1.5                                      | 8                                          | 45"        | 8"            | 34"            | 4               | 13/32                  | -                    | 1,2,3 |
| HOOD                               | ).         |                         |                                          | •                                          |            |               |                |                 |                        |                      |       |

HAUS HOUD. CTED OF 18 GAUGE GALVANIZED STEEL WITH 20 GAUGE GALVANIZED STEEL TRANSITIONS. 9' A.F.F. FOR BALANCING PURPOSES.

| <b>CO</b><br>Arch                                                                                     | ΟΡ                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Aberdeen<br>Phone: 60<br>601 Kansa<br>Rapid City<br>Phone: 60<br>440 E. 8<br>Sioux Falls<br>Phone: 60 | Main St. 102<br>, SD 57401<br>95-725-4852<br>as City St. 7<br>9, SD 57701<br>95-716-3652<br>8th St 221<br>s, SD 57103<br>95-334-9999<br>arch.com |
| ENGINE<br>Mechanical & Elec<br>801 Railroa<br>Aberdeen,<br>Phone: 605                                 | SD 57401                                                                                                                                         |
| TRAVIS JS.                                                                                            | D: 220900771                                                                                                                                     |
| REVISION SCHE                                                                                         | DSC. REV. DATE                                                                                                                                   |
| WILLOW LAKES                                                                                          | SCHOOL ADDITION<br>SCHOOL DISTRICT<br>SOUTH DAKOTA                                                                                               |
| <u>SHEET TITLE:</u><br>MECHANICAL S                                                                   | CHEDULES                                                                                                                                         |

M9(



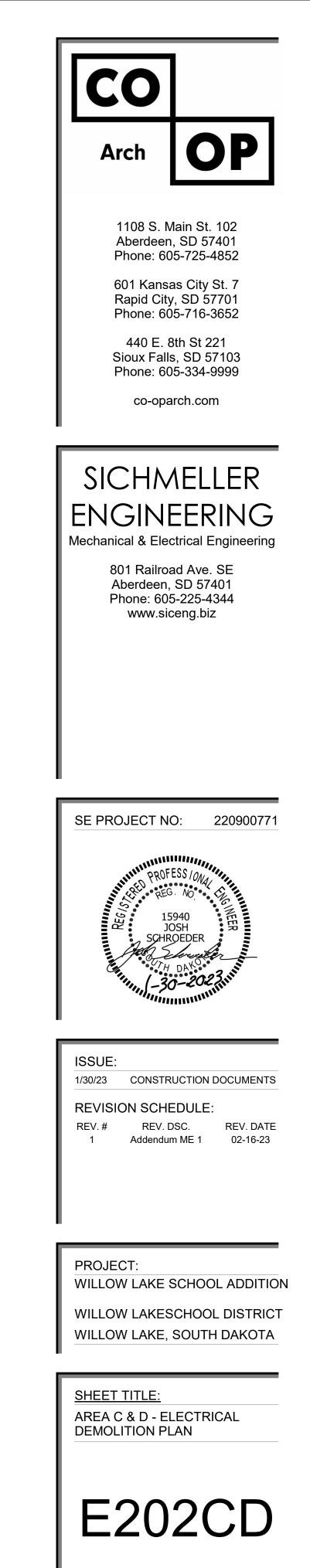


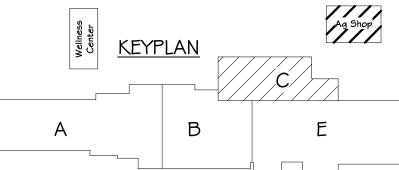


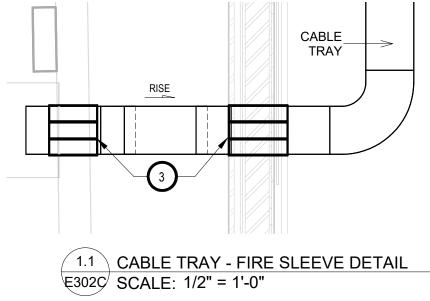
- 1. ELECTRICAL CONTRACTOR SHALL SURVEY EXISTING ELECTRICAL RACEWAYS FOR UTILIZATION. IF DEEMED TO REMAIN BY OWNER PROVIDE RELOCATION OF CONDUITS AROUND CONSTRUCTION AREAS AND PROTECTION OF CIRCUITS DURING CONSTRUCTION PHASES.
- 2. ELECTRICAL CONTRACTOR SHALL PROVIDE REMOVAL AND REINSTALLATION OF SPEAKER AS REQUIRED FOR CONSTRUCTION IN AREA, PROVIDE PROTECTION OF CIRCUIT AND DEVICE DURING CONSTRUCTION PHASES.
- 3. ELECTRICAL CONTRACTOR SHALL PROVIDE REMOVAL OF 200 AMP DISCONNECT AND UNDERGROUND FEEDER BACK TO MAIN DISTRIBUTION PANEL. VERIFY EXISTING BRANCH CIRCUITS ARE BEING DEMOED UNDER CURRENT CONSTRUCTION. PROVIDE EXTENSION OF ANY SMALL BRANCH CIRCUITS TO PANEL IN NEW ADDITION.
- 4. PROVIDE REMOVAL OF EXISTING FACP FOR INSTALLATION OF NEW FACP WITH VOICE NOTIFICATION. VERIFY FINAL REQUIREMENTS WITH SIEMENS FIRE ALARM SUPPLIER AND SYSTEMS PLANS.
- 5. EXISTING AG SHOP ELECTRICAL TO REMAIN IN WORKING ORDER FOR SCHOOL USE DURING CONSTRUCTION. PROVIDE PROTECTION OF EXISTING FEEDER FROM MAIN SWB. SEE SITE PLAN EM101 FOR ADDITIONAL INFORMATION.
- 6. STAGE PANEL: PROVIDE REMOVAL AND REPLACEMENT OF EXISTING STAGE PANELS. SEE PANEL SCHEDULE AND POWER PLAN FOR ADDITIONAL INFORMATION. PROVIDE EXTENSION OF ALL BRANCH CIRCUITING AS REQUIRED FOR CONNECTION TO NEW PANEL.
- . TEMPORARY GYM HEAT: PROVIDE 120 VOLT, 20 AMP CONNECTION FROM EXG PNL 'L3' OR NEAREST DEDICATED 120 VOLT BRANCH CIRCUIT. PROVIDE 20 AMP RATED TOGGLE DISCONNECT AT HEATER.

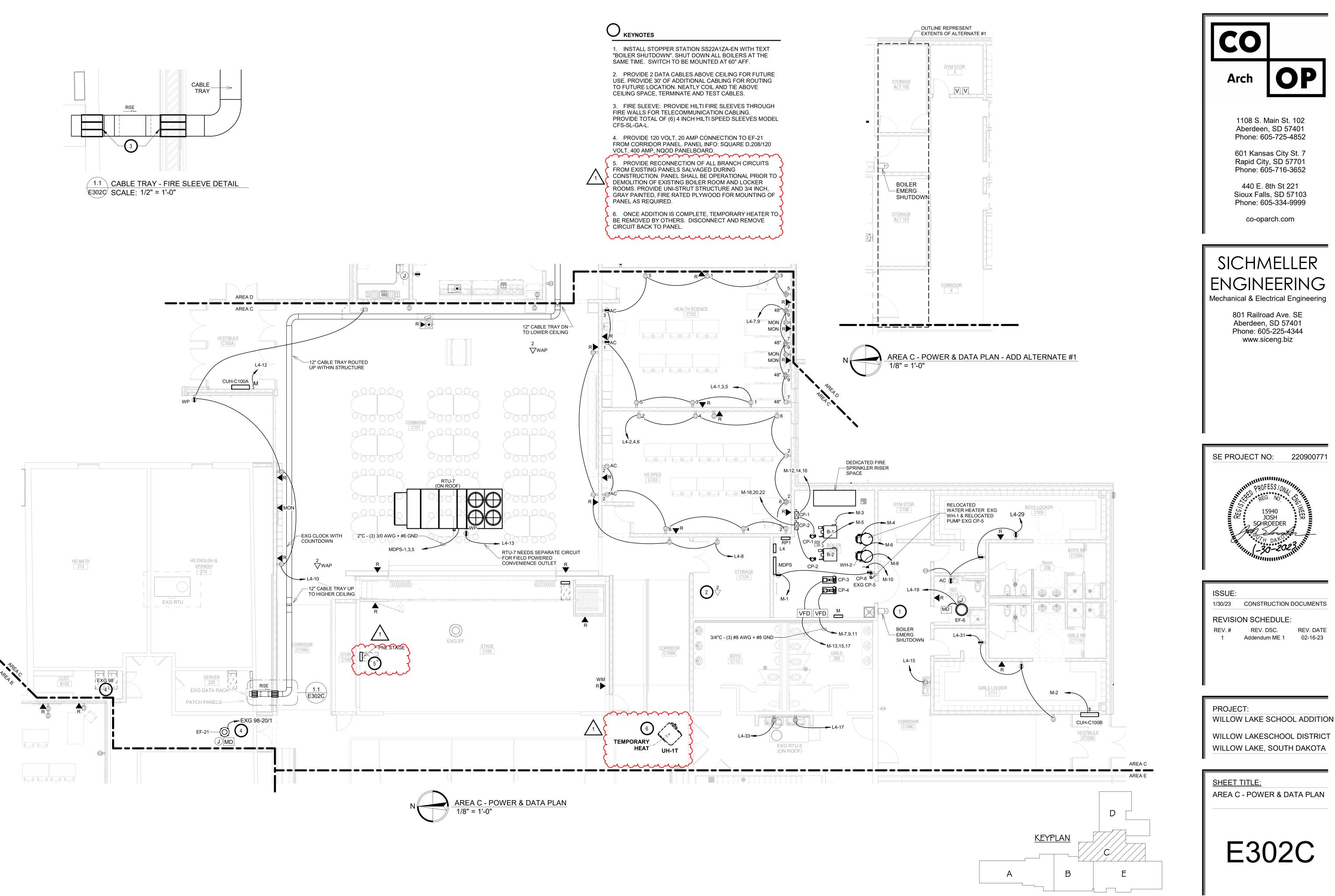
# ELECTRICAL GENERAL NOTES

- A. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE A/E IMMEDIATELY OF ANY DISCREPANCIES, INCLUDING ANY NECESSARY DEMOLITION.
- REMOVE ELECTRICAL EQUIPMENT IN THE AREAS SHOWN ON В THE PLAN, DISCONNECT CIRCUITS AND CONDUITS AND REMOVE TO A POINT OUT OF THE WAY OF THE GENERAL DEMOLITION. MARK ON THE PLAN TO CLEARLY SHOW WHERE THESE CIRCUITS ARE STOPPED. DISCONNECT THE POWER AND LIGHTING CIRCUITS IN THE PANELS TO ASSURE THAT THERE IS NO DANGER FROM ELECTRICAL SHOCK HAZARD PRESENT. DEMOLITION WORK SHALL BE COORDINATED WITH THE OWNER. SHOULD QUESTIONS ARISE REGARDING THE REMOVAL OF EQUIPMENT, CONFER WITH THE OWNER BEFORE SUCH EQUIPMENT IS DEMOLISHED. MATERIALS REMOVED BY DEMOLITION SHALL REMAIN THE PROPERTY OF THE OWNER UNLESS OTHERWISE SPECIFICALLY NOTED. MATERIAL THE OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED AND DISPOSED OF PROPERLY BY THE CONTRACTOR.
- C. EQUIPMENT SHOWN ON DRAWINGS AS EXISTING IS BASED ON EXISTING PLANS AND LIMITED FIELD INVESTIGATION. THE FIELD SURVEY WAS CONDUCTED TO VERIFY, AS MUCH AS POSSIBLE, THE ACCURACY OF THE LOCATIONS SHOWN. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF THE "EXISTING CONDITIONS" AS SHOWN ON THE DRAWINGS AS THE DEMOLITION WORK PROGRESSES. PERFORM MODIFICATIONS AND ADDITIONS AS NECESSARY TO CORRECT FOR THESE HIDDEN CONDITIONS AND ALLOW FOR THE COMPLETION OF THE NEW WORK.
- D. THE EXISTING BUILDING WILL BE IN USE DURING THIS CONSTRUCTION. SCHEDULE AND CARRY OUT THE WORK IN SUCH A MANNER AS TO CAUSE THE OWNER A MINIMUM OF INCONVENIENCE DUE TO SERVICE INTERRUPTIONS. TEMPORARY SERVICES SHALL BE INSTALLED IF ONE PHASE OF CONSTRUCTION DISRUPTS SERVICE TO ANOTHER AREA OF THE BUILDING OR IF EQUIPMENT HAS TO BE RELOCATED TO ALLOW CONSTRUCTION TO PROGRESS. SERVICE INTERRUPTIONS SHALL BE CONFINED TO THE SMALLEST AREA POSSIBLE AT ANY ONE TIME AND INTERRUPTIONS SHALL BE SCHEDULED WITH THE OWNER'S SITE REPRESENTATIVE. AFTER SERVICE HAS BEEN RESTORED FOLLOWING AN INTERRUPTION, INSPECT AREAS AFFECTED BY THE INTERRUPTION AND BE RESPONSIBLE FOR RETURNING AUTOMATICALLY CONTROLLED EQUIPMENT TO THE SAME OPERATING CONDITION, WHICH EXISTED PRIOR TO THE INTERRUPTION.
- E. PROVIDE PENETRATIONS TO THE BUILDING STRUCTURE AS REQUIRED FOR INSTALLATION. WHERE EXISTING OR TEMPORARY SYSTEMS ARE BEING DEMOLISHED, WHICH LEAVE OPENINGS IN THE EXISTING BUILDING STRUCTURE, THE BUILDING STRUCTURE SHALL BE PATCHED TO MATCH THE EXISTING CONSTRUCTION AND MAINTAIN THE EXISTING BUILDING FIRE RATINGS.
- F. ALL ELECTRICAL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, NFPA AND NEC CODES, AND THE AUTHORITY HAVING JURISDICTION.

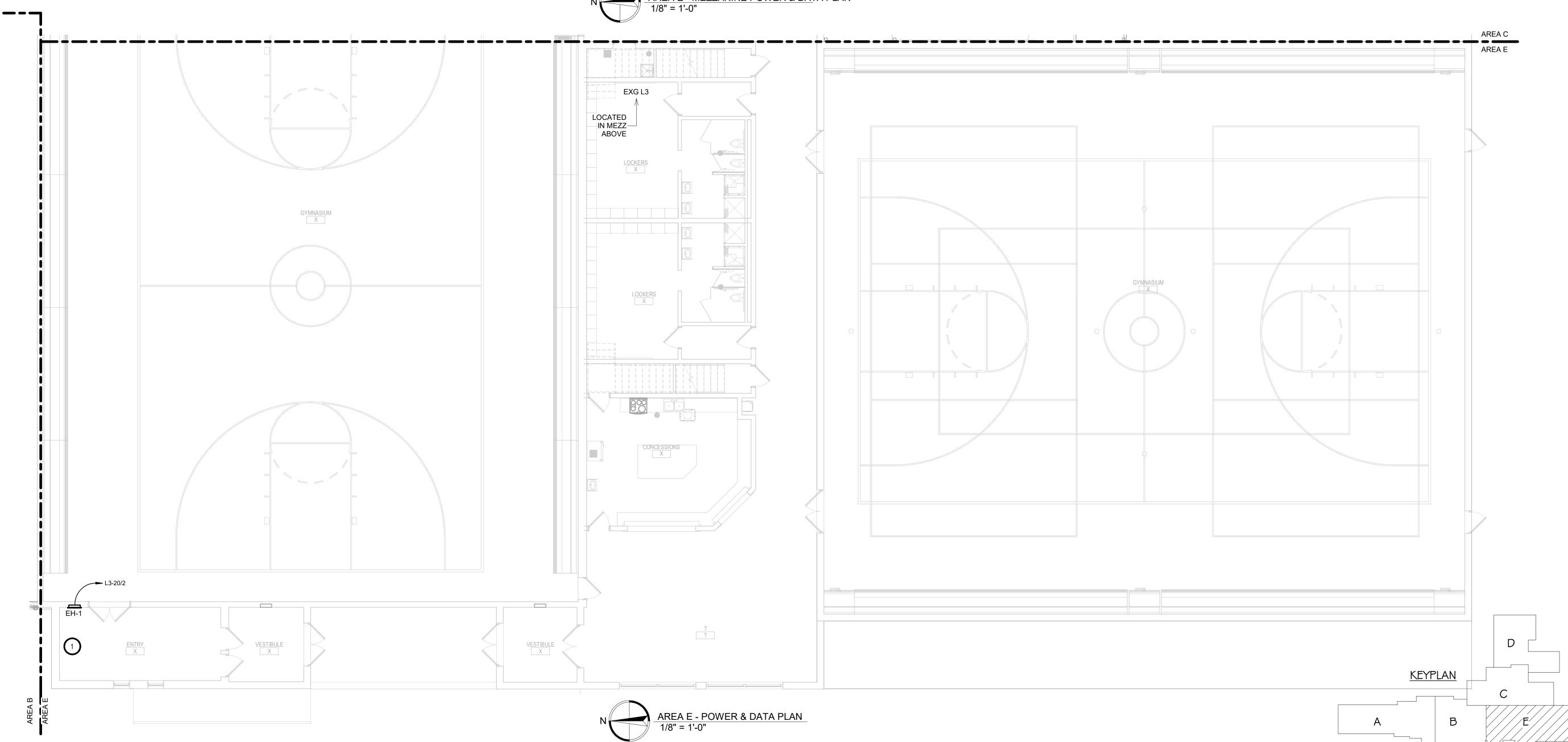








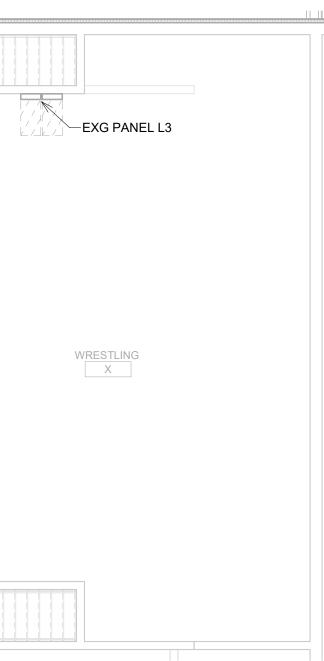






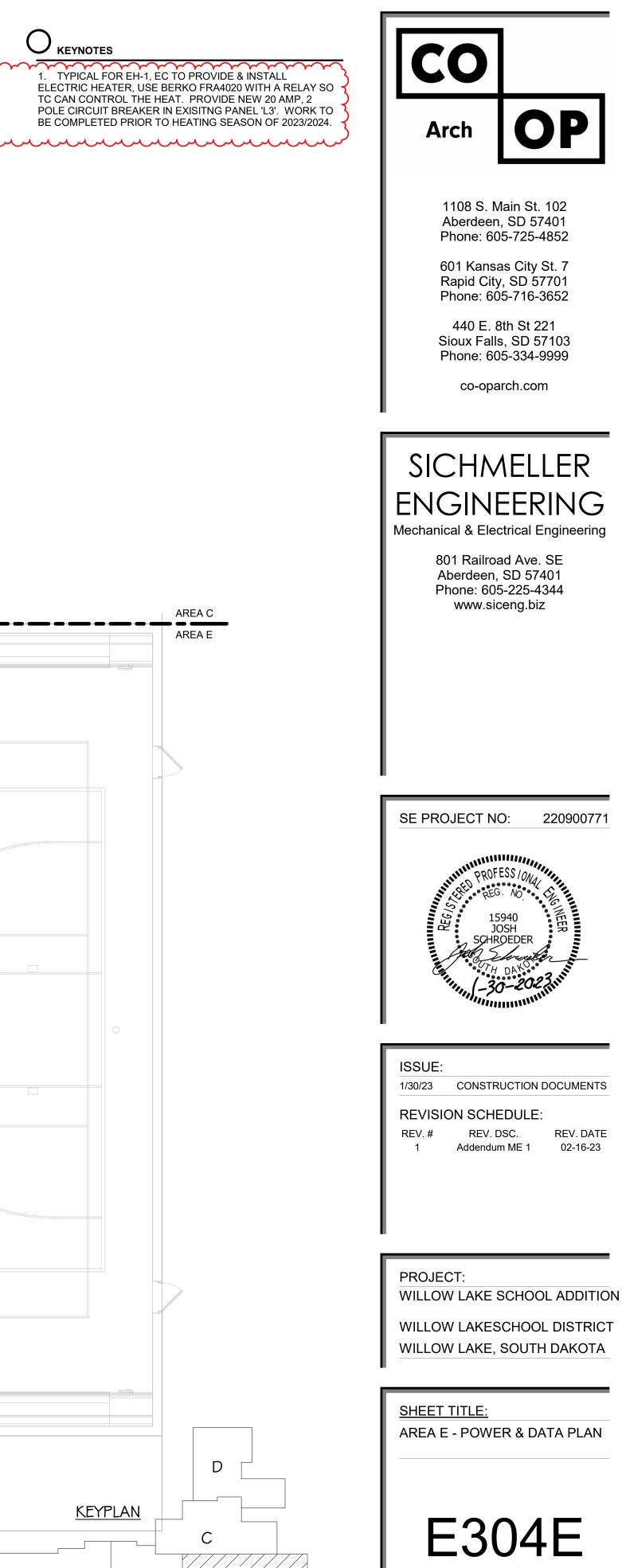


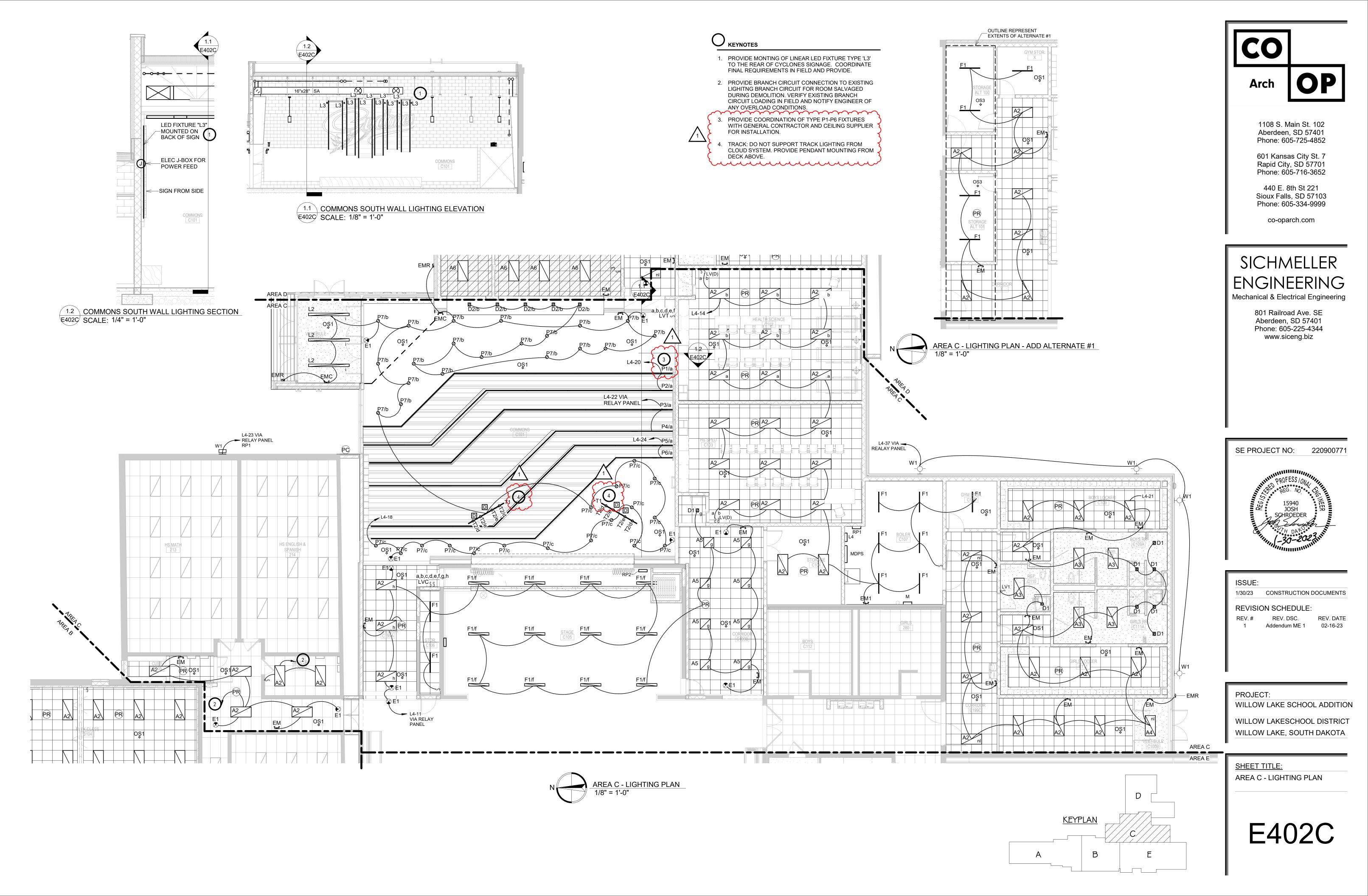
AREA E - MEZZANINE POWER & DATA PLAN

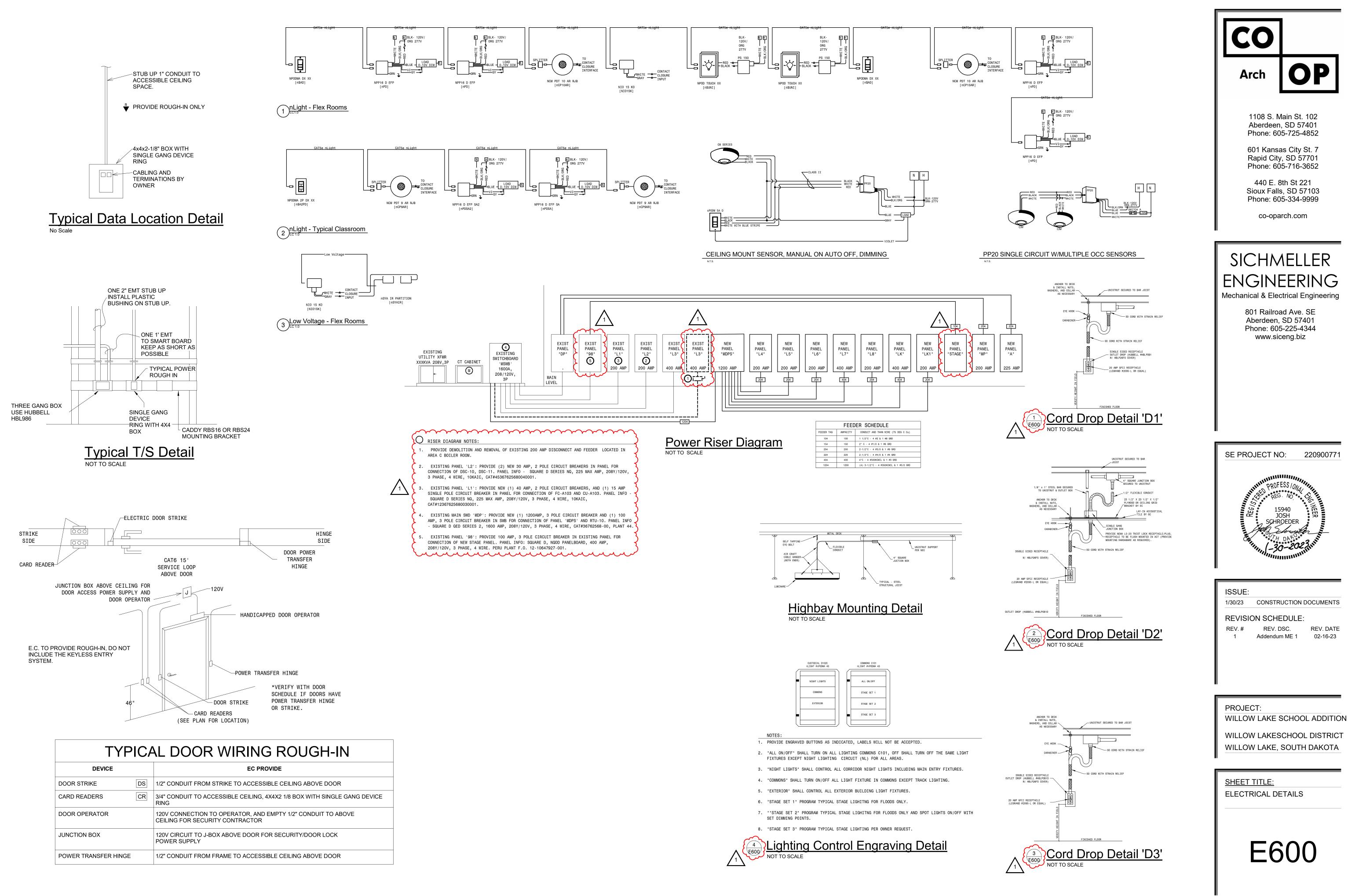


O KEYNOTES

1. TYPICAL FOR EH-1, EC TO PROVIDE & INSTALL ELECTRIC HEATER, USE BERKO FRA4020 WITH A RELAY SO TC CAN CONTROL THE HEAT. PROVIDE NEW 20 AMP, 2 POLE CIRCUIT BREAKER IN EXISITNG PANEL 'L3'. WORK TO BE COMPLETED PRIOR TO HEATING SEASON OF 2023/2024.







| TYPICAL DOOR WIRING ROUGH-IN |                                                                                                 |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|
| DEVICE                       | EC PROVIDE                                                                                      |  |  |  |  |  |  |  |  |  |  |
| DOOR STRIKE DS               | 1/2" CONDUIT FROM STRIKE TO ACCESSIBLE CEILING ABOVE DOOR                                       |  |  |  |  |  |  |  |  |  |  |
| CARD READERS CR              | 3/4" CONDUIT TO ACCESSIBLE CEILING, 4X4X2 1/8 BOX WITH SINGLE GANG DEVICE RING                  |  |  |  |  |  |  |  |  |  |  |
| DOOR OPERATOR                | 120V CONNECTION TO OPERATOR, AND EMPTY 1/2" CONDUIT TO ABOVE<br>CEILING FOR SECURITY CONTRACTOR |  |  |  |  |  |  |  |  |  |  |
| JUNCTION BOX                 | 120V CIRCUIT TO J-BOX ABOVE DOOR FOR SECURITY/DOOR LOCK<br>POWER SUPPLY                         |  |  |  |  |  |  |  |  |  |  |
| POWER TRANSFER HINGE         | 1/2" CONDUIT FROM FRAME TO ACCESSIBLE CEILING ABOVE DOOR                                        |  |  |  |  |  |  |  |  |  |  |
|                              |                                                                                                 |  |  |  |  |  |  |  |  |  |  |

| VOLI                                                           | TAGE:          | 2                | 08/120, 3     | P, 4W                   | BUS              | RATING:                 | 2             | PANE<br>25 AMP                | L       | 'L4'<br>ENCL. TYPE:                                   | NEMA                                  | × 1                              | LO              | CATION:                                                                                                        | BOILER       | RM         |
|----------------------------------------------------------------|----------------|------------------|---------------|-------------------------|------------------|-------------------------|---------------|-------------------------------|---------|-------------------------------------------------------|---------------------------------------|----------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------|--------------|------------|
|                                                                | TYPE:          | 2                | MCB           | , <del>,</del> , ,      | -                | RATING:                 |               |                               | -       | MOUNTING:                                             |                                       |                                  |                 | D FROM:                                                                                                        |              |            |
|                                                                | RKT BR         | KR               |               |                         |                  | ED LOAD                 |               | 22,000                        | -       |                                                       |                                       | CTED LO                          | -               |                                                                                                                |              | CR         |
|                                                                |                |                  | LIGHTING      | MOTORS                  | HVAC             | KITCHEN                 | RECPT<br>800  | DESCRIPTION<br>NURSE          | PH<br>A | DESCRIPTION<br>HS SPED                                |                                       | KITCHEN                          | HVAC            | MOTORS                                                                                                         | LIGHTING     |            |
| 3                                                              | 20             | 1                |               |                         |                  |                         | 800           | NURSE                         | В       | HS SPED                                               | 800                                   |                                  |                 |                                                                                                                |              | 20         |
| 5<br>7                                                         | 20<br>20       | 1<br>1           |               |                         |                  |                         | 800<br>800    | NURSE<br>NURSE S              | C<br>A  | HS SPED<br>S COMMONS                                  | 800<br>800                            |                                  |                 |                                                                                                                |              | 20<br>20   |
| 9<br>11                                                        | 20<br>20       | 1<br>1           | 812           |                         |                  |                         | 600           | NURSE S<br>STAGE/CORR         | B<br>C  | N COMMONS<br>CUH-C100                                 | 800                                   |                                  |                 | 200                                                                                                            |              | 20<br>20   |
| 13                                                             | 20             | 1                |               |                         |                  |                         | 400           | ROOF RECP                     | Α       | NURSE/BOILER                                          |                                       |                                  |                 |                                                                                                                | 1213         | 20         |
| 15<br>17                                                       | 20*<br>20*     | 1                |               |                         |                  |                         | 1200<br>1200  | WATER CLR<br>WATER CLR        | B       | EF-10<br>COMMON (P)                                   |                                       |                                  |                 | 1200                                                                                                           | 1289         | 20<br>20   |
| 19<br>21                                                       | 20<br>20       | 1<br>1           | 692           |                         | 1200             |                         |               | EF-6<br>LOCKER/CORR           | A<br>B  | Comm (CLOUD)<br>Comm (CLOUD)                          |                                       |                                  |                 |                                                                                                                | 1048<br>1040 | 20<br>20   |
| 23<br>25                                                       | 20<br>20       | 1                | 793<br>1184   |                         |                  |                         |               | EXTERIOR LTS<br>SCI/FACS LTS  |         | Comm (CLOUD)<br>SMOKE DMPR                            |                                       |                                  |                 |                                                                                                                | 1064         | 20<br>20+  |
| 27                                                             | 20             | 1                | 852           |                         |                  |                         | 600           | CORR/RR LTS                   | В       | SMOKE DMPR                                            |                                       |                                  |                 |                                                                                                                |              | 20+        |
| 29<br>31                                                       | 20<br>20       | 1<br>1           |               |                         |                  |                         | 600<br>600    | BOY LOCKER<br>GIRLS LOCKER    |         | SMOKE DMPR<br>SMOKE DMPR                              |                                       |                                  |                 |                                                                                                                |              | 20+<br>20+ |
| 33<br>35                                                       | 20*<br>20*     | 1<br>1           |               |                         |                  |                         | 200<br>200    | WC<br>WC                      | B<br>C  | SMOKE DMPR<br>SPARE                                   |                                       |                                  |                 |                                                                                                                |              | 20+<br>20  |
| 37<br>39                                                       | 20<br>20*      | 1                | 150           |                         |                  |                         |               | EXTERIOR LTS<br>SPARE         | A<br>B  | SPARE<br>SPARE                                        |                                       |                                  |                 |                                                                                                                |              | 20<br>20   |
| 41                                                             | 20*            | 1                |               | 1.04-                   |                  |                         |               | SPARE                         | C       | SPARE                                                 |                                       |                                  |                 |                                                                                                                |              | 20         |
|                                                                | TYPE           |                  | V             | LOAD                    | CALCULAT         | CONN.                   | DEMAND        | DIVERSIFIED                   | -       | NOTES:                                                |                                       |                                  |                 |                                                                                                                |              |            |
| L                                                              | IGHTI          |                  | A<br>3595     | B<br>2584               | C<br>3958        | LOAD<br>10137           | 1.00          | L0AD<br>10137                 |         | <ol> <li>BREAKERS</li> <li>BREAKERS</li> </ol>        |                                       |                                  |                 | EAKER LOC                                                                                                      | CKED ON.     |            |
|                                                                | MOTOR          | S                | 0             | 1200                    | 200              | 1400                    | 0.90          | 1260                          | 1       |                                                       |                                       | -                                |                 |                                                                                                                |              |            |
|                                                                | HVAC           | QUIP.            | 1200<br>0     | 0                       | 0                | 1200<br>0               | 0.75          | 900                           |         |                                                       |                                       |                                  |                 |                                                                                                                |              |            |
| RE                                                             | CEPTAC         |                  | 4200<br>AMPS: | 4400                    | 3600<br>54       | 12200<br>T0TAI          | 0.60<br>VA:   | 7320<br>19617                 |         |                                                       |                                       |                                  |                 | and a second |              |            |
|                                                                |                |                  |               |                         |                  |                         |               | PANE                          | L       | 'L6'                                                  |                                       |                                  |                 |                                                                                                                |              |            |
| VOLI                                                           | TAGE:          | 2                | 08/120, 3     | P, 4W                   | BUS              | RATING:                 | 2             | 25 AMP                        | _       | ENCL. TYPE:                                           | NEMA                                  | <u> </u>                         | LO              | CATION:                                                                                                        | SCIENC       | ЭE         |
| T                                                              | TYPE:          |                  | MCB           | -                       | AIC              | RATING:                 | 2             | 22,000                        | -       | MOUNTING:                                             | RECES                                 | SED                              | FE              | D FROM:                                                                                                        | MDPS         |            |
|                                                                | RKT BR         |                  | LIGHTING      | МОТОРО                  | CONNECT<br>HVAC  | ED LOAD                 | (VA)<br>RECPT | DESCRIPTION                   | рн      | DESCRIPTION                                           |                                       | CTED LO                          | AD (VA)<br>HVAC | ΜΟΤΟΡΟ                                                                                                         | LIGHTING     | CR<br>AMPS |
| 1                                                              | 20             | 1                |               |                         |                  |                         | 400           | NW STATION                    | Α       | SPARE                                                 |                                       |                                  |                 |                                                                                                                |              | 20         |
| 3<br>5                                                         | 20<br>20       | 1                |               |                         |                  |                         | 400<br>600    | NE STATION<br>E STATION       | B<br>C  | SMOKE DMPR                                            |                                       |                                  |                 |                                                                                                                |              | 20+        |
| 7<br>9                                                         | 20<br>20       | 1                |               | 1200                    |                  |                         | 800           | W WALL<br>EF-14               | A<br>B  | SMOKE DMPR<br>SMOKE DMPR                              |                                       |                                  |                 |                                                                                                                |              | 20+<br>20+ |
| 11                                                             | 20             | 1                |               |                         |                  |                         | 600           | S WALL                        | С       | GAS VALVE                                             | 250                                   |                                  |                 |                                                                                                                |              | 20         |
| 13<br>15                                                       | 20<br>20       | 1                |               | 750                     |                  |                         | 400           | EF-12,13<br>INSTRC TBL        | A<br>B  | SPARE<br>SPARE                                        |                                       |                                  |                 |                                                                                                                |              | 20<br>20   |
| 17<br>19                                                       | 20<br>20       | 1<br>1           |               |                         |                  |                         | 400<br>400    | DROP CORD 1<br>DROP CORD 2    | C<br>A  | SPARE<br>SPARE                                        |                                       |                                  |                 |                                                                                                                |              | 20<br>20   |
| 21<br>23                                                       | 20<br>20       | 1<br>1           |               |                         |                  |                         | 400<br>400    | DROP CORD 3<br>DROP CORD 4    | B<br>C  | SPARE<br>SPARE                                        |                                       |                                  |                 |                                                                                                                |              | 20<br>20   |
| 25                                                             | 20             | 1                |               |                         |                  |                         | 400           | DROP CORD 5                   | Α       | SPARE                                                 |                                       |                                  |                 |                                                                                                                |              | 20         |
| 27<br>29                                                       | 20<br>20       | 1<br>1           |               | 1200                    |                  |                         | 400           | DROP CORD 6<br>EF-15          | B<br>C  | SPARE<br>SPARE                                        |                                       |                                  |                 |                                                                                                                |              | 20<br>20   |
| 31<br>33                                                       | 20<br>20       | 1<br>1           |               | 200                     |                  |                         |               | CUH-D100<br>SPARE             | A<br>B  | SPARE<br>SPARE                                        |                                       |                                  |                 |                                                                                                                |              | 20<br>20   |
| 35<br>37                                                       | 20<br>20       | 1<br>1           |               |                         |                  |                         |               | SPARE<br>SPARE                | C<br>A  | SPARE<br>SPARE                                        |                                       |                                  |                 |                                                                                                                |              | 20<br>20   |
| 39                                                             | 20             | 1                |               |                         |                  |                         |               | SPARE                         | В       | SPARE                                                 |                                       |                                  |                 |                                                                                                                |              | 20         |
| 41                                                             | 20             | 1                | l             | LOAD                    | CALCULAT         | TIONS                   | l             | SPARE                         | C       | SPARE                                                 |                                       |                                  |                 |                                                                                                                |              | 20         |
|                                                                | TYPE           |                  | V A           | A / PHAS                | E<br>C           | CONN.<br>LOAD           | DEMAND        | DIVERSIFIED<br>LOAD           |         | NOTES:<br>1. BREAKERS                                 | NOTED WTT                             | H * SHAI                         | L BE GF         | FCI                                                                                                            |              |            |
|                                                                |                |                  | 0             | 0                       | 0                | 0                       | 1.00          | 0                             |         | 2. BREAKERS                                           |                                       |                                  |                 |                                                                                                                | CKED ON.     |            |
|                                                                | MOTOR:<br>HVAC |                  | 950<br>0      | 1200<br>0               | 1200<br>0        | 3350<br>0               | 0.90          | 3015<br>0                     |         |                                                       |                                       |                                  |                 |                                                                                                                |              |            |
| REG                                                            | HEN E          | LES              | 0<br>2000     | 0<br>1600               | 0<br>2250        | 0<br>5850               | 0.65          | 0<br>3510                     |         |                                                       |                                       |                                  |                 |                                                                                                                |              |            |
| $\sim$                                                         |                | ΤΟΤΑ             | AMPS:         | <b>~~~</b> 1            | 8                | TOTAI                   |               |                               |         | · · · · · · · · · · · · · · · · · · ·                 |                                       | $\sim$                           | $\sim$          | $\sim$                                                                                                         |              |            |
| /0L1                                                           | FAGE:          | 2                | 08/120, 3     | P, 4W                   | BUS              | RATING:                 | 1             | PANEL00AMP                    | ' S     | TAGE'<br>ENCL. TYPE:                                  | NEMA                                  | <u>\</u> 1                       | LO              | CATION:                                                                                                        | STAGE        |            |
| г                                                              | TYPE:          |                  |               | 100A                    | AIC              | RATING:                 |               | 22,000                        |         | MOUNTING:                                             | SURF                                  | ACE                              | FF              | D FROM:                                                                                                        | EXST PI      | NL '       |
| CI                                                             | RKT BR         | KR               |               | -                       |                  | ED LOAD                 |               |                               | -       |                                                       |                                       | CTED LO                          | -               |                                                                                                                |              | CR         |
| #<br>1                                                         | AMPS<br>15     | POLE             | LIGHTING      | MOTORS                  | HVAC             | KITCHEN                 |               | DESCRIPTION<br>GYM LIGHTS     | PH<br>A | DESCRIPTION<br>STAGE RECP                             | RECPT                                 | KITCHEN                          | HVAC            | MOTORS                                                                                                         | LIGHTING     | AMPS<br>20 |
| 3                                                              | 15             | 1                |               |                         |                  |                         |               | GYM LIGHTS                    | В       | SCOREBOARD                                            |                                       |                                  |                 |                                                                                                                |              | 20         |
| 5<br>7                                                         | 15<br>15       | 1                |               |                         |                  |                         |               | GYM LIGHTS<br>GYM LIGHTS      | C<br>A  | VESTIBULE<br>EXISTING BC                              |                                       |                                  |                 |                                                                                                                |              | 20<br>20   |
| 9<br>11                                                        | 20<br>20       | 1<br>1           |               |                         |                  |                         |               | STAGE LIGHTS<br>GYM FANS      | B<br>C  | EXISTING BC<br>EXISTING BC                            |                                       |                                  |                 |                                                                                                                |              | 20<br>20   |
| 13<br>15                                                       | 20<br>20       | 1                |               |                         |                  |                         |               | GYM RECP<br>GYM RECP          | A<br>B  | EXISTING BC<br>EXISTING BC                            |                                       |                                  |                 |                                                                                                                |              | 20<br>20   |
| 15                                                             | 20             | 1                |               |                         |                  |                         |               | GYM RECP                      | С       | EXISTING BC                                           |                                       |                                  |                 |                                                                                                                |              | 20         |
|                                                                | 20<br>20       | 1<br>1           |               |                         |                  |                         |               | GYM RECP<br>STAGE RECP        | A<br>B  | - EXISTING BC                                         |                                       |                                  |                 |                                                                                                                |              | 20         |
| 19<br>21                                                       | 20             | 1<br>1           |               |                         |                  |                         |               | STAGE RECP<br>SPARE           | C<br>A  | SPARE                                                 |                                       |                                  |                 |                                                                                                                |              | 20         |
|                                                                | 15             | 1                |               |                         |                  |                         |               | SPARE                         | В       | SPARE                                                 |                                       |                                  |                 |                                                                                                                |              | 20         |
| 21<br>23<br>25<br>27                                           | 15<br>15       | 1                |               |                         |                  |                         |               | SPARE<br>SPACE                | C<br>A  |                                                       |                                       |                                  |                 |                                                                                                                |              | 20         |
| 21<br>23<br>25<br>27<br>29<br>31                               |                |                  |               |                         |                  |                         |               | SPACE<br>SPACE                | B<br>C  | SPACE<br>SPACE                                        |                                       |                                  |                 |                                                                                                                |              |            |
| 21<br>23<br>25<br>27<br>29                                     | 15             |                  |               | 1                       |                  |                         |               | SPACE<br>SPACE                | A<br>B  | SPACE<br>SPACE                                        |                                       |                                  |                 |                                                                                                                |              |            |
| 21<br>23<br>25<br>27<br>29<br>31<br>33<br>35<br>37             | 15             |                  |               |                         |                  | 1                       |               | SPACE                         | C       | SPACE                                                 |                                       |                                  |                 |                                                                                                                |              |            |
| 21<br>23<br>25<br>27<br>29<br>31<br>33<br>35                   | 15             |                  |               | 1017                    |                  |                         |               | OFACE                         |         |                                                       |                                       |                                  |                 |                                                                                                                |              |            |
| 21<br>23<br>25<br>27<br>29<br>31<br>33<br>35<br>37<br>39       | 15<br>20*      |                  | V             | LOAD<br>A / PHAS        | CALCULAT<br>E    | CONN.                   |               | DIVERSIFIED                   | _       | NOTES:                                                |                                       |                                  |                 |                                                                                                                |              | . <u> </u> |
| 21<br>23<br>25<br>27<br>29<br>31<br>33<br>35<br>37<br>39<br>41 | 15             |                  | V<br>A<br>0   |                         |                  |                         | DEMAND        |                               | -       |                                                       |                                       |                                  |                 |                                                                                                                |              |            |
| 21<br>23<br>25<br>27<br>29<br>31<br>33<br>35<br>37<br>39<br>41 | 15<br>20*      | NG<br>S          | A<br>0<br>0   | A / PHAS<br>B<br>0<br>0 | E<br>C<br>0<br>0 | CONN.<br>LOAD<br>0<br>0 | 1.00          | DIVERSIFIED<br>LOAD<br>0<br>0 | -       | NOTES:<br>1. ALL BRANC<br>2. PROVIDE N<br>3. BREAKERS | NEW CIRCUI<br>NOTED WIT               | t breake<br>h * Shal             | R IN PNL        | _ '98' FC<br>CI                                                                                                | OR CONNECT   | TION       |
| 21<br>23<br>25<br>27<br>29<br>31<br>33<br>35<br>37<br>39<br>41 | 15<br>20*      | NG<br>S<br>QUIP. | A<br>0        | A / PHAS<br>B<br>0      | E<br>C<br>O      | CONN.<br>LOAD<br>0      | 1.00          | DIVERSIFIED<br>LOAD<br>0      | -       | NOTES:<br>1. ALL BRANC<br>2. PROVIDE N                | NEW CIRCUI<br>NOTED WIT<br>1/2 HOUR O | T BREAKE<br>H * SHAL<br>F CIRCUI | R IN PNL        | _ '98' FC<br>CI                                                                                                | OR CONNECT   | TION       |

| LOC | ATION: | BOILER   | RM   |        |    |
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| A)  |        |          | CRI  | KT BRK | (R |
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|     |        |          | 20   | 1      | 2  |
|     |        |          | 20   | 1      | 4  |
|     |        |          | 20   | 1      | 6  |
|     |        |          | 20   | 1      | 8  |
|     |        |          | 20   | 1      | 10 |
|     | 200    |          | 20   | 1      | 12 |
|     |        | 1213     | 20   | 1      | 14 |
|     | 1200   |          | 20   | 1      | 16 |
|     |        | 1289     | 20   | 1      | 18 |
|     |        | 1048     | 20   | 1      | 20 |
|     |        | 1040     | 20   | 1      | 22 |
|     |        | 1064     | 20   | 1      | 24 |
|     |        |          | 20+  | 1      | 26 |
|     |        |          | 20+  | 1      | 28 |
|     |        |          | 20+  | 1      | 30 |
|     |        |          | 20+  | 1      | 32 |
|     |        |          | 20+  | 1      | 34 |
|     |        |          | 20   | 1      | 36 |
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| LOC | ATION: | SCIEN    |         |      |    |
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| <b>TY</b><br>CRK<br># AI<br>1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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                                                                                | PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING                                                         | SUF                 | IFACE                    | FEI<br>D (VA) | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>1500</li> </ul>               | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*                                    | POLE           2           2           2           2           2           2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |
| TY<br>CRK<br># AI<br>1<br>3 1<br>5<br>7 5<br>9 5<br>11 5<br>13 5<br>15 5<br>17 5<br>19 6<br>21 6<br>21 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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                                                                                | PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| TY<br>CRK<br># AI<br>1<br>3 1<br>5<br>7 5<br>9 5<br>11 5<br>13 5<br>17 5<br>17 5<br>19 5<br>21 5<br>23 5<br>25 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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AMP<br>22,000<br>DESCRIPTION<br>RTU-9<br>WELDER<br>WELDER<br>WELDER<br>WELDER                                                                         | PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>A<br>B<br>C<br>A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING                                                         | SUF                 | IFACE                    | FEI<br>D (VA) | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>1500</li> </ul>               | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*<br>50*<br>50*                      | POLE         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2                                                                                                                                                                                                                                                                                                                                                                   |   |
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PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>A 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| TY<br>CRK<br># AI<br>1<br>3 1<br>5<br>7 5<br>9<br>11 5<br>13 5<br>17 5<br>13 5<br>17 5<br>19 5<br>21 5<br>23 5<br>27 29<br>31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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AMP<br>22,000<br>DESCRIPTION<br>RTU-9<br>WELDER<br>WELDER<br>WELDER<br>WELDER<br>WELDER                                                               | PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>A<br>B<br>C<br>A<br>A<br>A<br>A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING<br>BENDER<br>SPARE<br>SPARE        | SUF                 | IFACE                    | FEI<br>D (VA) | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>1500</li> </ul>               | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*<br>50*<br>50*<br>20*<br>40*<br>30* | POLE         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2          2            2 |   |
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PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>B<br>C<br>A<br>B<br>B<br>C<br>C<br>A<br>B<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>A<br>A<br>A<br>A 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| CRK         #       AI         1       1         3       1         5       5         7       5         9       5         11       5         12       5         13       5         15       5         17       5         19       5         21       5         22       5         23       5         24       5         25       5         27       29         31       33         33       35         337       37                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| ENCL. TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING<br>BENDER<br>SPARE<br>SPARE        | SUF                 | IFACE                    | FEI<br>D (VA) | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>1500</li> </ul>               | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*<br>50*<br>50*<br>20*<br>40*<br>30* | POLE         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2          2            2 |   |
| CRK         #       AI         1       1         3       1         5       7         9       5         11       5         13       6         15       7         13       6         14       6         15       7         16       5         17       6         19       5         21       5         22       7         23       5         33       35         337       39                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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AMP<br>22,000<br>DESCRIPTION<br>RTU-9<br>WELDER<br>WELDER<br>WELDER<br>WELDER<br>AIR COMP                                                             | PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>A<br>B<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>A                      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TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING<br>BENDER<br>SPARE<br>SPARE        | SUF                 | IFACE                    | FEI<br>D (VA) | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>1500</li> </ul>               | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*<br>50*<br>20*<br>40*<br>30*<br>20  | POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
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AMP<br>22,000<br>DESCRIPTION<br>RTU-9<br>WELDER<br>WELDER<br>WELDER<br>WELDER<br>AIR COMP                                                             | PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>B<br>C<br>C<br>A<br>A<br>A<br>A | ENCL. TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING<br>BENDER<br>SPARE<br>SPARE        | SUF                 | IFACE                    | FEI<br>D (VA) | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>1500</li> </ul>               | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*<br>50*<br>20*<br>40*<br>30*<br>20  | POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
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AMP<br>22,000<br>DESCRIPTION<br>RTU-9<br>WELDER<br>WELDER<br>WELDER<br>WELDER<br>SPARE<br>AIR COMP<br>EF-19<br>DIVERSIFIED                            | 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TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING<br>BENDER<br>SPARE<br>SPARE<br>SPARE<br>SPARE<br>NOTES: | SUF<br>CON<br>RECPT | RFACE NECTED LOA KITCHEN | FEI           | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> </ul> | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*<br>50*<br>20*<br>40*<br>30*<br>20  | POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
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PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>C<br>A<br>A<br>A<br>A 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TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING<br>BENDER<br>SPARE<br>SPARE<br>SPARE<br>SPARE<br>NOTES: | SUF<br>CON<br>RECPT | IFACE                    | FEI           | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> </ul> | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*<br>50*<br>20*<br>40*<br>30*<br>20  | POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
| TY<br>CRK<br># AI<br>1 3 1<br>5 7 5<br>9 5<br>11 5<br>17 5<br>13 5<br>13 5<br>13 5<br>13 5<br>23 5<br>23 5<br>23 5<br>23 5<br>23 5<br>23 5<br>23 5<br>33 3<br>33 3<br>33 3<br>34 1<br>1 1<br>1 2<br>1 2<br>2 3<br>3 1<br>2 3<br>3 3<br>3 1<br>1 1<br>1 2<br>1 2<br>1 2<br>1 2<br>1 2<br>1 2<br>1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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AMP<br>22,000<br>DESCRIPTION<br>RTU-9<br>WELDER<br>WELDER<br>WELDER<br>WELDER<br>AIR COMP<br>EF-19<br>DIVERSIFIED<br>LOAD                             | PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>C<br>A<br>A<br>A<br>A 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TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING<br>BENDER<br>SPARE<br>SPARE<br>SPARE<br>SPARE<br>NOTES: | SUF<br>CON<br>RECPT | RFACE NECTED LOA KITCHEN | FEI           | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> </ul> | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*<br>50*<br>20*<br>40*<br>30*<br>20  | POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
| CRK         #       AI         1       1         3       1         5       7         9       5         11       5         7       5         7       5         13       1         15       7         12       5         17       5         19       5         21       5         22       5         23       5         33       3         33       3         33       3         341       1         LIC       MC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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AMP<br>22,000<br>DESCRIPTION<br>ATU-9<br>WELDER<br>WELDER<br>WELDER<br>WELDER<br>AIR COMP<br>EF-19<br>DIVERSIFIED<br>LOAD<br>O<br>83430               | PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>C<br>A<br>A<br>A<br>A 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TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING<br>BENDER<br>SPARE<br>SPARE<br>SPARE<br>SPARE<br>NOTES: | SUF<br>CON<br>RECPT | RFACE NECTED LOA KITCHEN | FEI           | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> </ul> | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*<br>50*<br>20*<br>40*<br>30*<br>20  | POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
| CRK         #       AI         1       1         3       1         5       7         9       5         11       5         7       5         7       5         13       1         13       1         13       5         17       5         23       5         27       29         31       33         335       33         337       39         41       1         LLIC       MC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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AMP<br>22,000<br>DESCRIPTION<br>RTU-9<br>WELDER<br>WELDER<br>WELDER<br>WELDER<br>AIR COMP<br>EF-19<br>DIVERSIFIED<br>LOAD<br>0<br>83430<br>22680      | PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>C<br>A<br>A<br>A<br>A                                                                                                                         | ENCL. TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING<br>BENDER<br>SPARE<br>SPARE<br>SPARE<br>SPARE<br>NOTES: | SUF<br>CON<br>RECPT | RFACE NECTED LOA KITCHEN | FEI           | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> </ul> | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*<br>50*<br>20*<br>40*<br>30*<br>20  | POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
| CRK         #       AI         1       3       1         3       1       5         7       5       5         7       5       5         11       5       5         12       5       5         13       5       5         27       23       5         27       29       3         33       33       3         335       337       39         41       1       1         L10       M0       1         ITTCHE       ITCHE       1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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AMP<br>22,000<br>DESCRIPTION<br>RTU-9<br>WELDER<br>WELDER<br>WELDER<br>WELDER<br>AIR COMP<br>EF-19<br>DIVERSIFIED<br>LOAD<br>0<br>83430<br>22680<br>0 | PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>C<br>A<br>A<br>A<br>A                                                                                                                         | ENCL. TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING<br>BENDER<br>SPARE<br>SPARE<br>SPARE<br>SPARE<br>NOTES: | SUF<br>CON<br>RECPT | RFACE NECTED LOA KITCHEN | FEI           | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> </ul> | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*<br>50*<br>20*<br>40*<br>30*<br>20  | POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
| CRK         #       AI         1       1         3       1         5       7         9       5         11       5         7       5         9       5         13       5         13       5         13       5         23       5         23       5         23       5         33       33         335       33         337       39         11       1         LIC       MC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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AMP<br>22,000<br>DESCRIPTION<br>RTU-9<br>WELDER<br>WELDER<br>WELDER<br>WELDER<br>AIR COMP<br>EF-19<br>DIVERSIFIED<br>LOAD<br>0<br>83430<br>22680      | PH<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>C<br>A<br>A<br>A<br>B<br>C<br>C<br>C<br>A<br>A<br>A<br>A                                                                                                                         | ENCL. TYPE:<br>MOUNTING:<br>DESCRIPTION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>WELDER<br>STATION<br>TUBING<br>BENDER<br>SPARE<br>SPARE<br>SPARE<br>SPARE<br>NOTES: | SUF<br>CON<br>RECPT | RFACE NECTED LOA KITCHEN | FEI           | <ul> <li><b>FROM:</b></li> <li>MOTORS</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>4500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> <li>1500</li> </ul> | MDP      | S<br>CR<br>AMPS<br>50*<br>50*<br>50*<br>50*<br>20*<br>40*<br>30*<br>20  | POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |

|                   |               |                       | Ĺ                      | JUCUPAN | ICY/VACP | ANCY SEP | 120K 2C | HEDULE    |         |       |        |       |                               |
|-------------------|---------------|-----------------------|------------------------|---------|----------|----------|---------|-----------|---------|-------|--------|-------|-------------------------------|
| TYPE              |               |                       |                        | MOUN    | NTING    | VOL      | TAGE    |           | TYPE    |       | POWER  | NOTEO | DECODIDITION                  |
| IYPE              | MANUFACTURER  | CATALOG NUMBER        | LOCATION               | CEILING | WALL     | LINE     | LOW     | OCCUPANCY | VACANCY | OTHER | SUPPLY | NOTES | DESCRIPTION                   |
| OS1               | NLIGHT        | NCM-PDT-10-AR-RJB     | STORAGE/<br>RESTROOMS  | Х       |          |          | x       | x         |         |       | 120V   | 1,2   | DUAL TECH<br>OCCUPANCY SENSOR |
| OS2               | NLIGHT        | CM 10 R               | CORRIDORS              | х       |          |          | x       | x         |         |       | 120V   | 1,2   | EXTENDED RANGE                |
| OS3               | NLIGHT        | CM PDT 9 R            | SMALL RM               | Х       |          |          | х       | x         |         |       | 120V   | 1,2   | EXTENDED RANGE                |
| \$ <sup>0</sup>   | SENSOR SWITCH | WSXA-PDT              | CLASROOM/<br>RESTROOMS |         | Х        | Х        |         | x         |         |       | 120V   | 1,2   | DUAL TECH<br>OCCUPANCY SENSOR |
| \$ <sup>TS</sup>  | NLIGHT        | NPOD TOUCH            | FLEX<br>RMS/COMMONS    |         | х        |          | x       |           |         | х     | 120V   | 1,2   | TOUCHSCREEN                   |
| \$ <sup>LV1</sup> | NLIGHT        | NPODMA DX             | CLASSROOMS             |         | х        |          | Х       |           |         | х     | 120V   | 1,2   | WALLPOD DIMMER                |
| \$\$              | NLIGHT        | NPODMA 2P DX          | CLASSROOMS             |         | x        |          | Х       |           |         | Х     | 120V   | 1,2   | WALLPOD                       |
| \$ <sup>LVC</sup> | NLIGHT        | NPODMA CUSTOM         | SEE DETAIL<br>E600     |         | x        |          | Х       |           |         | Х     | 120V   | 1,2   | WALLPOD                       |
| S                 | NLIGHT        | NSYA IR PARTITION     | FLEX ROOMS             | Х       |          |          | Х       |           |         | х     | 120V   | 1,2   | PARTITION SENSOR              |
| PR                | NLIGHT        | NPP16 D EFP           | FLEX ROOMS             |         | x        |          | х       |           |         | Х     | 120V   | 1,2   | POWER PACK                    |
| R                 | NLIGHT        | NIO 1S KO             | FLEX ROOMS             |         | x        |          | х       |           |         | х     | 120V   | 1,2   | CONTACT INTERFACE             |
|                   |               | ARP INTENC08 NLT      | COMMONS                |         | x        | x        | х       |           |         | х     | 120V   | 1,2   | DIMMING RELAY PNL             |
| RP2               | NLIGHT        | ARP INTENC16 NLT      | COMMONS                |         | х        | x        | Х       |           |         | Х     | 120V   | 1,2   | DIMMING RELAY PNL             |
| D                 | NLIGHT        | NSP5 PCD              | COMMONS                | Х       |          | x        | Х       |           |         | Х     | 120V   | 1,2   | DIMMING RELAY PNL             |
| PC                | NLIGHT        | ARPA PC               | EXTERIOR               |         | х        |          | Х       |           |         | х     | 120V   | 1,2   | PHOTOCELL                     |
| NOTES             |               | GE SENSOR OR DIMMER P |                        |         |          |          |         |           |         |       |        |       |                               |

2. ALL SENSORS ARE SHOWN FOR CONTROL PURPOSE ONLY; ADDITIONAL DEVICE/POWER PACK MAY BE REQUIRED FOR A COMPLETE SYSTEM. VERIFY REQUIRED DEVICES WITH SYSTEM PROVIDER AND INSTALL COMPLETE SYSTEM. PROVIDE ALL ACCESSORIES FOR DIMMING OF ALL FIXTURES CONNECTED TO CONTROL SYSTEM.

| <b>CO</b>                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Arch <b>OP</b>                                                                                                                                             |
| 1108 S. Main St. 102<br>Aberdeen, SD 57401<br>Phone: 605-725-4852                                                                                          |
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|                                                                                                                                                            |
| SE PROJECT NO: 220900771                                                                                                                                   |
| PROFESS / 0/1/4/<br>PROFESS / 0/1/4/<br>PROFESS / 0/1/4/<br>ISP40<br>JOSH<br>SCHROEDER<br>OTH DAKO                                                         |
| ISSUE:         1/30/23       CONSTRUCTION DOCUMENTS         REVISION SCHEDULE:         REV. #       REV. DSC.         1       Addendum ME 1       02-16-23 |
| PROJECT:<br>WILLOW LAKE SCHOOL ADDITION<br>WILLOW LAKESCHOOL DISTRICT<br>WILLOW LAKE, SOUTH DAKOTA                                                         |
| SHEET TITLE:<br>ELECTRICAL SCHEDULES                                                                                                                       |
| E700                                                                                                                                                       |

|      |        |       |           |          |          |           |        | PANE          | EL | ' <b>A</b> '   |          |             |          |            |           |        |        |    |
|------|--------|-------|-----------|----------|----------|-----------|--------|---------------|----|----------------|----------|-------------|----------|------------|-----------|--------|--------|----|
| VOLT | AGE:   | 20    | 8/120, 31 | P, 4W    | BUS      | RATING:   | 2      | 25 AMP        | _  | ENCL. TYPE:    | NE       | MA 1        | LO       | CATION:    | WRK       | RM     |        |    |
| т    | YPE:_  |       | МСВ       | 200A     | AIC      | RATING:   | 2      | 22,000        | _  | MOUNTING:      | SUF      | RFACE       | FE       | D FROM:    | EXST I    | PNL 'I | OP '   | _  |
| CR   | KT BR  | KR    |           |          | CONNECT  | ED LOAD ( | VA)    |               |    |                | CON      | NECTED LOA  | D (VA)   |            |           | CR     | KT BR  | KR |
| #    | AMPS I | POLE  | LIGHTING  | MOTORS   | HVAC     | KITCHEN   | RECPT  | DESCRIPTION   | PH | DESCRIPTION    | RECPT    | KITCHEN     | HVAC     | MOTORS     | LIGHTING  | AMPS   | POLE   | #  |
| 1    | 20     | 1     |           |          |          |           | 750    | HUB ROOM      | Α  | KINDER         | 750      |             |          |            |           | 20     | 1      | 2  |
| 3    | 20     | 1     |           |          |          |           | 750    | THIRD GRD     | В  | FIRST GRD      | 750      |             |          |            |           | 20     | 1      | 4  |
| 5    | 20     | 1     |           |          |          |           | 750    | SECOND GRD    | С  | FOURTH GRD     | 750      |             |          |            |           | 20     | 1      | 6  |
| 7    | 20     | 1     |           |          |          |           | 750    | FOURTH GRD    | Α  | FOURTH GRD     | 750      |             |          |            |           | 20     | 1      | 8  |
| 9    | 20     | 1     |           |          |          |           | 750    | FOURTH GRD    | В  | ADMIN RM       | 750      |             |          |            |           | 20     | 1      | 10 |
| 11   | 20     | 1     |           |          |          |           | 750    | FIFTH GRD     | C  | HOME ECO       | 750      |             |          |            |           | 20     | 1      | 12 |
| 13   | 20     | 1     |           |          |          |           | 750    | SIXTH GRD     | A  | WATER          |          |             |          |            |           | 20*    | 1      | 14 |
| 15   | 20*    | 1     |           |          |          |           | 750    | EXIST BC      | В  | FC-A101        |          |             |          | 1200       |           | 20     | 1      | 16 |
| 17   | 20*    | 1     |           |          |          |           | 750    | EXIST BC      | С  | FC-A103        |          |             |          | 1200       |           | 20     | 1      | 18 |
| 19   | 20     | 1     |           | 1200     |          |           |        | EF-17         | Α  | EXIST BC       | 750      |             |          | 1200       |           | 20*    | 1      | 20 |
| 21   | 20     | 1     |           | 1200     |          |           |        | EF-18         | В  | EXIST BC       | 750      |             |          |            |           | 20     | 1      | 22 |
| 23   | 20     | 1     | 1200      |          |          |           |        | 1ST GRD LTS   | С  | 1ST GRD LTS    |          |             |          |            | 1200      | 20     | 1      | 24 |
| 25   | 20     | 1     | 1200      |          |          |           |        | 2ND GRD LTS   | A  | 2ND GRD LTS    |          |             |          |            | 1200      | 20     | 1      | 26 |
| 27   | 20     | 1     | 1200      |          |          |           |        | 5TH GRD LTS   | В  | 5TH GRD LTS    |          |             |          |            | 1200      | 20     | 1      | 28 |
| 29   | 20     | 1     | 1200      |          |          |           |        | RR/ENTRY LTS  | С  | HALLWAY LTS    |          |             |          |            | 1800      | 20     | 1      | 30 |
| 31   | 20     | 1     |           |          |          |           |        | B&G RR, TEACH | A  | KINDER UH      | 400      |             |          | 1200       |           | 20     | 1      | 32 |
| 33   | 20     | 1     |           | 1200     |          |           | 400    | KINDER UH     | В  | 5TH GRD UH     | 400      |             |          | 1200       |           | 20     | 1      | 34 |
| 35   | 20     | 1     |           | 1200     |          |           | 400    | 5TH UH        | С  | OFFICE RECP    | 1200     |             |          |            |           | 20     | 1      | 36 |
| 37   | 20     | 1     |           | 1200     |          |           | 400    | 4TH UH        | Α  | 6TH GRD UH     | 400      |             |          | 1200       |           | 20     | 1      | 38 |
| 39   | 20     | 1     |           |          |          |           | 600    | PRINC RECP    | В  | 6TH GRD LTS    |          |             |          |            | 1200      | 20     | 1      | 40 |
| 41   | 20*    | 1     |           |          |          |           | 1200   | TEACH L RECP  | С  | LTS            |          |             |          |            | 1200      | 20     | 1      | 42 |
| 43   | 20     | 1     | 1200      |          |          |           |        | 6TH GRD LTS   | Α  | 3RD GRD LTS    |          |             |          |            | 1200      | 20     | 1      | 44 |
| 45   | 20     | 1     | 1200      |          |          |           |        | KINDER LTS    | В  | 4TH GRD LTS    |          |             |          |            | 1200      | 20     | 1      | 46 |
| 47   | 20     | 1     | 1200      |          |          |           |        | 3RD GRD LTS   | С  | SPCL ED LTS    |          |             |          |            | 1200      | 20     | 1      | 48 |
| 49   | 20     | 1     | 1200      |          |          |           |        | 4TH GRD LTS   | Α  | N. ENTRY LTS   |          |             |          |            | 1200      | 20     | 1      | 50 |
| 51   | 20     | 1     | 1200      |          |          |           |        | OFFICE LTS    | В  | 2ND GRD UH     | 400      |             |          | 1200       |           | 20     | 1      | 52 |
| 53   | 20     | 1     |           | 1200     |          |           | 400    | 3RD GRD UH    | С  | SPCL, ENTRY UH | 400      |             |          | 1200       |           | 20     | 1      | 54 |
| 55   | 20     | 1     |           | 1200     |          |           |        | SMALL GROUP   | В  | HALL RECP      |          |             |          |            |           | 20     | 1      | 56 |
| 57   | 20     | 1     |           | 1200     |          |           | 400    | SUPER UH      | С  | INTERCOM RECP  | 200      |             |          |            |           | 20     | 1      | 58 |
| 59   | 20     | 1     |           | 1200     |          |           |        | WATERCLR      | A  | TEACH L RECP   | 1200     |             |          |            |           | 20     | 1      | 60 |
| 61   | 20     | 1     |           |          |          |           | 1200   | TEACH E RECP  | В  |                |          |             |          |            |           |        |        | 62 |
| 63   | 20     | 1     |           |          |          |           | 400    | WRK RM        | C  | EF-20          |          |             |          |            |           | 20     | 3      | 64 |
| 65   | 20     | 1     |           |          |          |           | 400    | WRK RM        | A  |                |          |             |          |            |           |        |        | 66 |
|      |        |       |           |          |          |           |        |               |    |                |          |             |          |            |           |        |        |    |
| 67   | 20*    | 1     |           |          |          |           | 400    | WRK RM        | B  | EXIST BC       |          |             |          |            |           | 50     | 2      | 68 |
| 69   | 20*    | 1     |           |          |          |           |        | EXIST BC      | C  |                |          |             |          |            |           |        |        | 70 |
|      |        |       |           | LOAD     | CALCULAT | IONS      |        | 1             |    |                |          |             |          |            |           |        |        |    |
|      | TYPE   |       | V         | A / PHAS | E        | CONN.     | DEMAND | DIVERSIFIED   |    | NOTES:         |          |             |          |            |           |        |        |    |
|      |        |       | А         | В        | С        | LOAD      |        | LOAD          |    | 1. PROVIDE F   | EED THRU | J LUGS      |          |            |           |        |        |    |
| L    | IGHTIN | IG    | 2400      | 3600     | 6600     | 12600     | 1.00   | 12600         |    | 2. UTILIZE E   | XISTING  | CIRCUIT B   | REAKER F | OR CONNE   | ECTION TO | PNL    | ' DP ' |    |
| I    | NOTORS | 5     | 6000      | 4800     | 2400     | 13200     | 0.90   | 11880         | 1  | 3. BREAKERS    | NOTED W  | ITH * TO BI | E GFCI   |            |           |        |        |    |
|      | HVAC   |       | 0         | 0        | 0        | 0         | 0.75   | 0             | 1  | 4. PROVIDE 1   |          |             |          |            | )FNTTETCA | ττον ( | )F     |    |
| KITO | HEN EQ |       | 0         | 0        | 0        | 0         | 0.65   | 0             | 1  | EXIST BRANCH   |          |             |          | io i un IL |           |        |        |    |
|      |        |       |           |          |          |           |        |               | 1  |                |          |             |          |            |           |        |        |    |
| REC  | EPTACL |       | 5700      | 5900     | 6550     | 18150     | 0.60   | 10890         | -  |                |          |             |          |            |           |        |        |    |
|      | -      | TOTAL | AMPS:     | TBD I    | BY EC    | TOTAL     | VA:    | TBD BY EC     |    |                |          |             |          |            |           |        |        |    |

|     |        |       |            |          |          |            |         | PANE        | Ľ                   | 'MP'          |                        |              |          |           |           |        |        |     |
|-----|--------|-------|------------|----------|----------|------------|---------|-------------|---------------------|---------------|------------------------|--------------|----------|-----------|-----------|--------|--------|-----|
| VOL | TAGE:  | 20    | 08/120, 3F | ⊃, 4W    | BUS      | RATING:    | 2       | 25 AMP      |                     | ENCL. TYPE:   | NE                     | <i>I</i> A 1 | LO       | CATION:   | MUSI      | С      | -      |     |
|     | TYPE:  |       | MCB        | 200A     | AIC      | RATING:    | 2       | 2,000       |                     | MOUNTING:     | NTING:RECESSED FED_FRO |              | D FROM:  | EXST F    | PNL 'I    | DP '   | _      |     |
| C   | RKT BF | RKR   |            |          | CONNECT  | TED LOAD ( | VA)     |             | CONNECTED LOAD (VA) |               |                        |              |          |           | CR        | KT BRI | KR     |     |
| #   | AMPS   | POLE  | LIGHTING   | MOTORS   | HVAC     | KITCHEN    | RECPT   | DESCRIPTION | PH                  | DESCRIPTION   | RECPT                  | KITCHEN      | HVAC     | MOTORS    | LIGHTING  | AMPS   | POLE   | #   |
| 1   | 15     | 1     |            |          |          |            |         | SPARE       | Α                   | CLASSROOM     | 600                    |              |          |           |           | 20     | 1      | 2   |
| 3   | 15     | 1     |            |          |          |            |         | SPARE       | В                   | CLASSROOM     | 600                    |              |          |           |           | 20     | 1      | 4   |
| 5   | 15     | 1     |            |          |          |            |         | EXIST       | С                   | CLASSROOM     | 600                    |              |          |           |           | 20     | 1      | 6   |
| 7   | 15     | 1     |            |          |          |            |         | EXIST       | Α                   | CLASSROOM     | 600                    |              |          |           |           | 20     | 1      | 8   |
| 9   | 20     | 1     |            |          |          |            |         | EXIST       | В                   | CLASSROOM     | 600                    |              |          |           |           | 20     | 1      | 10  |
| 11  | 20     | 1     |            |          |          |            |         | EXIST       | С                   | CLASSROOM     | 600                    |              |          |           |           | 20     | 1      | 12  |
| 13  | 20     | 1     |            |          |          |            |         | EXIST       | Α                   | CLASSROOM     | 600                    |              |          |           |           | 20     | 1      | 14  |
| 15  | 20*    | 1     |            |          |          |            |         | EXIST       | В                   | PRACTICE      | 800                    |              |          |           |           | 20     | 1      | 16  |
| 17  | 20*    | 1     |            |          |          |            |         | EXIST       | С                   | MUSIC         | 1000                   |              |          |           |           | 20     | 1      | 18  |
| 19  | 20*    | 1     |            |          |          |            |         | EXIST       | Α                   | MUSIC         | 1000                   |              |          |           |           | 20     | 1      | 20  |
| 21  | 20     | 1     |            |          |          |            |         | EXIST       | В                   | MUSIC         | 1000                   |              |          |           |           | 20     | 1      | 22  |
| 23  | 20     | 1     |            |          |          |            |         | EXIST       | С                   | ROOF          | 200                    |              |          |           |           | 20     | 1      | 24  |
| 25  | 20     | 1     |            |          |          |            |         | EXIST       | Α                   | MUSIC OFF     | 400                    |              |          |           |           | 20     | 1      | 26  |
| 27  | 20     | 1     |            |          |          |            |         | EXIST       | В                   | 1 ON 1        | 400                    |              |          |           |           | 20     | 1      | 28  |
| 29  | 20     | 1     |            |          |          |            |         | EXIST       | С                   | FLEX ART/SPAN | 1000                   |              |          |           |           | 20     | 1      | 30  |
| 31  | 20     | 1     |            |          |          |            |         | EXIST       | Α                   | FLEX ART/SPAN | 1000                   |              | 3000     |           |           | 20     | 1      | 32  |
| 33  | 20     | 1     |            |          |          |            |         | EXIST       | В                   | FLEX ART/SPAN | 1000                   |              | 3000     |           |           | 20     | 1      | 34  |
| 35  | 20     | 1     |            |          |          |            |         | EXIST       | С                   | SPARE         |                        |              |          |           |           | 20     | 1      | 36  |
| 37  | 20+    | 1     |            |          |          |            |         | SMOKE DMPR  | А                   | FLEX RM       | 1200                   |              |          |           |           | 20     | 1      | 38  |
| 39  | 20+    | 1     |            |          |          |            |         | SMOKE DMPR  | В                   | FLEX RM       | 1200                   |              |          |           |           | 20     | 1      | 40  |
| 41  | 20+    | 1     |            |          |          |            |         | SMOKE DMPR  | С                   | FLEX RM       | 1200                   |              |          |           |           | 20     | 1      | 42  |
|     |        |       |            | LOAD     | CALCULAT | TIONS      |         |             |                     |               |                        |              |          |           |           |        |        |     |
|     | TYPE   |       | V          | A / PHAS | E        | CONN.      | DEMAND  | DIVERSIFIED |                     | NOTES:        |                        |              |          |           |           |        |        |     |
|     | 1156   |       | A          | В        | С        | LOAD       | DLIMAND | LOAD        |                     | 1. PROVIDE C  | ONNECTIC               | N TO PNL     | 'DP' VIA | EXIST 2   | 200/3 CIR | CUIT I | BREAKE | ER. |
| l   | IGHTI  | NG    | 0          | 0        | 0        | 0          | 1.00    | 0           |                     | 2. PROVIDE N  | EW CIRCL               | IT BREAKE    | R IN PNL | . 'DP' FC | R CONNEC  | TION   |        |     |
|     | MOTOR  | S     | 0          | 0        | 0        | 0          | 0.90    | 0           |                     | 3. BREAKERS   | NOTED WI               | TH * SHAL    | L BE GFC | I         |           |        |        |     |
|     | HVAC   |       | 3000       | 3000     | 0        | 6000       | 0.75    | 4500        |                     | 4. PROVIDE 1  | ,                      |              | T TRACIN | IG FOR ID | ENTIFICA  | TION   | ΟF     |     |
| KIT | CHEN E | QUIP. | 0          | 0        | 0        | 0          | 0.65    | 0           |                     | EXIST BRANCH  | CIRCUITS               | NOTED.       |          |           |           |        |        |     |
| RE  | CEPTAC | CLES  | 5400       | 5600     | 3400     | 14400      | 0.60    | 8640        |                     | 5. BREAKERS   | NOTED WI               | TH + SHAL    | L BE BRE | AKER LOC  | KED ON.   |        |        |     |
|     |        | TOTAL | AMPS:      | TBD I    | BY EC    | TOTAL      | VA:     | TBD BY EC   |                     |               |                        |              |          |           |           |        |        |     |

|      |        |       |            |          |          |           |        | PANE        |    | 141                 |          |           |                |         |          |      |      |    |
|------|--------|-------|------------|----------|----------|-----------|--------|-------------|----|---------------------|----------|-----------|----------------|---------|----------|------|------|----|
| VOLI | TAGE:  | 20    | 08/120, 3F | P, 4W    | BUS      | RATING:   | 2:     | 25 AMP      | -  | ENCL. TYPE:         | NEM      | IA 1      | LOC            | CATION: | BOILER   | RM   |      |    |
| 1    | YPE:   |       | МСВ        |          | AIC      | RATING:   | 2      | 2,000       | -  | MOUNTING:           | SUR      | FACE      | FED FROM: MDPS |         |          | 6    |      |    |
| CI   | RKT BF | KR    |            |          | CONNECT  | ED LOAD ( | VA)    |             |    | CONNECTED LOAD (VA) |          |           |                | KT BRI  | ٢R       |      |      |    |
| #    | AMPS   | POLE  | LIGHTING   | MOTORS   | HVAC     | KITCHEN   | RECPT  | DESCRIPTION | PH | DESCRIPTION         | RECPT    | KITCHEN   | HVAC           | MOTORS  | LIGHTING | AMPS | POLE | #  |
| 1    | 20     | 1     |            |          |          |           | 400    | BLR RM RECP | А  | CUH-C100B           |          |           | 200            |         |          | 20   | 1    | 2  |
| 3    | 20     | 1     |            |          | 1200     |           |        | BOILER B-1  | В  | WH - 1              |          |           | 250            |         |          | 20   | 1    | 4  |
| 5    | 20     | 1     |            |          | 1200     |           |        | BOILER B-2  | С  | WH-2                |          |           | 250            |         |          | 20   | 1    | 6  |
| 7    |        |       |            | 2904     |          |           |        |             | А  | CP-5                |          |           | 250            |         |          | 20   | 1    | 8  |
| 9    | 50     | 3     |            | 2904     |          |           |        | CP-3        | В  | CP-6                |          |           | 250            |         |          | 20   | 1    | 10 |
| 11   |        |       |            | 2904     |          |           |        |             | С  |                     |          |           |                | 792     |          |      |      | 12 |
| 13   |        |       |            | 2904     |          |           |        |             | Α  | CP - 1              |          |           |                | 792     |          | 20   | 3    | 14 |
| 15   | 50     | 3     |            | 2904     |          |           |        | CP-4        | В  |                     |          |           |                | 792     |          |      |      | 16 |
| 17   |        |       |            | 2904     |          |           |        |             | С  |                     |          |           |                | 792     |          |      |      | 18 |
| 19   |        |       |            |          |          |           |        |             | А  | CP-2                |          |           |                | 792     |          | 20   | 3    | 20 |
| 21   | 35     | 3     |            |          |          |           |        | SPARE       | В  |                     |          |           |                | 792     |          |      |      | 22 |
| 23   |        |       |            |          |          |           |        |             | С  |                     |          |           |                |         |          |      |      | 24 |
| 25   |        |       |            |          |          |           |        |             | Α  | SPARE               |          |           |                |         |          | 15   | 3    | 26 |
| 27   | 35     | 3     |            |          |          |           |        | SPARE       | В  |                     |          |           |                |         |          |      |      | 28 |
| 29   |        |       |            |          |          |           |        |             | С  |                     |          |           |                |         |          |      |      | 30 |
| 31   | 20+    | 1     |            |          |          |           |        | SMOKE DMPR  | Α  | SPARE               |          |           |                |         |          | 15   | 3    | 32 |
| 33   | 20+    | 1     |            |          |          |           |        | SMOKE DMPR  | В  |                     |          |           |                |         |          |      |      | 34 |
| 35   | 20+    | 1     |            |          |          |           |        | SMOKE DMPR  | C  |                     |          |           |                |         |          |      |      | 36 |
| 37   | 20+    | 1     |            |          |          |           |        | SMOKE DMPR  | A  |                     |          |           |                |         |          |      |      | 38 |
| 39   | 20*    | 1     |            |          |          |           |        | SPARE       | В  |                     |          |           |                |         |          |      |      | 40 |
| 41   | 20*    | 1     |            |          |          |           |        | SPARE       | С  |                     |          |           |                |         |          |      |      | 42 |
|      |        |       |            | LOAD (   | CALCULAT | IONS      |        |             |    |                     |          |           |                |         |          |      |      |    |
|      | TYPE   |       | V          | A / PHAS | E        | CONN.     | DEMAND | DIVERSIFIED |    | NOTES:              |          |           |                |         |          |      |      |    |
|      |        |       | Α          | В        | С        | LOAD      |        | LOAD        |    | 1. PROVIDE F        | EED THRU | LUGS      |                |         |          |      |      |    |
| L    | IGHTI  | NG    | 0          | 0        | 0        | 0         | 1.00   | 0           |    | 2. PROVIDE S        | UB FEED  | BREAKER   |                |         |          |      |      |    |
|      | MOTOR  | S     | 7392       | 7392     | 7392     | 22176     | 0.90   | 19958       |    | 3. BREAKERS         | NOTED WI | TH * SHAL | L BE GFC       | I       |          |      |      |    |
|      | HVAC   |       | 450        | 1700     | 1450     | 3600      | 0.75   | 2700        |    | 4. BREAKERS         | NOTED WI | TH + SHAL | L BE BRE       | AKER LO | CKED ON. |      |      |    |
| КІТС | HEN E  | QUIP. | 0          | 0        | 0        | 0         | 0.65   | 0           |    |                     |          |           |                |         |          |      |      |    |
| RE   | CEPTAC | LES   | 400        | 0        | 0        | 400       | 0.60   | 240         |    |                     |          |           |                |         |          |      |      |    |

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|      |                           |                 | LUMINAIRE                                                                                                                                                              |                |         |                |              |           |          |
|------|---------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|----------------|--------------|-----------|----------|
| TYPE | MANUFACTURERS             | CATALOG SERIES  | FIXTURE DESCRIPTION                                                                                                                                                    | MOUNTING       | VOLTAGE |                | ED DATA      |           |          |
| A1   | LITHONIA                  | STAK            | 2X4 RECESSED LED TROFFER, WHITE FINISH, ACRYLIC LENS.                                                                                                                  | RECESSED       | MVOLT   | LUMENS<br>3000 | ССТ<br>4000К | CRI<br>90 | DI       |
| A2   | LITHONIA                  | STAK            | 2X4 RECESSED LED TROFFER, WHITE FINISH, ACRYLIC LENS.                                                                                                                  | RECESSED       | MVOLT   | 4000           | 4000K        | 90        | +        |
| A3   | LITHONIA                  | STAK            | 2X4 RECESSED LED TROFFER, WHITE FINISH, ACRYLIC LENS, DRYWALL GRID ADAPTER.                                                                                            | RECESSED       | MVOLT   | 3000           | 4000K        | 90        | -        |
| A4   | LITHONIA                  | STAK            | 2X4 RECESSED LED TROFFER, WHITE FINISH, ACRYLIC LENS, DRYWALL GRID ADAPTER.                                                                                            | RECESSED       | MVOLT   | 4000           | 4000K        | 90        |          |
| A5   | LITHONIA                  | STAK            | 2X2 RECESSED LED TROFFER, WHITE FINISH.                                                                                                                                | RECESSED       | MVOLT   | 3000           | 4000K        | 90        |          |
| A6   | LITHONIA                  | 2GTL            | 2X4 RECESSED LED TROFFER, WHITE FINISH, .125 ACRYLIC LENS, GASKETED ALUMINUM DOOR.                                                                                     | RECESSED       | MVOLT   | 4000           | 4000K        | 90        |          |
| C1   | SSL                       | MINI COVE       | 48" LOW PROFILE LINEAR COVE FIXTURE, 60 DEGREE BEAM,                                                                                                                   | SURFACE        | MVOLT   | 2250           | 4000K        | 80        |          |
| D1   | GOTHAM                    | EVO             | 6 INCH ROUND LED RECESSED FIXTURE, FLUSH SMOOTH LENS WITH ANTI-MICROBIAL FINISH.                                                                                       | RECESSED       | MVOLT   | 1000           | 4000K        | 80        |          |
| D2   | LITHONIA                  | LDN6            | 6 INCH ROUND LED RECESSED FIXTURE, SWITCHABLE LUMENS 1000/1500/2000, CLEAR SEMI SPECULAR LENS, BLACK TRIM                                                              | RECESSED       | MVOLT   | 1000           | 4000K        | 90        |          |
| E1   | LITHONIA                  | LQM             | LED EXIT LIGHT, RED LETTERS, BATTERY BACK-UP 90 MINUTES,<br>SELF DIAGNOSTICS, WHITE FINISH THERMOPLASTIC HOUSING                                                       | UNIVERSAL      | MVOLT   | RED            |              |           |          |
| E2   | LITHONIA                  | LQM             | LED EXIT LIGHT, DUAL FACE, RED LETTERS, BATTERY BACK-UP 90<br>MINUTES, WHITE FINISH THERMOPLASTIC HOUSING, SELF<br>DAIGNOSTICS.                                        | UNIVERSAL      | MVOLT   | RED            |              |           |          |
| EM   | LITHONIA                  | ELM2L           | LED EMERGENCY BATTERY PACK, WHITE FINISH, 90 MINUTE BATTERY LIFE, SELF DIAGNOASTICS.                                                                                   | WALL           | MVOLT   | 220            |              |           |          |
| EMC  | LITHONIA                  | ELM2L           | LED EMERGENCY BATTERY PACK, WHITE FINISH, 90 MINUTE BATTERY<br>LIFE, SELF DIAG., WITH ADDITIOANAL REMOTE CAPACITY FOR<br>REMOTE HEAD.                                  | WALL           | MVOLT   | 220            |              |           |          |
| EMR  | LITHONIA                  | ELMRW           | REMOTE EMERGENCY LED, TWIN HEAD, DARK BRONZE FINISH,                                                                                                                   | WALL           | MVOLT   | 220            |              |           |          |
| EM1  | LITHONIA                  | ELM4L           | LED EMERGENCY BATTERY PACK, BLACK FINISH, 90 MINUTE BATTERY LIFE, SELF DIAGNOASTICS.                                                                                   | WALL           | MVOLT   | 640            |              |           |          |
| F1   | LITHONIA                  | CSS             | LED STRIP LIGHT, WHITE FINISH, ACRYLIC LENS.                                                                                                                           | AIRCRAFT CABLE | MVOLT   | 4200           | 4000K        | 80        |          |
| L1   | PRUDENTIAL                | BIONICPR02      | 2 INCH LINEAR LED WALLWASH, CONTINUOUS DESIGN, FLAT<br>WALLWASH, PREMIUM COLOR SELECTED BY ARCHITECT, HARD CEILING<br>FLANGE W/OPTIONAL OMB BRACKETS FOR INSTALLATION. | RECESSED       | MVOLT   | 875/FT         | 4000K        | 80        |          |
| L2   | PRUDENTIAL                | BIONICPRO2      | 4 INCH LINEAR LED, CONTINUOUS DESIGN, FLAT WALLWASH, PREMIUM COLOR SELECTED BY ARCHITECT, HARD CEILING FLANGE.                                                         | AIRCRAFT CABLE | MVOLT   | 875/FT         | 4000K        | 80        |          |
| L3   | WAC LIGHTING              | INVISILED PR024 | LED TAPE LIGHT WITH SURFACE MOUNTED ALUMINUM CHANNEL MOUNT WITH LENS COVER,                                                                                            | SURFACE        | MVOLT   | 200/FT         | 4500K        | 80        |          |
| S1   | LITHONIA                  | СРНВ            | LED COMPACT PRO HIGHBAY LIGHT, WHITE FINISH, ACRYLIC LENS.                                                                                                             | AIRCRAFT CABLE | MVOLT   | 12000          | 4000K        | 80        |          |
| P1   | BARBICAN<br>ARCHITECTURAL | AVENUE          | CONTINUOUS FULL LUMINUOS LED FIXTURE, 3W X 4W, CONTIUNOUS LENGTH(SEE PLANS)                                                                                            | PENDANT        | MVOLT   | 760/FT         | 4000K        | 90        |          |
| P2   | BARBICAN<br>ARCHITECTURAL | AVENUE          | CONTINUOUS FULL LUMINUOS LED FIXTURE, 6W X 4W, CONTIUNOUS LENGTH(SEE PLANS)                                                                                            | PENDANT        | MVOLT   | 760/FT         | 4000K        | 90        |          |
| P3   | BARBICAN<br>ARCHITECTURAL | AVENUE          | CONTINUOUS FULL LUMINUOS LED FIXTURE, 3W X 4W, CONTIUNOUS<br>LENGTH(SEE PLANS)                                                                                         | PENDANT        | MVOLT   | 760/FT         | 4000K        | 90        |          |
| Ρ4   | BARBICAN<br>ARCHITECTURAL | AVENUE          | CONTINUOUS FULL LUMINUOS LED FIXTURE, 6W X 4W, CONTIUNOUS LENGTH(SEE PLANS)                                                                                            | PENDANT        | MVOLT   | 760/FT         | 4000K        | 90        |          |
| P5   | BARBICAN<br>ARCHITECTURAL | AVENUE          | CONTINUOUS FULL LUMINUOS LED FIXTURE, 3W X 4W, CONTIUNOUS<br>LENGTH(SEE PLANS)                                                                                         | PENDANT        | MVOLT   | 760/FT         | 4000K        | 90        |          |
| P6   | BARBICAN<br>ARCHITECTURAL | AVENUE          | CONTINUOUS FULL LUMINUOS LED FIXTURE, 3W X 4W, CONTIUNOUS<br>LENGTH(SEE PLANS)                                                                                         | PENDANT        | MVOLT   | 760/FT         | 4000K        | 90        |          |
| Ρ7   | SSL                       | SSC4D - 13      | 4 INCH ROUND PENDANT, WIDE FLOOD, ARCHITECT TO SELECT<br>STANDARD FINISH, DROP DIFFUSER FROSTED                                                                        | AIRCRAFT CABLE | MVOLT   | 1500           | 4000K        | 90        |          |
| T1   | WAC LIGHTING              | J2 TRACK        | 8 FOOT, 2 CIRCUIT ALUMINUM TRACK. WHITE FINISH, PENDANT<br>MOUNT.                                                                                                      | PENDANT        | 120     | 220            |              |           |          |
| T2   | WAC LIGHTING              | SILO X42        | ADJUSTABLE LED TRACK HEAD 15-50 DEGREES, WHITE FINISH,                                                                                                                 | UNIVERSAL      | 120     | 640            | 4000K        | 90        | <u> </u> |
| •=   | 1                         |                 | QUARTER SPHERE EXTERIOR LED WALL PACK, TYPE IV DISTRIBUTION,                                                                                                           | WALL           |         | 6400           | 40001/       | 00        |          |
| W1   | LITHONIA                  | WSQ             | DARK BRONZE FINISH,<br>QUARTER SPHERE EXTERIOR LED WALL PACK, TYPE II DISTRIBUTION,                                                                                    | WALL           | MVOLT   | 6400           | 4000K        | 90        |          |

<u>NOTES:</u>

TOTAL AMPS:

64

TOTAL VA:

1. PROVIDE FIXTURE AS SPECIFIED, ALL OTHER FIXTURES SHALL BE APPROVED AS EQUAL

2. PROVIDE FIXTURE EQUAL TO SPECIFICATION. VARIATONS FROM SPECIFICATON SHALL BE APPROVED.

3.PROVIDE #14 AWG CONDUCTORS FOR ALL 0-10V DIMMING

4. PROVIDE COLOR CHIP SAMPLE TO ARCHITECT/OWNER FOR FINAL FINISH TO BE DETERMINED.

5. PROVIDE CONNECTION FROM OUTDOOR UNIT TO II 6. PROVIDE COORDINATION WITH ARCHITECTURAL DRA 7. PROVIDE FIXTURE MOUNTING BASED ON ARCHITECTURAL DETAILS AND MODEL, SEE ARCHITECTURAL FOR DETAILS.

|                                                                     |                           |         | CO                                                                                                                                                                                                                              |
|---------------------------------------------------------------------|---------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                     |                           |         | Arch OP                                                                                                                                                                                                                         |
|                                                                     |                           |         | 1108 S. Main St. 102<br>Aberdeen, SD 57401<br>Phone: 605-725-4852<br>601 Kansas City St. 7<br>Rapid City, SD 57701<br>Phone: 605-716-3652<br>440 E. 8th St 221<br>Sioux Falls, SD 57103<br>Phone: 605-334-9999<br>co-oparch.com |
|                                                                     |                           |         | SICHMELLER<br>ENGINEERING<br>Mechanical & Electrical Engineerin<br>801 Railroad Ave. SE<br>Aberdeen, SD 57401<br>Phone: 605-225-4344                                                                                            |
|                                                                     |                           |         | www.siceng.biz                                                                                                                                                                                                                  |
| DRIVER I                                                            | INPUT WATTS               | NOTES   |                                                                                                                                                                                                                                 |
| STANDARD<br>STANDARD                                                | 25<br>32                  | 2,3     |                                                                                                                                                                                                                                 |
| STANDARD                                                            | 25                        | 2,3     |                                                                                                                                                                                                                                 |
| STANDARD                                                            | 32                        | 2,3     |                                                                                                                                                                                                                                 |
| STANDARD                                                            | 25                        | 2,3     |                                                                                                                                                                                                                                 |
| STANDARD                                                            | 32                        | 2       | •                                                                                                                                                                                                                               |
| 0-10V                                                               | 20                        | 2,3     |                                                                                                                                                                                                                                 |
| STANDARD                                                            | 10                        | 2       | SE PROJECT NO: 22090077                                                                                                                                                                                                         |
| 0-10V                                                               | 25                        | 2,3     |                                                                                                                                                                                                                                 |
| LINE                                                                | 2                         | 2       | PROFESS / ONAL                                                                                                                                                                                                                  |
| LINE                                                                | 2                         | 2       | PROFESS / ON A CHART                                                                                                                                                                                                            |
|                                                                     |                           |         | JOSH SCHROEDER                                                                                                                                                                                                                  |
| LINE                                                                | 2                         | 2       | JOSH<br>SCHROEDER<br>SCHROEDER                                                                                                                                                                                                  |
| LINE                                                                | 2                         | 2       | (-30-202 River                                                                                                                                                                                                                  |
| LINE                                                                | 2                         | 2,5     |                                                                                                                                                                                                                                 |
| LINE                                                                | 3                         | 2       |                                                                                                                                                                                                                                 |
| STANDARD                                                            | 35                        | 2,3     | ISSUE:                                                                                                                                                                                                                          |
| 0-10V                                                               | 156                       | 2,3,7   | 1/30/23 CONSTRUCTION DOCUMENT                                                                                                                                                                                                   |
| 0-10V                                                               | 156                       | 2,3,7   | REVISION SCHEDULE:                                                                                                                                                                                                              |
| 0-10V                                                               | 3/FT                      | 2,3,7   | REV. # REV. DSC. REV. DAT<br>1 Addendum ME 1 02-16-23                                                                                                                                                                           |
| 0-10V                                                               | 133                       | 2,3     |                                                                                                                                                                                                                                 |
| 0-10V                                                               | 8W/FT                     | 1,3,6,7 |                                                                                                                                                                                                                                 |
| 0-10V                                                               | 8W/FT                     | 1,3,6,7 |                                                                                                                                                                                                                                 |
| 0-10V                                                               | 8W/FT                     | 1,3,6,7 | •                                                                                                                                                                                                                               |
| 0-10V                                                               | 8W/FT                     | 1,3,6,7 |                                                                                                                                                                                                                                 |
| 0-10V                                                               | 8W/FT                     | 1,3,6,7 | PROJECT:<br>WILLOW LAKE SCHOOL ADDITI                                                                                                                                                                                           |
| 0-10V                                                               | 8W/FT                     | 1,3,6,7 |                                                                                                                                                                                                                                 |
| 0-10V                                                               | 10                        | 1,3,6,7 | WILLOW LAKESCHOOL DISTRIC<br>WILLOW LAKE, SOUTH DAKOT                                                                                                                                                                           |
|                                                                     |                           |         |                                                                                                                                                                                                                                 |
| LINE                                                                | 13                        | 2       |                                                                                                                                                                                                                                 |
| STANDARD                                                            | 60                        | 2,3     | SHEET TITLE:                                                                                                                                                                                                                    |
| STANDARD                                                            | 20                        | 2,3     | ELECTRICAL SCHEDULES -<br>CONTINUED 2                                                                                                                                                                                           |
| STANDARD<br>IDOOR FIXTURE TY<br>AWINGS FOR FIXT<br>TURAL DETAILS AN | YPE EMC.<br>URE DIMENSION |         | E702                                                                                                                                                                                                                            |



16/ FEB / 2023

# ADDENDUM NO. 2 Feb 16, 2023

Project: Willow Lake School Addition

Section 114000 Food Service Equipment

The following modifications shall become a part of the Contract Documents. Bidders are to acknowledge this addendum on the bid form.

# **APPROVED SUBSTITUTIONS:**

SECTION 3.05 ITEMIZED EQUIPMENT

ITEM 28.1 - Dispoer Salvajor Model 200-SA-3-ARSSLD 208 volts 3 phase

ITEM 45 – Disposer Salvajor Model 200-CA-18-ARSSLD 208 volts 3 phase

# **REVISIONS TO SPECIFICATIONS:**

SECTION 3.05 ITEMIZED EQUIPMENT ITEM 54 – Mop Sink Replace with Model 9-OP-48 Splash shield – replace with model K-290R, 16" splash on right & back. Furnished with service faucet, model K-240

# END OF ADDENDUM

#### 042000 UNIT MASONRY

# **DIVISION 05 - METALS**

| STRUCTURAL STEEL FRAMING        |
|---------------------------------|
| STEEL JOIST FRAMING             |
| STEEL DECKING                   |
| COLD-FORMED METAL FRAMING       |
| METAL FABRICATIONS              |
| PIPE AND TUBE RAILINGS          |
| METAL GRATINGS AND FLOOR PLATES |
|                                 |

# **DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES**

| 061000 | ROUGH CARPENTRY                |
|--------|--------------------------------|
| 064100 | ARCHITECTURAL WOOD CASEWORK    |
| 068316 | FIBERGLASS REINFORCED PANELING |

- **DIVISION 07 THERMAL AND MOISTURE PROTECTION**
- 071400 FLUID-APPLIED WATERPROOFING
- 072100 THERMAL INSULATION
- 072119 FOAMED-IN-PLACE INSULATION
- 072500 WEATHER BARRIERS
- 074113 METAL ROOF PANELS
- 074213 METAL WALL PANELS
- 075323 ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING (EPDM)
- 076200 SHEET METAL FLASHING AND TRIM
- 077200 **ROOF ACCESSORIES**
- 078400 FIRESTOPPING
- 079005 JOINT SEALERS
- EXPANSION JOINT COVER ASSEMBLIES 079513

# **DIVISION 08 - OPENINGS**

- 081113 HOLLOW METAL DOORS AND FRAMES
- 081416 FLUSH WOOD DOORS
- 083100 ACCESS DOORS AND PANELS
- 083313 COILING COUNTER DOORS
- 083323 OVERHEAD COILING DOORS
- 083613 SECTIONAL DOORS
- 084313 ALUMINUM-FRAMED STOREFRONTS
- 084413 GLAZED ALUMINUM CURTAIN WALLS
- 085113 ALUMINUM WINDOWS
- 087100 DOOR HARDWARE
- GLAZING 088000

# **DIVISION 09 - FINISHES**

092116 GYPSUM BOARD ASSEMBLIES

| 092216 | NON-STRUCTURAL METAL FRAMING   |
|--------|--------------------------------|
| 092210 | NON-STRUCTURAL IVIETAL FRAMING |

- 093000 TILING
- 095100 ACOUSTICAL CEILINGS
- 095400 SPECIALTY CEILINGS
- 096429 WOOD STRIP AND PLANK FLOORING
- 096433 LAMINATED WOOD FLOORING
- 096500 RESILIENT FLOORING
- 096813 TILE CARPETING
- 097800 INTERIOR WALL PANELING
- 098430 SOUND-ABSORBING WALL AND CEILING UNITS
- 099000 PAINTING AND COATING

# **DIVISION 10 - SPECIALTIES**

| 101100    | VISUAL DISPLAY UNITS                  |
|-----------|---------------------------------------|
| 101400    | SIGNAGE                               |
| 102113.13 | METAL TOILET COMPARTMENTS             |
| 102239    | FOLDING PANEL PARTITIONS              |
| 102600    | WALL AND DOOR PROTECTION              |
| 102800    | TOILET, BATH, AND LAUNDRY ACCESSORIES |
| 104400    | FIRE PROTECTION SPECIALTIES           |
| 105100    | LOCKERS                               |
| 105617    | WALL MOUNTED STANDARDS AND SHELVING   |

# **DIVISION 11 - EQUIPMENT**

| 114000 FOOD SERVICE EQUIPMEN |
|------------------------------|
|------------------------------|

- 115300 LABORATORY EQUIPMENT
- 116143 STAGE CURTAINS
- 116813 PLAYGROUND EQUIPMENT

# **DIVISION 12 - FURNISHINGS**

| 122400 | WINDOW SHADES |
|--------|---------------|
| 122200 |               |

- 123280 INSTRUMENT STORAGE
- 123600 COUNTERTOPS

# **DIVISION 21 – FIRE PROTECTION**

211000 FIRE SUPPRESSION SYSTEMS

# **DIVISION 22 – PLUMBING**

- 220500 GENERAL PLUMBING REQUIREMENTS
- 220510 BASIC PLUMBING MATERIALS AND METHODS
- 220700 PLUMBING SYSTEMS INSULATION
- 224000 PLUMBING

# DIVISION 23 – HEATING, VENTILATION AND AIR CONDITIONING (HVAC)

2153 Willow Lake School Addition

230500 GENERAL HVAC REQUIREMENTS

- 230510 BASIC HVAC MATERIAL AND METHODS
- 230593 TESTING, ADJUSTING, AND BALANCING (AIR & WATER)
- 230700 HVAC SYSTEMS INSULATION
- 230900 CONTROLS & CONTROL SEQUENCES
- 232113 HYDRONIC PIPING SYSTEMS
- 232123 HVAC HYDRONIC PUMPS
- 237000 VENTILATION AND AIR CONDITIONING

#### **DIVISION 26 - ELECTRICAL**

- 260100 BASIC MATERIALS AND METHODS
- 260200 DEMOLITION
- 260500 COMMON WORK RESULTS FOR ELECTRICAL
- 260519 CONDUCTORS AND CABLES
- 260526 GROUNDING AND BONDING
- 260529 HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS
- 260533 RACEWAYS AND BOXES
- 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS
- 260923 LIGHTING CONTROL DEVICES
- 262416 PANELBOARDS
- 262726 WIRING DEVICES
- 262816 ENCLOSED SWITCHES AND CIRCUIT BREAKERS
- 265119 LED INTERIOR LIGHTING
- 270536 CABLE TRAY FOR COMMUNICATIONS SYSTEMS
- 271500 VOICE AND DATA COMMUNICATION CABLING
- 275123 SCHOOL PAGING AND INTERCOM
- 275313 DIGITAL CLOCK SYSTEMS
- 284621 ADDRESSABLE FIRE-ALARM SYSTEMS

#### **DIVISION 31 - EARTHWORK**

- 312200 GRADING
- 312323 FILL
- 312323.43 GEOFOAM

#### **DIVISION 32 – EXTERIOR IMPROVEMENTS**

| 321123    | AGGREGATE BASE COURSES          |
|-----------|---------------------------------|
| 321216    | ASPHALT PAVING                  |
| 321313    | CONCRETE PAVING                 |
| 321816.13 | PLAYGROUND PROTECTIVE SURFACING |
| 323113    | CHAIN LINK FENCES AND GATES     |
| 329219    | SEEDING                         |
| 329300    | PLANTS                          |

#### LIST OF DRAWING SHEETS

### COVER

#### GENERAL

| G000 CODE STANDARDS |
|---------------------|
|---------------------|

- G001 BUILDING CODE SUMMARY & SYMBOLS LEGEND
- G002 BUILDING CODE PLAN
- G003 TYPICAL ASSEMBLIES & GENERAL NOTES
- G004 PHASING PLAN

# SITE PREPARATION

- SP101 SITE DEMOLITION PLAN
- SP102 STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
- SP103 STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
- SP201 SITE LAYOUT PLAN
- SP301 SITE GRADING PLAN
- SP401 UTILITY PLAN & PROFILE
- SP501 SITE DETAILS
- SP502 SITE DETAILS
- SP503 SITE DETAILS
- SP504 STANDARD PLATES
- SP505 STANDARD PLATES

#### LANDSCAPING

L101 SITE PLANTING PLAN

# STRUCTURAL

| S000  | STRUCTURAL GENERAL NOTES           |
|-------|------------------------------------|
| S001  | STRUCTURAL SCHEDULES               |
| S100A | FOOTING & FOUNDATION PLAN - AREA A |
| S100B | FOOTING & FOUNDATION PLAN - AREA B |
| S100C | FOOTING & FOUNDATION PLAN - AREA C |
| S100D | FOOTING & FOUNDATION PLAN - AREA D |
| S200A | ROOF FRAMING PLAN - AREA A         |
| S200B | ROOF FRAMING PLAN - AREA B         |
| S200C | ROOF FRAMING PLAN - AREA C         |
| S200D | ROOF FRAMING PLAN - AREA D         |
| S300  | STRUCTURAL DETAILS                 |
| S301  | STRUCTURAL DETAILS                 |
| S302  | BRACED FRAME ELEVATIONS            |
| S303  | WALL SECTIONS                      |
| S304  | STRUCTURAL DETAILS                 |
|       |                                    |

| DEMOLITION |                                      |
|------------|--------------------------------------|
| D100       | DEMOLITON PLAN - OVERALL             |
| D101A      | DEMOLITION PLAN - AREA A             |
| D101B      | DEMOLITION PLAN - AREA B             |
| D101C      | DEMOLITION PLAN - AREA C             |
|            |                                      |
| ARCHITE    | ECTURAL                              |
| A100       | OVERALL FIRST FLOOR PLAN             |
| A101A      | FIRST FLOOR PLAN - AREA A            |
| A101B      | FIRST FLOOR PLAN - AREA B            |
| A101C      | FIRST FLOOR PLAN - AREA C            |
| A101D      | FIRST FLOOR PLAN - AREA D            |
| A101E      | FIRST FLOOR PLAN - AREA E            |
| A105       | ROOF PLAN OVERALL                    |
| A105A      | ROOF PLAN - AREA A                   |
| A105B      | ROOF PLAN AREA B                     |
| A105C      | ROOF PLAN - AREA C                   |
| A105D      | ROOF PLAN - AREA D                   |
| A105E      | ROOF PLAN - AREA E                   |
| A110       | <b>REFLECTED CLG PLAN - OVERALL</b>  |
| A110A      | <b>REFLECTED CLG PLAN - AREA A</b>   |
| A110B      | <b>REFLECTED CLG PLAN - AREA B</b>   |
| A110C      | <b>REFLECTED CLG PLAN - AREA C</b>   |
| A110D      | REFLECTED CLG PLAN AREA - D          |
| A110E      | <b>REFLECTED CLG PLAN AREA - E</b>   |
| A119       | FINISH SCHEDULE & LEGENDS            |
| A120       | ENLARGED FINISH PLANS- AREA A        |
| A121       | ENLARGED FINISH PLANS- AREA B        |
| A122       | ENLARGED FINISH PLANS- AREA(S) C & E |
| A123       | ENLARGED FINISH PLANS- AREA D        |
| A200       | EXTERIOR ELEVATIONS                  |
| A201       | EXTERIOR ELEVATIONS                  |
| A300       | BUILDING SECTIONS                    |
| A301       | BUILDING SECTIONS                    |
| A302       | BUILDING SECTIONS                    |
| A310       | WALL SECTIONS                        |
| A311       | WALL SECTIONS                        |
| A312       | WALL SECTIONS                        |
| A313       | WALL SECTIONS                        |
| A314       | WALL SECTIONS                        |
| A315       | WALL SECTIONS                        |
| A320       | STAIR/RAMP SECTIONS & DETAILS        |
| A400       | ENLARGED PLANS & INTERIOR ELEVATIONS |
| A401       | ENLARGED PLANS & INTERIOR ELEVATIONS |
| A402       | ENLARGED PLANS & INTERIOR ELEVATIONS |
|            |                                      |

- A403 ENLARGED PLANS & INTERIOR ELEVATIONS
- A404 ENLARGED PLANS & INTERIOR ELEVATIONS
- A405 ENLARGED PLANS & INTERIOR ELEVATIONS
- A406 ENLARGED PLANS & INTERIOR ELEVATIONS
- A407 INTERIOR ELEVATIONS
- A408 INTERIOR ELEVATIONS
- A500 EXTERIOR DETAILS
- A501 EXTERIOR DETAILS
- A503 EXTERIOR DETAILS
- A505 EXTERIOR PLAN DETAILS
- A510 INTERIOR DETAILS
- A511 INTERIOR DETAILS
- A512 INTERIOR SIGNAGE
- A600 DOOR SCHEDULE & DETAILS
- A601 DOOR & FRAME DETAILS
- A610 GLAZING ELEVATIONS
- A611 GLAZING DETAILS
- A991 ALTERNATE

#### MECHANICAL

| -     |                                                |
|-------|------------------------------------------------|
| EM100 | MOTOR SCHEDULE, LEGENDS & SHEET INDEX          |
| EM101 | ELECTRICAL & MECHANICAL SITE PLAN              |
| EM102 | ENLARGED KITCHEN LAYOUT                        |
| M103  | MECHANICAL ROOF PLAN                           |
| M200A | AREA A - PLUMBING & HYDRONICS DEMOLITION PLAN  |
| M201B | AREA B - PLUMBING & HYDRONICS DEMOLITION PLAN  |
| M202C | AREA C - PLUMBING & HYDRONICS DEMOLITION PLAN  |
| M203E | AREA E - PLUMBING & HYDRONICS DEMOLITION PLAN  |
| M300A | AREA A - HVAC DEMOLITION PLAN                  |
| M301B | AREA B - HVAC DEMOLITION PLAN                  |
| M302C | AREA C - HVAC DEMOLITION PLAN                  |
| M303E | AREA E - HVAC DEMOLITION PLAN                  |
| M400A | AREA A - BELOW GRADE PLUMBING & HYDRONICS PLAN |
| M401B | AREA B - BELOW GRADE PLUMBING & HYDRONICS PLAN |
| M402C | AREA C - BELOW GRADE PLUMBING & HYDRONICS PLAN |
| M403D | AREA D - BELOW GRADE PLUMBING & HYDRONICS PLAN |
| M404E | AREA E - BELOW GRADE PLUMBING & HYDRONICS PLAN |
| M500A | AREA A - ABOVE GRADE PLUMBING & HYDRONICS PLAN |
| M501B | AREA B - ABOVE GRADE PLUMBING & HYDRONICS PLAN |
| M502C | AREA C - ABOVE GRADE PLUMBING & HYDRONICS PLAN |
| M503D | AREA D - ABOVE GRADE PLUMBING & HYDRONICS PLAN |
| M504E | AREA E - ABOVE GRADE PLUMBING & HYDRONICS PLAN |
| M600  | FIRE PROTECTION - LEGENDS & DETAILS            |
| M601C | AREA C - FIRE PROTECTION PLAN                  |
| M602D | AREA D - FIRE PROTECTION PLAN                  |
|       |                                                |

| M603E | AREA E - FIRE PROTECTION PLAN      |
|-------|------------------------------------|
| M700A | AREA A - HVAC PLAN                 |
| M701B | AREA B - HVAC PLAN                 |
| M702C | AREA C - HVAC PLAN                 |
| M703D | AREA D - HVAC PLAN                 |
| M704E | AREA E - HVAC PLAN                 |
| M705  | HVAC TEMPERATURE CONTROL ZONE PLAN |
| M800  | PLUMBING FIXTURE SCHEDULE          |
| M900  | MECHANICAL DETAILS                 |
| M901  | MECHANICAL DETAILS CONTINUED       |
| M902  | MECHANICAL DETAILS & ISOMETRICS    |
| M903  | MECHANICAL SECTIONS                |
| M904  | MECHANICAL SCHEDULES               |

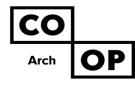
#### ELECTRICAL

| E200A  | AREA A - ELECTRICAL DEMOLITION PLAN |
|--------|-------------------------------------|
| E201B  | AREA B - ELECTRICAL DEMOLITION PLAN |
| E202CD | AREA C - ELECTRICAL DEMOLITION PLAN |
| E203E  | AREA E - ELECTRICAL DEMOLITION PLAN |
| E300A  | AREA A - POWER & DATA PLAN          |
| E301B  | AREA B - POWER & DATA PLAN          |
| E302C  | AREA C - POWER & DATA PLAN          |
| E303D  | AREA D - POWER & DATA PLAN          |
| E304E  | AREA E - POWER & DATA PLAN          |
| E400A  | AREA A - LIGHTING PLAN              |
| E401B  | AREA B - LIGHTING PLAN              |
| E402C  | AREA C - LIGHTING PLAN              |
| E403D  | AREA D - LIGHTING PLAN              |
| E404E  | AREA E - LIGHTING PLAN              |
| E500A  | AREA A - SPECIAL SYSTEMS PLAN       |
| E501B  | AREA B - SPECIAL SYSTEMS PLAN       |
| E502C  | AREA C - SPECIAL SYSTEMS PLAN       |
| E503D  | AREA D - SPECIAL SYSTEMS PLAN       |
| E504E  | AREA E - SPECIAL SYSTEMS PLAN       |
| E600   | ELECTRICAL DETAILS                  |
| E700   | ELECTRICAL SCHEDULES                |
| E701   | ELECTRICAL SCHEDULES - CONTINUED    |
| E702   | ELECTRICAL SCHEDULES - CONTINUED 2  |
|        |                                     |

#### FOOD SERVICE

| F101 | FOOD SERVICE / PLAN VIEW          |
|------|-----------------------------------|
| F102 | FOOD SERVICE / ELEVATIONS         |
| F103 | FOOD SERVICE / SPECIAL CONDITIONS |
| F104 | FOOD SERVICE / DETAILS            |
| F105 | FOOD SERVICE / WALL BACKING       |
|      |                                   |

### F106 FOOD SERVICE / UTILITIES



### Willow Lake School Addition/Renovation Plan Holders List

| Trade        | Name                             | Location        | e-Mail                                                | Phone        |  |
|--------------|----------------------------------|-----------------|-------------------------------------------------------|--------------|--|
|              | Owner & Design Team              |                 |                                                       |              |  |
| Owner        | Willow Lake School District 12-3 | Willow Lake, SD | chris.lee@k12.sd.us                                   | 605.625.5945 |  |
| Architect    | CO-OP Architecture               | Sioux Falls, SD | levi@co-oparch.com                                    | 605-334-9999 |  |
| Landscape    | Confluence                       | Sioux Falls, SD | lpudwill@thinkconfluence.com                          | 605-339-1205 |  |
| Structural   | RISE, Inc.                       | Sioux Falls, SD | jjchristensen@riseincorp.com<br>whkoch@riseincorp.com | 605-743-2510 |  |
| Mechanical   | Sichmeller Engineering, Inc.     | Aberdeen, SD    | <u>travis@mseng.biz</u><br>lukem@siceng.biz           | 605-225-4344 |  |
| Electric     | Sichmeller Engineering, Inc.     | Aberdeen, SD    | joshs@siceng.biz                                      | 402-740-3801 |  |
| Food Service | Envision Kitchen                 | Sioux Falls, SD | danhauge@sio.midco.net                                | 605-261-1916 |  |
|              |                                  |                 |                                                       |              |  |
| Printers     |                                  |                 |                                                       |              |  |
| Printer      | Quality Quick Prints             | Aberdeen, SD    | dianem@myqqp.com                                      | 605-226-2541 |  |
| Printer      | CES Color                        | Sioux Falls, SD | print@cescolor.com                                    | 605-332-2550 |  |

| Building Exchanges |                               |                 |                                        |              |
|--------------------|-------------------------------|-----------------|----------------------------------------|--------------|
| BX                 | Sioux Falls Builders Exchange | Sioux Falls, SD | info@sfbx.com                          | 605-357-8687 |
| BX                 | Plains Builders Exchange      | Sioux Falls, SD | info@plainsbuilders.com                | 605-334-8886 |
| BX                 | Aberdeen Builders Exchange    | Aberdeen, SD    | dakotabuild@midconetwork.com           | 605-225-4733 |
| BX                 | Fargo-Moorhead                | Fargo, ND       | info@fmbx.org                          | 701-237-6772 |
| BX                 | Construction Industry Center  | Rapid City, SD  | chrissy@constructionindustrycenter.com | 605-343-5252 |
| BX                 | Minneapolis Builders Exchange | Minneapolis, MN | jb@mbex.org                            | 612-381-2620 |

| General Contractor |                            |                 |                                   |              |
|--------------------|----------------------------|-----------------|-----------------------------------|--------------|
| General Contractor | Gray Construction          | Watertown, SD   | dustin@grayconstruct.com          | 605-886-3102 |
| General Contractor | WS Construction Management | Sioux Falls, SD | john@wsconstructionmanagement.com | 605-275-9726 |
| General Contractor | Kyburz-Carlson             | Aberdeen, SD    | mkeller@kyburzcarlson.com         | 605-225-6161 |
| General Contractor | Tellinghuisen Inc.         | Willow Lake, SD | zanet@tellinghuisen.com           | 605-881-2075 |

| Mechanical Contractors |                            |               |                            |              |
|------------------------|----------------------------|---------------|----------------------------|--------------|
| Mechanical Contractor  | Active Heating and Cooling | Watertown, SD | thadj@activeheatinginc.com | 605-882-2663 |

| Electrical Contractors |                           |               |                                        |                              |
|------------------------|---------------------------|---------------|----------------------------------------|------------------------------|
| Electrical Contractor  | Efraimson Electric        | Bryant, SD    | estimator@efraimsonelectric.com        | 605-881-3562<br>605-868-2426 |
| Electrical Contractor  | Marquardt Electric        | Watertown, SD | kylemarq@gmail.com<br>npzaug@gmail.com | 605-886-2107                 |
| Electrical Contractor  | Sentry Crane and Services | Watertown, SD | masonc@sentryusa.com                   | 605-233-0137                 |

#### SECTION 034113 PRECAST CONCRETE HOLLOW CORE PLANKS

#### PART 1 GENERAL

### **1.01 SECTION INCLUDES**

- A. Precast floor planks.
- B. Connection plates with brackets and hangers.
- C. Grouting plank joint keys.

#### **1.02 RELATED REQUIREMENTS**

A. Section 033000 - Cast-in-Place Concrete.

#### 1.03 REFERENCE STANDARDS

- A. ACI 301 Specifications for Concrete Construction 2020.
- B. ACI 318 Building Code Requirements for Structural Concrete 2019 (Reapproved 2022).
- C. ASTM A36/A36M Standard Specification for Carbon Structural Steel 2019.
- D. ASTM A416/A416M Standard Specification for Low-Relaxation, Seven-Wire Steel Strand for Prestressed Concrete 2018.
- E. AWS D1.1/D1.1M Structural Welding Code Steel 2020, with Errata (2022).
- F. AWS D1.4/D1.4M Structural Welding Code Steel Reinforcing Bars 2018, with Amendment (2020).
- G. IAS AC157 Accreditation Criteria for Fabricator Inspection Programs for Reinforced and Precast/Prestressed Concrete 2017.
- H. PCI MNL-116 Manual for Quality Control for Plants and Production of Structural Precast Concrete Products 2021.
- I. PCI MNL-120 PCI Design Handbook 2017, with Errata (2021).
- J. PCI MNL-123 Connections Manual: Design and Typical Details of Connections for Precast and Prestressed Concrete 1988.
- K. PCI MNL-124 Design for Fire Resistance of Precast Prestressed Concrete 2011.
- L. PCI MNL-126 PCI Manual for the Design of Hollow Core Slabs and Walls 2015.
- M. PCI MNL-135 Tolerance Manual for Precast and Prestressed Concrete Construction 2000.
- N. PCI (CERT) PCI Plant Certification Current Edition.

# 1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate location of hanger tabs and devices for mechanical and electrical work and cutting of field openings.
- B. Preinstallation Meeting: Convene one week before starting work of this section.
  - 1. Discuss anchor and weld plate locations, sleeve locations, and cautions regarding cutting or core drilling.

#### 1.05 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate standard component configuration, design loads, deflections, and cambers.
- C. Shop Drawings: Indicate plank locations, unit identification marks, connection details, edge conditions, bearing requirements, support conditions, dimensions, openings, openings intended to be field cut, and relationship to adjacent materials.
  - 1. Submit design calculations.
- D. Welders' Certificates.
- E. Designer's Qualification Statement.

- F. Fabricator's Qualification Statement: Provide documentation showing precast concrete fabricator is accredited under IAS AC157.
- G. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.

#### 1.06 QUALITY ASSURANCE

- A. Designer Qualifications: Design precast concrete hollow core planks under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than five years of documented experience.
- C. Fabricator Qualifications: Precast concrete fabricator accredited by IAS according to IAS AC157.
- D. Erector Qualifications: Company specializing in performing the type of work specified in this section, with minimum 5 years of documented experience.

#### 1.07 DELIVERY, STORAGE, AND HANDLING

A. Lifting or Handling Devices: Capable of supporting member in positions anticipated during manufacture, storage, transportation, and erection.

#### PART 2 PRODUCTS

#### 2.01 MANUFACTURERS

- A. Precast Concrete Hollow Core Planks:
  - 1. Any manufacturer with PCI Plant Certification.
  - 2. Substitutions: See Section 016000 Product Requirements.

#### 2.02 PRECAST UNITS

- A. Precast Hollow Core Planks: Comply with PCI MNL-120, PCI MNL-126, PCI MNL-124 ACI 318, and ACI 301.
  - 1. Dimensions as indicated on drawings.
  - 2. Design components to withstand dead loads and design loads in the configuration indicated on drawings and as follows:
    - a. Floor Assembly: 85 pounds per square foot dead load.
    - b. Floor Assembly (Light/Heavy): 125/250 pounds per square foot live load.
    - c. Maximum Allowable Deflection of Floor Planks: 1/240 of span (total load) and 1/360 (live load), cambered to achieve flat surface under dead load.
  - 3. Design connections in accordance with PCI MNL-123.
  - 4. Design components to accommodate construction tolerances, deflection of other building structural members and clearances of intended openings.

#### 2.03 MATERIALS

- A. Concrete Materials: ACI 301.
- B. Tensioning Steel Tendons: ASTM A416/A416M, Grade 250 250K psi; seven-wire stranded steel cable; low-relaxation type; full length without splices; weldless; uncoated.
- C. Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi) deformed steel bars.
- D. Non-Shrink Grout: Non-metallic, minimum compressive strength of 10,000 psi at 28 days.
- E. Cement Grout: Minimum compressive strength of 3,000 psi at 28 days.

#### 2.04 ACCESSORIES

- A. Connecting and Supporting Devices: Plates, angles, items cast into concrete, items connected to steel framing members, and inserts: ASTM A36/A36M carbon steel; prime painted.
- B. Core Hole End Plugs: Cardboard insert with stiff concrete fill.
- C. Hanger Tabs: Galvanized steel, designed to fit into grouted key joints, capable of supporting 500 lbs dead load, predrilled to receive hanger.

- D. Bearing Pads: High density plastic, 1/8 inch thick, smooth on one side. Vulcanized elastomeric compound molded to size.
- E. Sill Seal: Compressible glass fiber strips.

### 2.05 FABRICATION

- A. Weld reinforcing in accordance with AWS D1.4/D1.4M.
- B. Embed anchors, inserts, plates, angles, and other items at locations indicated.
- C. Provide openings required by other sections, at locations indicated.
- D. Cut exposed ends flush.
- E. Plant Finish: Finish members to PCI MNL-116 Commercial Grade.
- F. Connecting and Supporting Steel Devices: Do not paint surfaces in contact with concrete or surfaces requiring field welding.

### 2.06 FABRICATION TOLERANCES

- A. Comply with PCI MNL-116 and PCI MNL-135, except as specifically amended below.
  - 1. Maximum Variation From Nominal Dimensions:
    - a. Width: Plus or minus 1/4 in.
    - b. Length: Plus or minus 1/2 in.
    - c. Depth: Plus or minus 1/4 in.
  - 2. Maximum Variation From Intended Camber: Plus or minus 1/4 inch in 10 feet.
  - 3. Maximum Variation from Plan End Squareness: Plus or minus 1/4 in.
  - 4. Maximum Sweep: Plus or minus 1/4 in.
  - 5. Maximum Misalignment of Anchors, Inserts, Openings: Plus or minus 1/8 inch.
  - 6. Maximum Bowing of Members: Length/360.
  - 7. Maximum Bowing of Members: Plus or minus 1/4 inch in 10 feet to a maximum of 3/8 inch.

#### 2.07 SOURCE QUALITY CONTROL

A. Produce planks in accordance with requirements of PCI MNL-116. Maintain plant records and quality control program during production of precast planks. Make records available upon request.

# PART 3 EXECUTION

#### 3.01 EXAMINATION

A. Verify that site conditions are ready to receive work and field measurements are as indicated on shop drawings.

#### 3.02 PREPARATION

A. Prepare support devices for the erection procedure and temporary bracing.

# 3.03 ERECTION

- A. Erect members without damage to structural capacity, shape, or finish. Replace or repair damaged members.
- B. Install bearing pads and sill seal at bearing ends of planks as indicated.
- C. Align and maintain uniform horizontal and end joints, as erection progresses.
- D. Maintain temporary bracing in place until final connection is made. Protect members from staining.
- E. Adjust differential camber between precast members to tolerance before final attachment and grouting.
- F. Adjust differential elevation between precast members to tolerance before final attachment.
- G. Secure units in place. Perform welding in accordance with AWS D1.1/D1.1M.
- H. Grout longitudinal keys as indicated.

I. Make plank-to-plank joints smooth using grout, troweled smooth. Transition differential elevation of adjoining planks with grout to a maximum slope of 1:12.

#### 3.04 TOLERANCES

- A. Erect members level and plumb within allowable tolerances. Comply with PCI MNL-135, except as specifically amended below.
  - 1. Plan Location from Building Grid Datum: Plus or minus 3/4 in.
  - 2. Top Elevation from Building Elevation Datum at Plank Ends: Plus or minus 1/2 inch.
  - 3. Maximum Jog in Alignment of Matching Ends: Plus or minus 1/2 inch.
  - 4. Exposed Joint Dimension: Plus or minus 3/8 inch.
  - 5. Differential Top Elevation As Erected: Plus or minus 3/8 inch.
  - 6. Bearing Length in Span Direction: Plus or minus 3/8 inch.
  - 7. Differential Bottom Elevation of Exposed Planks: Plus or minus 3/16 inch.

#### 3.05 PROTECTION

A. Protect members from damage caused by field welding or erection operations.

#### 3.06 CLEANING

A. Clean weld marks, dirt, and blemishes from surface of exposed members.

# END OF SECTION

#### SECTION 096429 WOOD STRIP AND PLANK FLOORING

#### PART 1 GENERAL

### **1.01 SECTION INCLUDES**

- A. Wood strip and plank flooring, nailed.
- B. Secondary subflooring.

# 1.02 RELATED REQUIREMENTS

A. Section 061000 - Rough Carpentry: Wood subfloor surface.

#### 1.03 REFERENCE STANDARDS

- A. MFMA (SPEC) Guide Specifications for Maple Flooring Systems current edition.
- B. NWFA (IG) Installation Guidelines Current Edition.

#### 1.04 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data for flooring.
- C. Shop Drawings: Indicate floor joint pattern and termination details.
- D. Manufacturer's Instructions: Indicate standard and special installation procedures.
- E. Samples: Submit two samples 2-1/4 by 12 inch in size illustrating floor finish, color, and sheen.
- F. Maintenance Data: Include maintenance procedures and recommended maintenance materials.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 016000 Product Requirements, for additional provisions.
  - 2. Extra Flooring Material: 1 square yards matching installed flooring.

#### 1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least five years of documented experience.

#### **1.06 FIELD CONDITIONS**

- A. Do not install wood flooring until wet construction work is complete and ambient air at installation space has moisture content stabilized at maximum moisture content of 40 percent.
- B. Provide heat, light, and ventilation prior to installation.
- C. Store materials in area of installation for minimum period of 24 hours prior to installation.
- D. Maintain minimum room temperature of 65 degrees F for a period of two days prior to delivery of materials to installation space, during installation, and after installation.

# PART 2 PRODUCTS

#### 2.01 MANUFACTURERS

- A. Hardwood Strip and Plank Flooring:
  - 1. Substitutions: See Section 016000 Product Requirements

#### 2.02 MATERIALS

- A. Wood Strip Flooring Type WDF-1:
  - 1. Species: Northern hard maple.
  - 2. Grade: No. 2 Common and better.
  - 3. Moisture Content: 7 to 9 percent.
  - 4. Actual Thickness: 25/32 inch.
  - 5. Actual Width: 2-1/4 inches.

- 6. Edge: Tongue and groove.
- 7. Length: Random, minimum of 9 inches.
- B. Flooring Nails: Type recommended by flooring manufacturer.
- C. Secondary Subflooring: 23/32 inch thick plywood, with tongue and groove edges; Exposure 1, sanded, preservative treated.
- D. Sheathing Paper: Plain building paper.

# 2.03 ACCESSORIES

- A. Transition Strip: Same species and finish as flooring material; profiles indicated.
- B. Floor Stain: To match existing flooring; penetrating type recommended by flooring manufacturer.

# PART 3 EXECUTION

# 3.01 EXAMINATION

- A. Verify existing conditions before starting this work.
- B. Verify wood subfloor is properly secured, smooth and flat to plus or minus 1/4 inch in 10 feet.
- C. Verify that required floor-mounted utilities are in correct location.

# 3.02 PREPARATION

- A. Secondary Subflooring: Place plywood subflooring.
  - 1. Lay perpendicular to the sleepers, with end joints over sleepers, and nail at 12 inches on center.
- B. Prepare substrate to receive wood flooring in accordance with manufacturer's and NWFA instructions.
- C. Broom clean substrate.

### 3.03 INSTALLATION

- A. Sheathing Paper: Place over wood subfloor; lap edges and ends 2 inches, staple in place.
- B. Wood Flooring:
  - 1. Install in accordance with manufacturer's and NWFA instructions; predrill and blind nail to subfloor.
  - 2. Lay flooring parallel to length of room areas. Verify alignment as work progresses.
  - 3. Arrange flooring with end matched grain set flush and tight.
  - 4. Terminate flooring at centerline of door openings where adjacent floor finish is dissimilar; provide divider strips and transition strips in accordance with flooring manufacturer's recommendations and as indicated.
  - 5. Install edge strips at unprotected or exposed edges, and where flooring terminates.
  - 6. Secure edge strips before installation of flooring with stainless steel screws.
  - 7. Install flooring tight to floor access covers.
  - 8. Provide 2 inch expansion space at fixed walls and other interruptions.
- C. Install base at floor perimeter to cover expansion space in accordance with manufacturer's instructions. Miter inside and outside corners.
- D. Finishing:
  - 1. Mask off adjacent surfaces before beginning sanding.
  - 2. Sand flooring to smooth even finish with no evidence of sander marks. Take precautions to contain dust. Remove dust by vacuum.
  - 3. Apply first coat, allow to dry, then buff lightly with steel wool to remove irregularities. Vacuum clean and wipe with damp cloth before applying succeeding coat.
  - 4. Lightly buff between coats with steel wool and vacuum clean before applying succeeding coat.
  - 5. Apply last coat of finish.

# 3.04 CLEANING

A. Clean and polish floor surfaces in accordance with floor finish manufacturer's instructions.

# 3.05 PROTECTION

- A. Prohibit traffic on floor finish for 48 hours after installation.
- B. Place protective coverings over finished floors; do not remove coverings until Date of Substantial Completion.

### END OF SECTION

#### SECTION 101400 SIGNAGE

#### PART 1 GENERAL

#### **1.01 SECTION INCLUDES**

- A. Room and door signs.
- B. Building identification signs.
- C. Vinyl lettering.

#### 1.02 REFERENCE STANDARDS

- A. 36 CFR 1191 Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines current edition.
- B. ADA Standards 2010 ADA Standards for Accessible Design 2010.
- C. ICC A117.1 Accessible and Usable Buildings and Facilities 2017.

#### 1.03 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.
- C. Signage Schedule: Provide information sufficient to completely define each sign for fabrication, including room number, room name, other text to be applied, sign and letter sizes, fonts, and colors.
  - 1. When room numbers to appear on signs differ from those on drawings, include the drawing room number on schedule.
  - 2. When content of signs is indicated to be determined later, request such information from Owner through Architect at least 2 months prior to start of fabrication; upon request, submit preliminary schedule.
  - 3. Submit for approval by Owner through Architect prior to fabrication.
- D. Samples: Submit two samples of each type of sign, of size similar to that required for project, illustrating sign style, font, and method of attachment.
- E. Selection Samples: Where colors are not specified, submit two sets of color selection charts or chips.
- F. Manufacturer's Installation Instructions: Include installation templates and attachment devices.
- G. Manufacturer's Qualification Statement.
- H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

#### 1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Package signs as required to prevent damage before installation.
- B. Package room and door signs in sequential order of installation, labeled by floor or building.
- C. Store tape adhesive at normal room temperature.

#### 1.06 FIELD CONDITIONS

- A. Do not install tape adhesive when ambient temperature is lower than recommended by manufacturer.
- B. Maintain this minimum temperature during and after installation of signs.

# PART 2 PRODUCTS

#### 2.01 MANUFACTURERS

- A. Flat Signs: Basis of Design: Inpro corporation Aspen Collection with back plate.
  - 1. Best Sign Systems, Inc: www.bestsigns.com/#sle.
  - 2. Cosco Industries (ADA signs): www.coscoarchitecturalsigns.com/#sle.
  - 3. Inpro: www.inprocorp.com.
  - 4. Substitutions: See Section 016000 Product Requirements.
- B. Dimensional Letter Signs:
  - 1. A.R.K. Ramos Architectural Signage Systems; Cast Aluminum Letters: www.arkramos.com/#sle.
  - 2. Cosco Industries; Cast Aluminum: www.coscoarchitecturalsigns.com/#sle.
  - 3. FASTSIGNS: www.fastsigns.com/#sle.
  - 4. Inpro: www.inprocorp.com.
  - 5. Substitutions: See Section 016000 Product Requirements.

#### 2.02 SIGNAGE APPLICATIONS

- A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.
- B. Room and Door Signs: Provide a sign for every doorway, whether it has a door or not, not including corridors, lobbies, and similar open areas.
  - 1. Sign Type: Flat signs with engraved panel media as specified.
  - 2. Provide "tactile" signage, with letters raised minimum 1/32 inch and Grade II braille.
  - 3. Character Height: 1 inch.
  - 4. Sign Height: 2 inches, unless otherwise indicated.
  - 5. Office Doors: Identify with room numbers to be determined later, not the numbers indicated on drawings; in addition, provide "window" section for replaceable occupant name.
  - 6. Conference and Meeting Rooms: Identify with room numbers to be determined later, not the numbers shown on the drawings; in addition, provide "window" section with sliding "In Use/Vacant" indicator.
  - 7. Service Rooms: Identify with room names and numbers to be determined later, not those shown on the drawings.
  - 8. Rest Rooms: Identify with pictograms, the names "MEN" and "WOMEN", room numbers to be determined later, and braille.
  - 9. Include Occupant Load on room signage.
- C. Building Identification Signs:
  - 1. Use individual metal letters.
  - 2. Mount on outside wall in location indicated on drawings.
- D. Other Dimensional Letter Signs: Wall-mounted.

# 2.03 SIGN TYPES

- A. Flat Signs: Signage media in aluminum frame.
  - 1. Corners: Square.
  - 2. Frame Finish: Natural (clear) anodized.
  - 3. Wall Mounting of One-Sided Signs: Tape adhesive.
- B. Color and Font: Unless otherwise indicated:
  - 1. Character Font: Helvetica, Arial, or other sans serif font.
  - 2. Character Case: Upper case only.
  - 3. Background Color: To be selected from manufacturers full range of colors.
  - 4. Character Color: Contrasting color.

### 2.04 TACTILE SIGNAGE MEDIA

- A. Applied Character Panels: Acrylic plastic base, with applied acrylic plastic letters and braille.
  - 1. Total Thickness: 1/8 inch.
  - 2. Letter Thickness: 1/8 inch.
  - 3. Letter Edges: Square.

#### 2.05 DIMENSIONAL LETTERS

- A. Metal Letters:
  - 1. Metal: Aluminum channel.
  - 2. Metal Thickness: 1/8 inch minimum.
  - 3. Letter Height: As indicated on drawings.
  - 4. Text and Typeface:
    - a. Character Font: Helvetica, Arial, or other sans serif font.
    - b. Character Case: Upper case only.
  - 5. Mounting: Concealed.
  - 6. Lighting: Halo lit.

#### 2.06 VINYL LETTERS

- A. Exterior Door Identification:
  - 1. Application: Glass.
  - 2. Material: Vinyl.
  - 3. Size: See Drawings.
  - 4. Thickness: 4 mil.
  - 5. Weight: .065 lbs/sqft.
  - 6. Ink: UV fade-resistant.

#### 2.07 ACCESSORIES

- A. Concealed Screws: Stainless steel, galvanized steel, chrome plated, or other non-corroding metal.
- B. Tape Adhesive: Double sided tape, permanent adhesive.

# PART 3 EXECUTION

#### 3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

# 3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install neatly, with horizontal edges level.
- C. Locate signs where indicated:
  - 1. Room and Door Signs: Locate on wall at latch side of door with centerline of sign at 60 inches above finished floor.
  - 2. If no location is indicated obtain Owner's instructions.
- D. Protect from damage until Substantial Completion; repair or replace damaged items.

# END OF SECTION

#### SECTION 102600 WALL AND DOOR PROTECTION

#### PART 1 GENERAL

#### **1.01 SECTION INCLUDES**

A. Corner guards.

### 1.02 RELATED REQUIREMENTS

- A. Section 061000 Rough Carpentry: Blocking for wall and corner guard anchors.
- B. Section 092116 Gypsum Board Assemblies: Placement of supports in stud wall construction.
- C. Section 092216 Non-Structural Metal Framing: Placement of supports in stud wall construction.

#### 1.03 REFERENCE STANDARDS

- A. ADA Standards 2010 ADA Standards for Accessible Design 2010.
- B. ASTM D256 Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics 2010 (Reapproved 2018).
- C. ASTM D543 Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents 2021.
- D. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials 2022.
- E. ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials 2022.

#### 1.04 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate physical dimensions, features, and anchorage details.
- C. Shop Drawings: Include plans, elevation, sections, and attachment details.
- D. Samples: Submit samples illustrating component design, configurations, joinery, color and finish.
- E. Manufacturer's Instructions: Indicate special procedures, perimeter conditions requiring special attention.
- F. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project:
  - 1. See Section 016000 Product Requirements, for additional provisions.
    - 2. Extra Stock Materials: One package(s) of minimum 96 inches long unit of each kind of covers for corner guards.
- H. Maintenance Data: Manufacturer's instructions for care and cleaning of each type of product. Include information about both recommended and potentially detrimental cleaning materials and methods.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver wall and door protection items in original, undamaged protective packaging. Label items to designate installation locations.
- B. Protect work from moisture damage.
- C. Protect work from UV light damage.
- D. Do not deliver products to project site until areas for storage and installation are fully enclosed, and interior temperature and humidity are in conformance with manufacturer's recommendations for each type of item.

E. Store products in either horizontal or vertical position, in conformance with manufacturer's instructions.

## 1.06 WARRANTY

- A. See Section 017800 Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a one year period after Date of Substantial Completion.
- C. Provide five year manufacturer and installer warranty for metal crash rails.

## PART 2 PRODUCTS

## 2.01 MANUFACTURERS

- A. Corner Guards: Basis of Design: Acrovyn TF Series by Construction Specialties, Inc.
  - 1. Babcock-Davis: www.babcockdavis.com/#sle.
  - 2. Inpro: www.inprocorp.com/#sle.
  - 3. Koroseal Interior Products: www.koroseal.com/#sle.
  - 4. Nystrom, Inc: www.nystrom.com/#sle.
  - 5. Trim-Tex, Inc: www.trim-tex.com/#sle.
  - 6. Substitutions: See Section 016000 Product Requirements.

## 2.02 PRODUCT TYPES

- A. Corner Guards Surface Mounted:
  - 1. Material: High impact vinyl.
  - 2. Width of Wings: 2 inches.
  - 3. Thickness: .040 inch.
  - 4. Corner: Radiused.
  - 5. Color: As selected from manufacturer's standard colors.
  - 6. Length: One piece.
  - 7. Preformed end caps.

## 2.03 FABRICATION

- A. Fabricate components with tight joints, corners and seams.
- B. Pre-drill holes for attachment.

## PART 3 EXECUTION

## 3.01 EXAMINATION

- A. Verify that substrate surfaces for adhered items are clean and smooth.
  - 1. Test painted or wall covering surfaces for adhesion in inconspicuous area, as recommended by manufacturer. Follow adhesive manufacturer's recommendations for remedial measures at locations and/or application conditions where adhesion test's results are unsatisfactory.

## 3.02 INSTALLATION

- A. Install components in accordance with manufacturer's instructions, level and plumb, secured rigidly in position to supporting construction.
- B. Position corner guard 4 inches above finished floor to 48 inches high.

## 3.03 TOLERANCES

A. Maximum Variation From Required Height: 1/4 inch.

## 3.04 CLEANING

A. Clean wall and door protection items of excess adhesive, dust, dirt, and other contaminants.

END OF SECTION

### SECTION 123280 INSTRUMENT STORAGE

## PART 1 GENERAL

## **1.01 SECTION INCLUDES**

A. Instrument storage cabinets

## 1.02 RELATED REQUIREMENTS

- A. Section 016000 Product Requirements:
- B. Section 079200 Joint Sealants: Sealing joints between casework and countertops and adjacent walls, floors, and ceilings.
- C. Section 123600 Countertops: Additional requirements for countertops.

### **1.03 DEFINITIONS**

- A. Exposed: Portions of casework visible when drawers and cabinet doors are closed, including end panels, bottoms of cases more than 42 inches above finished floor, tops of cases less than 72 inches above finished floor and all members visible in open cases or behind glass doors.
- B. Semi-Exposed: Portions of casework and surfaces behind solid doors, tops of cases more than 72 inches above finished floor and bottoms of cabinets more than 30 inches but less than 42 inches above finished floor.
- C. Concealed: Sleepers, web frames, dust panels and other surfaces not generally visible after installation and cabinets less than 30 inches above finished floor.

## 1.04 REFERENCE STANDARDS

- A. ANSI A135.4 Basic Hardboard 2012 (Reaffirmed 2020).
- B. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials 2022.
- C. AWMAC/WI (NAAWS) North American Architectural Woodwork Standards 2021, with Errata.

## 1.05 ADMINISTRATIVE REQUIREMENTS

A. Large Components: Ensure that large components can be moved into final position without damage to other construction.

## 1.06 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Product Data: Component dimensions, configurations, construction details, joint details, attachments; manufacturer's catalog literature on hardware, accessories, and service fittings, if any.
- C. Shop Drawings: Casework locations, large scale plans, elevations, cross sections, rough-in and anchor placement dimensions and tolerances, clearances required.
- D. Samples: For each color and finish for each exposed casework component.
- E. Test Reports: From independent laboratory indicating compliance with referenced chemicalresistance standards for cabinet finish and liner materials.
- F. Maintenance Data: Manufacturer's recommendations for care and cleaning.

## 1.07 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than five years of documented experience.

## PART 2 PRODUCTS

## 2.01 MANUFACTURERS

A. Musical Instrument Storage Casework:

- 1. Basis of Design: UltraStor Cabinets by Wenger Corporation.
- 2. Substitutions: See Section 016000 Product Requirements.

## 2.02 MUSICAL INSTRUMENT STORAGE CASEWORK

- A. Basis of Design: UltraStor Storage Cabinets as manufactured by Wenger Corporation. Modular instrument storage casework with integral bases, adjustable levelers, and through-bolted fastening, enabling owner reconfiguration of unit layout.
- B. General: Provide through-ventilating instrument storage casework meeting requirements in System Description and Performance Requirements Articles
- C. Side Panels and Divider Panels: Particleboard thermoset panel with no urea formaldehyde added, 3/4 inch (19 mm) thick. Side panels machined to accept unit-to-unit through-bolting.
- D. Open Casework: Provide casework without doors.
- E. Shelving: Sized with adequate gap between shelving and casework side panels to allow air movement inside casework.
  - 1. Up to 27 inches (686 mm) wide: Removable molded polyethylene shelf, with impactresistant, radiused front edge, mounted to cabinet wall with self-locking clip.
  - 2. Over 27 inches (686 mm) wide: For large instrument casework: Removable formed polyethylene shelf, ribbed, with high-impact-resistant, radiused front edge, supported by steel tube frame.
- F. Casework Panel Color: As selected by Architect from manufacturer's standard colors.
- G. Filler Panels and Closure: 3/4 inch (19 mm) thick particleboard thermoset panels with no urea formaldehyde in Oyster color. Provide the following, cut to fit field conditions, where indicated:
  - 1. Wall filler between cabinet side and wall.
  - 2. Top filler between cabinet top and wall.
  - 3. Top of cabinet closure panel between cabinet and finished ceiling or soffits.
  - 4. Finished back panel for exposed cabinet backs.
- H. Panel Connectors: 1/4-20 by 1.77 inch (45 mm) panel connectors, with steel thread inserts, powder coated to match panels.
- I. Cabinet Levelers: Leveling glides with 3/8 inch (9.5 mm) diameter threaded steel rod in steel corner brackets, minimum two each per cabinet side, accessible from within unit, and concealed in completed installation.
- J. Carcass joinery includes lag screws powder coated to match substrate.
- K. Back panel 7/32 inch (5.6 mm) reinforced with 3/4 inch (19 mm) stretchers panels held in a dado groove and lag screwed in place.
- L. Fasteners: Manufacturer-recommended fasteners as required for casework substrate and project performance requirements, consisting of one or more of the following:
  - 1. Sheet Metal Screws: SAE J78, corrosion-resistant-coated, self-drilling, self-tapping steel drill screws.
  - 2. Wood Screws: ASME B18.6.1.
  - 3. Expansion Anchors in Concrete and Concrete Masonry Units: Carbon-steel, zinc plated.
  - 4. Hardware supplied to anchor the cabinets to the wall and to adjacent casework.

## 2.03 MATERIALS

- A. Particleboard: ANSI A208.1, minimum 43 lb/cu. ft. (689 kg/cu. m) density, composite products and adhesives, with no urea formaldehyde added.
- B. Particleboard Thermoset Panels: Particleboard finished with thermally-fused polyester surfacing on both sides meeting performance properties of NEMA LD 3 for VGS grade, edge-banded, including the following:
  - 1. Surface Abrasion Resistance: Taber Wheel, 400 cycles, for solid colors.
- C. Polyethylene Shelves: High-density, one-piece, blow-molded or polyethylene, with radiused front edge, for abuse-resistant shelves. Same color throughout will not show scratches.
- D. PVC Edge Banding: Radiused PVC extrusions, 1/8 inch (3 mm) thick.

## PART 3 EXECUTION

## 3.01 EXAMINATION

A. Verify adequacy of support framing and anchors.

## 3.02 INSTALLATION

- A. Use anchoring devices to suit conditions and substrate materials encountered.
- B. Set casework items plumb and square, securely anchored to building structure.
- C. Align cabinets to adjoining components, install filler panels where necessary to close gaps.
- D. Replace units that are damaged, including those that have damaged finishes.

## 3.03 ADJUSTING

A. Adjust operating parts, including doors, drawers, hardware, and fixtures to function smoothly.

## 3.04 CLEANING

A. Clean casework surfaces thoroughly.

## 3.05 PROTECTION

- A. Do not permit finished casework to be exposed to continued construction activity.
- B. Repair damage that occurs prior to Date of Substantial Completion, including finishes, using methods prescribed by manufacturer; replace units that cannot be repaired to like-new condition.

## END OF SECTION

| GENERAL DESIGN CRITER                                                                                                                                          | RIA:                                                                                                                                                                      |                                                                                                                                                                          |                                                                                                                                                               | REINFORCING BARS:                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul><li>AMERICAN</li><li>AMERICAN</li><li>AMERICAN</li></ul>                                                                                                   | IONAL BUILDING CODE, 2018<br>I INSTITUTE OF STEEL CONSTRUCTIC<br>I CONCRETE INSTITUTE, LATEST EDI<br>I WOOD COUNCIL, NATIONAL DESIGN<br>VITH ALL LOCAL CODES AND LAWS, II | ON<br>SPECIFICATION, LATEST EDITION                                                                                                                                      |                                                                                                                                                               | <ol> <li>BAR DETAILING SHALL CONFORM TO THE LATEST</li> <li>STEEL SHALL BE AS FOLLOWS:         <ul> <li>REBAR- ASTM A605- GR 60</li> <li>WELDABLE REINFORCING- A706, GR 60</li> <li>WELDED WIRE FABRIC- ASTM A185</li> </ul> </li> </ol>                                                     |
|                                                                                                                                                                | TERAL SYSTEM- CMU WALLS, PRECA                                                                                                                                            | TWALLS                                                                                                                                                                   |                                                                                                                                                               | <ol> <li>ALL FIELD BENDING OF REINFORCING SHALL BE DO</li> <li>BAR LAPS SHALL BE AS FOLLOWS, UNLESS NOTED</li> <li>BEAMS/JOIST TOP AND BOTTOM BARS</li> <li>COLUMN/WALL VERTICAL BARS – 48DB</li> </ol>                                                                                      |
| SEISMIC:<br>• SEISMIC DESIGN C<br>• IMPORTANCE FAC<br>• ACCELERATIONS:                                                                                         | CTOR le=1.00                                                                                                                                                              |                                                                                                                                                                          |                                                                                                                                                               | TIES – 38DB     5. HOLD REINFORCING IN PLACE DURING CASTING O MASONRY                                                                                                                                                                                                                        |
| SITE CLASS D     SPECTRAL: SDS= (     ANALYSIS PROCEI                                                                                                          | 0.111 SD1= 0.045                                                                                                                                                          | -                                                                                                                                                                        |                                                                                                                                                               | <ol> <li>HOLLOW CONCRETE MASONRY UNITS: NORMAL W</li> <li>MASONRY CONSTRUCTION SHALL COMPLY WITH T</li> <li>CMU SHALL BE LAID IN A RUNNING-BOND PATTERN</li> </ol>                                                                                                                           |
| WIND:<br>• BASIC WIND SI<br>• EXPOSURE C<br>• INTERNAL PRE                                                                                                     |                                                                                                                                                                           | -                                                                                                                                                                        |                                                                                                                                                               | <ol> <li>PROVIDE BOND BEAMS WITH 2 #5 AT ALL FLOOR LI</li> <li>PROVIDE REINFORCING AT CENTER OF CORES OF<br/>OPERATIONS. FILL ALL REINFORCED CELLS WITH (</li> <li>GROUT CELLS FLOOR-TO-FLOOR AT JAMBS OF OP</li> </ol>                                                                      |
|                                                                                                                                                                | ENTS AND CLADDING WIND (UNFACTO                                                                                                                                           | RED):                                                                                                                                                                    |                                                                                                                                                               | <ol> <li>LAP BARS 48 BAR DIAMETERS, UNLESS NOTED OT</li> <li>PROVIDE HORIZONTAL JOINT REINFORCEMENT AT</li> </ol>                                                                                                                                                                            |
| WIND ZONES<br>ROOF (ZONE 1):<br>ROOF (ZONE 1'):                                                                                                                | +16PSF / -31PSF<br>+16PSF / -16PSF                                                                                                                                        | PLIFT ROOF PRESSURE<br>-28PSF<br>-13PSF                                                                                                                                  |                                                                                                                                                               | <ol> <li>9. HIGH LIFT GROUTING WILL NOT BE PERMITTED WI</li> <li>10. USE GROUTED KEYWAYS OR PREMANUFACTURED</li> <li>11. DO NOT PLACE CONDUIT, CHASES, OR OTHER EMI</li> <li>12. LOCATE CONTROL JOINTS IN CMU AT A MAXIMUM</li> <li>13. CONTINUE DEINEORCING TURQUICU CONTROL IOI</li> </ol> |
| ROOF (ZONE 2):<br>ROOF (ZONE 3):<br>WALL (ZONE 4):<br>WALL (ZONE 5):                                                                                           | +16PSF / -42PSF<br>+16PSF / -42PSF<br>+20PSF / -26PSF<br>+20PSF / -29PSF                                                                                                  | -39PSF<br>-39PSF                                                                                                                                                         |                                                                                                                                                               | 13. CONTINUE REINFORCING THROUGH CONTROL JO<br>14. ALL NON-LOAD BEARING CMU WALLS TO HAVE #5<br>LINTELS:                                                                                                                                                                                     |
| WALL (ZONE 4P):<br>WALL (ZONE 5P):                                                                                                                             | +80PSF / -57PSF<br>+80PSF / -57PSF                                                                                                                                        |                                                                                                                                                                          |                                                                                                                                                               | <ol> <li>LINTELS SHALL BE PLACED ABOVE ALL OPENINGS</li> <li>LINTELS NOT SHOWN ON THE CONSTRUCTION DR</li> </ol>                                                                                                                                                                             |
| 3. SUPERIMPOSED –<br>ROOF:                                                                                                                                     | DEAD LOADS:                                                                                                                                                               |                                                                                                                                                                          |                                                                                                                                                               | <u>SPAN:</u><br>• 0-2FT <sup>1</sup> / <sub>4</sub> " PLATE, OR BOND BEAM V                                                                                                                                                                                                                  |
|                                                                                                                                                                | <ol> <li>METAL.</li> <li>METAL DECK:</li> <li>INSULATION/MEMBRANE:</li> <li>CMEP:</li> <li>JOIST/BRIDGING:</li> </ol>                                                     | 3PSF<br>3PSF<br>8PSF<br>5PSF                                                                                                                                             |                                                                                                                                                               | <ul> <li>2FT-4FT</li> <li>2FT-4FT</li> <li>4FT-6FT</li> <li>4-3.5X3.5X1/4"</li> <li>4FT-6FT</li> <li>4-5X3.5X1/4"</li> <li>L-5X3.5X1/4"</li> </ul>                                                                                                                                           |
|                                                                                                                                                                | METAL:<br>1. CONCRETE ON DECK:                                                                                                                                            | 43PSF                                                                                                                                                                    |                                                                                                                                                               | BACK-TO-BACK ANGELS SHALL BE WELDED TOGE<br>3. LINTELS NOT SHOWN ON THE STRUCTURAL DRAW                                                                                                                                                                                                      |
|                                                                                                                                                                | <ol> <li>CMEP:</li> <li>FLOORING/MISC.:</li> <li>PONDING:</li> <li>PRECAST:</li> </ol>                                                                                    | 7PSF<br>5PSF<br>5PSF                                                                                                                                                     |                                                                                                                                                               | SPAN: LINTEL:     O-2FT ¼" PLATE, OR BOND BEAM V     2FT-4FT WT 4X9                                                                                                                                                                                                                          |
|                                                                                                                                                                | <ol> <li>HOLLOWCORE:</li> <li>TOPPING SLAB:</li> <li>PARTITIONS:</li> </ol>                                                                                               | 85PSF<br>20PSF<br>15PSF                                                                                                                                                  |                                                                                                                                                               | <ul> <li>4FT-6FT WT 4X9</li> <li>6FT-8FT L-5X3.5X1/4" W/ BOT PL- ¼"X</li> </ul>                                                                                                                                                                                                              |
| 4. LIVE LOADS                                                                                                                                                  | 4. CMEP:<br>ND SNOW LOAD:                                                                                                                                                 | 8PSF<br>50PSF                                                                                                                                                            |                                                                                                                                                               | <ol> <li>STEEL LINTELS SHALL HAVE A MINIMUM OF 8" BEA</li> <li>GROUT ALL CMU CORES SOLID UNDER LINTEL BEA</li> <li>GALVANIZE ALL STEEL EXPOSED TO WEATHER.</li> </ol>                                                                                                                        |
| •                                                                                                                                                              | FLAT ROOF SNOW LOAD (MINIMUM)<br>IMPORTANCE FACTOR Is= 1.00<br>SNOW EXPOSURE FACTOR Ce= 1.00                                                                              |                                                                                                                                                                          |                                                                                                                                                               | STRUCTURAL STEEL:<br>1. STEEL SHALL BE DETAILED, FABRICATED AND ERE                                                                                                                                                                                                                          |
| •                                                                                                                                                              | THERMAL FACTOR Ct= 1.10<br>SNOW DRIFT LOAD: ASCE-7 (APPRC<br>AGE (LIGHT/HEAVY)                                                                                            | RIATE YEAR)<br>125PSF/250PSF                                                                                                                                             |                                                                                                                                                               | <ol> <li>STELL STALL BE DE TAILED, TABRICATED AND ENE<br/>BRIDGES.</li> <li>HIGH STRENGTH BOLTS SHALL BE INSTALLED PER</li> <li>PROPERTIES:</li> </ol>                                                                                                                                       |
| • STAGE<br>GENERAL:                                                                                                                                            |                                                                                                                                                                           | 150PSF                                                                                                                                                                   |                                                                                                                                                               | <ul> <li>ROLLED W-SHAPED MEMBERS: ASTM A992</li> <li>STEEL TUBES: ASTM A500, GRADE B</li> <li>STEEL PIPES: ASTM A53, GRADE B</li> </ul>                                                                                                                                                      |
| <ol> <li>THE CONTRACT D<br/>AND METHODS OF</li> <li>THE CONTRACTOF</li> </ol>                                                                                  | CONSTRUCTION. SEQUENCING AND<br>R IS RESPONSIBLE FOR THE STRENG                                                                                                           | AEANS-AND-METHODS OF CONSTRUCTION SHALL BE TH<br>H, SAFETY, AND STABILITY OF THE NEW AND EXISTING S                                                                      | STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY                                                                                                     | <ul> <li>STEEL ANGLES, CHANNELS, PLATES: ASTM</li> <li>ANCHOR BOLTS: ASTM A307</li> <li>SIMPLE SHEAR CONNECTIONS NOT FULLY DETAILS<br/>USING END REACTION SHOWN ON PLANS. DOUBLE AN</li> </ul>                                                                                               |
| THE WORK REQUI<br>REGISTERED PRO<br>3. FIELD VERIFY ANY                                                                                                        | RED IN THE CONSTRUCTION DOCUM<br>FESSIONAL ENGINEER FOR THE DES<br>/ EXISTING DIMENSIONS, SIZES, AND                                                                      | NTS AND THE REQUIREMENTS FOR EXECUTING IT PROF<br>GN OF ANY TEMPORARY BRACING AND SHORING.<br>HICKNESSES SHOWN ON DRAWINGS. IMMEDIATELY NOT                              |                                                                                                                                                               | <ol> <li>ALL WELDING SHALL BE PERFORMED BY CERTIFIE<br/>STRUCTURAL WELDING CODE. IN LIEU OF AWS WELDI<br/>LAST 12 MONTHS.</li> </ol>                                                                                                                                                         |
| <ol> <li>OPTIONS, IF SHOW</li> <li>THE COST OF ADD</li> </ol>                                                                                                  | VN, ARE FOR THE CONVENIENCE OF<br>DITIONAL DESIGN WORK NECESSITAT                                                                                                         | CUMENTS ARE TYPICAL FOR SIMILAR SITUATIONS IN THE<br>HE CONTRACTOR.<br>D BY SEQUENCING OR CONSTRUCTION ERRORS SHALL<br>AMPED BY A PROFESSIONAL ENGINEER LICENSED IN TH   | . BE PAID BY THE CONTRACTOR.                                                                                                                                  | <ol> <li>UNLESS NOTED OTHERWISE, WELDS SHALL BE 3/<sup>2</sup></li> <li>PAINT STEEL EXPOSED TO VIEW WITH MANUFACT<br/>EXPOSED TO VIEW, CONTRACTOR MAY ELECT TO NO<sup>-</sup></li> <li>HEADED STEEL STUDS SHALL BE PLACED ON BEA</li> </ol>                                                  |
| SPECIAL INSPECTION:                                                                                                                                            | OY SPECIAL INSPECTORS TO PEREO                                                                                                                                            | M SPECIAL INSPECTION. BASED ON IBC 2018, SPECIAL IN                                                                                                                      |                                                                                                                                                               | <ol> <li>DO NOT FIELD TORCH-CUT HOLES OR NOTCHES IN</li> <li>BOLTS SHOWN ON STRUCTURAL DRAWINGS SHAL</li> <li>TIGHTENED CONDITIONS.</li> <li>FURNISH AND INSTALL OTHER MISCELLANEOUS S</li> </ol>                                                                                            |
|                                                                                                                                                                | AL INVESTIGATIONS<br>E CONCRETE<br>MASONRY                                                                                                                                |                                                                                                                                                                          |                                                                                                                                                               | 12. PROVIDE 5,000 PSI NON-SHRINK GROUT UNDER BAUNDERSIDE OF HEAD.                                                                                                                                                                                                                            |
| POST-INSTALL     PRECAST CON                                                                                                                                   | ED ANCHORS                                                                                                                                                                |                                                                                                                                                                          |                                                                                                                                                               | 1. DESIGN, FABRICATE, DELIVER, AND ERECT METAL                                                                                                                                                                                                                                               |
|                                                                                                                                                                |                                                                                                                                                                           |                                                                                                                                                                          |                                                                                                                                                               | <ul> <li>RECOMMENDATIONS OF THE STEEL DECK INSTITU</li> <li>2. STEEL DECK PROPERTIES SHALL BE (AT MINIMUM)</li> <li>3. STEEL DECK SHALL BE ATTACHED TO SUPPORTIN</li> </ul>                                                                                                                  |
| COLUN     WALL F                                                                                                                                               |                                                                                                                                                                           | 2000PSF<br>2000PSF                                                                                                                                                       |                                                                                                                                                               | <ol> <li>USE WELD-WASHERS WHEN WELDING THROUGH</li> <li>ROOF/FLOOR DECKING THAT WILL HAVE CONCRE<br/>INSTANCES THE DECKING SHALL BE PRIME-PAINTE</li> </ol>                                                                                                                                  |
| 3. CONCRETE SHALL<br>FOOTINGS AND SLABS<br>4. UNLESS NOTED O<br>GRANULAR FILL. OWN                                                                             | S. PROTECT SOIL FROM FREEZING AF<br>THERWISE, SLABS ON GRADE SHALL<br>IER'S SOILS CONSULTANT SHALL VEF                                                                    | OR GROUND CONTAINING STANDING WATER. OWNER'S<br>ER CASTING FOOTING.<br>CONTAIN FIBERMESH REINFORCEMENT. SLAB SHALL BE<br>FY SUBGRADE PRIOR TO PLACEMENT OF ANY FILL BELC |                                                                                                                                                               | <ol> <li>ROOF DECK AND NON-COMPOSITE DECK ENDS SH</li> <li>PROVIDE HIP AND VALLEY PLATES, GIRDER FILLER<br/>ARCHITECTURAL DRAWINGS, OR AS NEEDED TO P</li> <li>SUPPORT DECK AT SUMP PANS AND OTHER ROOF</li> <li>HANG LOADS FROM STEEL BEAMS AND JOISTS WH</li> </ol>                        |
| CASTING OPERATIONS                                                                                                                                             | S. CONSOLIDATE CONCRETE.<br>S SHALL NOT BE BACKFILLED UNTIL L                                                                                                             | WER LEVEL SLAB AND FIRST FLOOR STRUCTURE IS IN F                                                                                                                         | CASTING IS NOT PERMITTED. HOLD REINFORCING IN PLACE DURING<br>PLACE, UNLESS BRACING IS PROVIDED.<br>E-DRAINING GRANULAR MATERIAL FOR A MINIMUM OF 2FT AGAINST | OR NON-COMPOSITE DECK. LOADS LESS THAN 10<br>CONTRACTOR.<br>STEEL JOISTS:                                                                                                                                                                                                                    |
| 8. STEPS IN FOOTING<br>9. SEE ARCHITECTU                                                                                                                       | RAL DRAWINGS FOR OTHER REVEAL                                                                                                                                             | EAMS SHALL BE COORDINATED WITH WALL FORMING S                                                                                                                            |                                                                                                                                                               | <ol> <li>DESIGN, FABRICATE, DELIVER, AND ERECT OPEN</li> <li>THE BASIS OF DESIGN FOR JOIST SIZES SHOWN O<br/>MECHANICAL LOADS SHOWN ON DOCUMENTS.</li> </ol>                                                                                                                                 |
| CONCRETE:                                                                                                                                                      |                                                                                                                                                                           |                                                                                                                                                                          |                                                                                                                                                               | <ol> <li>PROVIDE BRIDGING, EXTENDED ENDS, SLOPED BE</li> <li>BRIDGING SHOWN ON DRAWINGS SHALL BE USED</li> </ol>                                                                                                                                                                             |
|                                                                                                                                                                |                                                                                                                                                                           | /INIMUM 28-DAY CONCRETE STRENGTHS SHALL BE AS I                                                                                                                          | FOLLOWS:                                                                                                                                                      | <ul> <li>MANUFACTURER. UPLIFT BRIDGING MAY BE REQU</li> <li>5. WHERE BRIDGING INTERFERES WITH MECHANICA<br/>LOCATIONS PRIOR TO REMOVAL.</li> </ul>                                                                                                                                           |
| <ul> <li>TYPICAL-U</li> <li>FOOTINGS</li> <li>FOUNDATI</li> <li>SLABS ON</li> </ul>                                                                            | ON WALLS:                                                                                                                                                                 | 4000PSI<br>3500PSI<br>4000PSI                                                                                                                                            |                                                                                                                                                               | <ol> <li>PAINT JOISTS WITH MANUFACTURER'S STANDARD</li> <li>TO AID IN BEARING SEAT DESIGN FOR JOISTS, IF J<br/>ON THE SHOP DRAWINGS.</li> <li>JOISTS BEARING ABOVE A COLUMN LINE SHALL HA</li> </ol>                                                                                         |
| <ol> <li>CONCRETE MIX DE</li> <li>CONCRETE MIX DE</li> <li>INTERIOR SLAB ON</li> <li>WATER TO CE</li> <li>AIR CONTENT:</li> <li>FOOTINGS &amp; FOUN</li> </ol> | ESIGN SHALL CONFORM TO ACI 301 A<br>ESIGN PERAMETERS:<br>N GRADE:<br>MENT RATIO (W/C): ≤ 0.48<br>: 3% +/- 0.5%<br>NDATION WALLS<br>MENT RATIO (W/C): ≤ 0.48               | EDITIONS OF ACI 301, 305, 306, 311, 315, 318 AND 347.<br>D 318. WATER SHALL NOT BE ADDED ON SITE, UNLESS                                                                 | CALLED OUT ON THE APPROVED MIX DESIGN.                                                                                                                        | <ol> <li>JOISTS SHALL BE WELDED TO SUPPORTS, TYPICAI</li> <li>10. LIGHT-WEIGHT MECHANICAL DUCTS, CONDUIT, AN</li> <li>11. LOADS GREATER THAN 100LBS SHALL BE HUNG W<br/>CHOARD POINT, AS SHOWN ON THE DETAILS.</li> </ol>                                                                    |

- WATER TO CEMENT RATIO (W/C): ≤ 0.48
- AIR CONTENT: 6.5% +/- 1%

5. CONCRETE SLABS ON GRADE SHALL HAVE CONSTRUCTION JOINTS OR CUT JOINT AT 12FT O.C. MAXIMUM IN EACH DIRECTION. CUT SLAB BETWEEN 4 AND 12 HOURS AFTER CASTING SLAB. ISOLATE COLUMNS, WALLS, AND PIERS FROM SLABS AS SHOWN ON DRAWINGS. DO NOT CUT SLABS-ON-DECK OR PRECAST TOPPING SLABS.

SEE ARCHITECTURAL DRAWINGS FOR SLAB DEPRESSIONS. PITCH SLAB TO DRAIN WITHOUT REDUCING THICKNESS OF CONCRETE SECTION.

PROVIDE CONSTRUCTION JOINTS IN EXPOSED WALLS AT A MAXIMUM SPACING OF 40FT. COORDINATE LOCATION OF JOINT WITH ARCHITECTURAL DRAWINGS. PROVIDE

CONSTRUCTION JOINTS IN UNEXPOSED WALLS AT A MAXIMUM SPACING OF 60FT.

8. ALL JOINTS IN CONCRETE CONSTRUCTION SHALL BE KEYED WITH A MINIMUM 2X4 KEYWAY. PROPERLY CONSOLIDATE CONCRETE WHEN CASTING.

9. DO NOT PLACE CONDUIT, PIPES, OR DUCTS WITHIN COLUMNS, BEAMS, WALLS, OR SLAB SYSTEMS WITHOUT APPROVAL FROM STRUCTURAL ENGINEER.

LL CONFORM TO THE LATEST ACI DETAILING MANUAL. PROVIDE COVER TO REINFORCEMENT AS LISTED IN ACI 318.

WIRE FABRIC- ASTM A185 OF REINFORCING SHALL BE DONE COLD. DO NOT HEAT REINFORCEMENT.

AS FOLLOWS, UNLESS NOTED OTHERWISE. STAGGER SPLICES OF REINFORCING BY 24 INCHES AT ALTERNATE BARS.

JOIST TOP AND BOTTOM BARS – 48DB I/WALL VERTICAL BARS – 48DB

IN PLACE DURING CASTING OPERATIONS.

EMASONRY UNITS: NORMAL WEIGHT, F'M=2000, MORTAR TYPE S, GROUT STRENGTH – 2000PSI.

JCTION SHALL COMPLY WITH THE LATEST VERSION OF ACI 530.1. SEE IBC 2018 FOR HOT AND COLD WEATHER PROCEDURES. ) IN A RUNNING-BOND PATTERN.

AMS WITH 2 #5 AT ALL FLOOR LINES, ROOF LINES, TOP OF WALL, AND AT 12'-0" O.C. MAXIMUM SPACING IN WALL

CING AT CENTER OF CORES OF CMU CONSTRUCTION, OR AS INDICATED ON STRUCTURAL DRAWINGS. HOLD REINFORCING IN PLACE SURING GROUTING LL REINFORCED CELLS WITH GROUT. FILL ALL CMU CELLS SOLID BELOW GRADE. SEE DRAWINGS FOR OTHER GROUTING. CONSOLIDATED GROUT.

R-TO-FLOOR AT JAMBS OF OPENINGS. AMETERS, UNLESS NOTED OTHERWISE.

ITAL JOINT REINFORCEMENT AT 16" O.C. MAX SPACING PER SPECIFICATION.

NG WILL NOT BE PERMITTED WITHOUT AN APPROVED WRITTEN PROCEDURE SUBMITTED THROUGH THE ARCHITECT. WAYS OR PREMANUFACTURED JOINTS AT ALL CONTROL JOINTS.

NDUIT, CHASES, OR OTHER EMBED ITEMS IN GROUTED CELLS WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.

IOINTS IN CMU AT A MAXIMUM SPACING OF 20FT, UNLESS NOTED OTHERIWSE. LOCATE CONTROL JOINTS IN EXTERIOR MASONRY PER ARCHITECTURAL DRAWINGS. 4. STRUCTURAL STEEL CONNECTIONS AND/OR STEEL STAIRS, GUARD RAILS, & HANDRAILS CING THROUGH CONTROL JOINTS. WRAP REBAR WITH BOND-BREAKING TAPE 2'-0" EACH SIDE OF JOINT. DO NOT SPLICE REINFORCING WITHIN 4FT OF JOINTS. 5. STRUCTURAL & ARCHITECTURAL PRECAST RING CMU WALLS TO HAVE #5 REBAR GROUTED SOLID @ 48" O.C. U.N.O.

LACED ABOVE ALL OPENINGS AND RECESSES IN MASONRY CONSTRUCTION. N ON THE CONSTRUCTION DRAWINGS SHALL BE AS FOLLOWS, FOR EVERY 4IN NOMINAL THICKNESS OF MASONRY:

1/4" PLATE, OR BOND BEAM WITH 2 #5 L-3.5X3.5X1/4" L-5X3.5X1/4" LLV L-5X3.5X1/4" LLV

GELS SHALL BE WELDED TOGETHER WITH 2" WELD AT 12" O.C.

N ON THE STRUCTURAL DRAWINGS SHALL BE AS FOLLOWS, FOR EVERY 6IN NOMINAL OF MASONRY THICKNESS (EG. 6" CMU)

1/4" PLATE, OR BOND BEAM WITH 1 #5 WT 4X9 WT 4X9 L-5X3.5X1/4" W/ BOT PL- 1/4"X5"

LL HAVE A MINIMUM OF 8" BEARING ON FULLY GROUTED CELL. RES SOLID UNDER LINTEL BEARING, BEAMS AND BEARING PLATES.

ETAILED, FABRICATED AND ERECTED PER AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND

DLTS SHALL BE INSTALLED PER AISC SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.

ES, CHANNELS, PLATES: ASTM A36

LTS: ASTM A307 NECTIONS NOT FULLY DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE SELECTED BY THE STEEL FABRICATOR FROM APPROPRIATE AISCC LOAD TABLES HOWN ON PLANS. DOUBLE ANGLE, SINGLE ANGLE, OR WELDED SHEAR PLATE CONNECTIONS SHALL BE USED. BOLTED CONNECTIONS SHALL USE A MINIMUM OF 2

BE PERFORMED BY CERTIFIED WELDERS WITH EXPERIENCE IN THAT TYPE OF JOINT. WELDING SHALL BE ACCORDING TO AMERICAN WELDING SOCIETY, CODE. IN LIEU OF AWS WELDING CERTIFICATES, WELDERS EMPLOYED ON THE WORK MAY PROVIDE WELDING TESTS THAT HAVE BEEN PERFORMED WITHIN THE

IERWISE, WELDS SHALL BE 3/16" THROAT THICKNESS. ALL WELDS SHALL USE E70XX ELECTRODES. SED TO VIEW WITH MANUFACTURER'S STANDARD PRIMER. DO NOT PRIME STEEL RECEIVING FIRE-PROOFING, OR AT WELDS. IF STEEL MEMBERS ARE NOT

ITRACTOR MAY ELECT TO NOT PRIME THIS STEEL. GALVANIZE ALL STEEL EXPOSED TO WEATHER.

DS SHALL BE PLACED ON BEAMS IN FIELD, ARC-WELDED THROUGH METAL FLOOR DECK. SEE STUD REPLACEMENT DETAIL. CH-CUT HOLES OR NOTCHES IN STEEL MEMBERS WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.

TRUCTURAL DRAWINGS SHALL BE ¾" DIAM., A325-N BOLTS UNLESS NOTED OTHERWISE. USE TWIST-OFF TYPE BOLTS FOR CONNECTIONS REQUIRING FULLY

ALL OTHER MISCELLANEOUS STEEL AS CALLED OUT OR REQUIRED BY ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS. NON-SHRINK GROUT UNDER BASE PLATES AND BEARING PLATES WHERE INDICATED. ANCHOR BOLTS SHALL BE EMBEDDED 12 X (DIAM OF BOLT) MEASURED TO

, DELIVER, AND ERECT METAL ROOF DECK, NON-COMPOSITE METAL DECK, AND COMPOSITE METAL DECK ACCORDING TO THE SPECIFICATIONS AND

IS OF THE STEEL DECK INSTITUTE (SDI). ERTIES SHALL BE (AT MINIMUM), THOSÉ LISTED IN VULCRAFT CATALOGS FOR THE TYPE AND GAGE SHOWN ON THE DRAWINGS.

BE ATTACHED TO SUPPORTING STRUCTURE AS NOTED ON PLANS. RS WHEN WELDING THROUGH DECK. POWDER DRIVEN FASTENERS, IF DESIRED FOR DECK ATTACHMENT, SHALL BE SUBMITTED FOR REVIEW.

ING THAT WILL HAVE CONCRETE POURED ON TOP OF IT OR IS LOCATED IN AN AREA THAT WILL HAVE HIGH HUMIDITY SHALL BE GALVANIZED. FOR ALL OTHER CKING SHALL BE PRIME-PAINTED.

ON-COMPOSITE DECK ENDS SHALL BE LAPPED 2" OVER SUPPORT. COMPOSITE DECK ENDS SHALL BE BUTTED OVER CENTER OF SUPPORT. ALLEY PLATES, GIRDER FILLERS, END CLOSERS, CANT STRIPS, SUMP PANS, EDGE FORMS AND OTHE ACCESSORIES AS SHOWN ON THE STRUCTURAL AND RAWINGS, OR AS NEEDED TO PROVIDE A COMPLETE DECK SYSTEM SHOWN ON THE DRAWINGS.

SUMP PANS AND OTHER ROOF DECK OPENINGS. SEE DETAILS. 1 STEEL BEAMS AND JOISTS WHENEVER POSSIBLE. PROVIDE UNISTRUT, ANGLES, OR TUBES TO ACCOMMODATE THIS. DO NOT HANG ANY LOADS FROM ROOF DECK E DECK. LOADS LESS THAN 100LBS MAY BE HUNG FROM CURED, COMPOSITE DECK. RESPONSIBILITYFOR DESIGN OF MEP SUPPORT SYSTEMS WILL BE WITH THE

, DELIVER, AND ERECT OPEN WEB STEEL JOISTS, JOIST GIRDERS, AND ACCESSORIES ACCORDING TO THE SPECIFICATIONS OF THE STEEL JOIST INSTITUTE (SJI). GN FOR JOIST SIZES SHOWN ON THE DRAWINGS IS PER VULCRAFT DESIGN CATALOG. SPECIAL JOIST PRELIMINARY SIZES SHOWN ARE BASED ON SNOW DRIFT AND SHOWN ON DOCUMENTS.

, EXTENDED ENDS, SLOPED BEARINGS, CEILING EXTENSIONS AND OTHER ACCESSORIES AS SHOWN ON THE STRUCTURAL AND ARCHITECTUAL DRAWINGS. ON DRAWINGS SHALL BE USED FOR ESTIMATING ONLY. FINAL SIZE, CONFIGURATION, AND QUANTITY OF BRIDGING SHALL BE DETEMINED BY THE JOIST JPLIFT BRIDGING MAY BE REQUIRED- SEE DRAWINGS.

ITERFERES WITH MECHANICAL DUCTWORK OR PIPING, BRIDING MAY BE REMOVED AFTER ROOF DECK ATTACHEMNT. NOTIFY STRUCTURAL ENGINEER OF TO REMOVAL. MANUFACTURER'S STANDARD RUST-INHIBITING PRIMER. JOISTS TO RECEIVE FIREPROOFING ARE NOT TO BE PAINTED.

SEAT DESIGN FOR JOISTS, IF JOIST MANUFACTURER WOULD LIKE TO STAGGER JOISTS ON EITHER SIDE OF A SUPPORT, THIS SHALL BE SUBMITTED FOR APPROVAL /INGS

30VE A COLUMN LINE SHALL HAVE ERECTION BOLTS IN THE BEARING SEAT. BOTTOM CHORDS SHALL BE ALSO EXTENDED TO THE FACE OF THE COLUMN. ELDED TO SUPPORTS, TYPICAL.

HANICAL DUCTS, CONDUIT, AND CEILING MAY BE HUNG AT ANY POINT ALONG THE JOIST BOTTOM OR TOP CHORD. HAN 100LBS SHALL BE HUNG WITHIN 6" OF TOP AND BOTTOM CHORD POINTS. LOADS HUNG OUTSIDE THIS RANGE SHALL HAVE ADDED BRACING TO NEAREST SHOWN ON THE DETAILS.

LIGHT GAGE STEEL:

- . LIGHT GAGE STEEL DESIGN, DETAILING AND ERECTION SHALL FOLLOW STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) GUIDELINES.
- INFORMATION. BOTTOM TRACK. STUDS SHALL NOT HAVE PUNCH-OUT LOCATED AT ENDS OF STUDS.
- 4. PROVIDE TRACK, BRIDGING, BLOCKING, HEADERS, CLIP-ANGLES, SLIDE CLIPS, FASTENERS, AND OTHER ACCESSORIES AS NEEDED TO SUPPLY A COMPLETED LIGHT-GAGE SYSTEM AS SHOWN ON THE DRAWING.
- PROVIDE 2 FULL HEIGHT STUDS AT JAMBS OF OPENINGS, UNLESS NOTED OTHERWISE.

## SUBMITTALS:

- CONTRACTOR/SUPPLIER TO THE ENGINEER OF RECORD FOR REVIEW BEFORE FABRICATION. 2. CONCRETE MIX DESIGNS
- PRECAST DESIGNS 4. CONCRETE AND/OR CMU REINFORCING SHOPS
- 5. STRUCTURAL STEEL FRAMING SHOPS
- 6. STEEL JOIST SHOPS

## DELEGATED DESIGNS:

- 2. THE DESIGN OF DELEGATED STRUCTURAL ITEMS MAY BE DEFERRED UNTIL AFTER A BUILDING PERMIT HAS BEEN ISSUED.

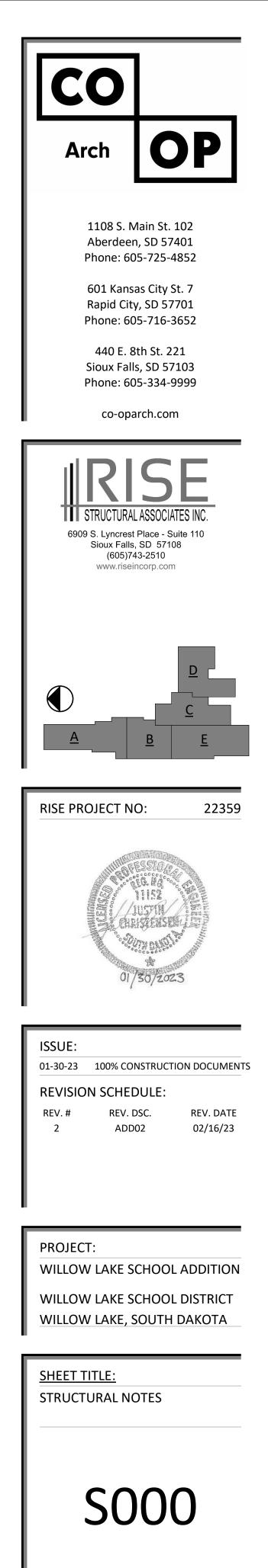
2. LIGHT GAGE CALLED OUT ON THE DRAWINGS SHALL HAVE A MINIMUM PROPERTIES CALLED OUT IN THE LATEST EDITION OF SSMA PRODUCT TECHNICAL

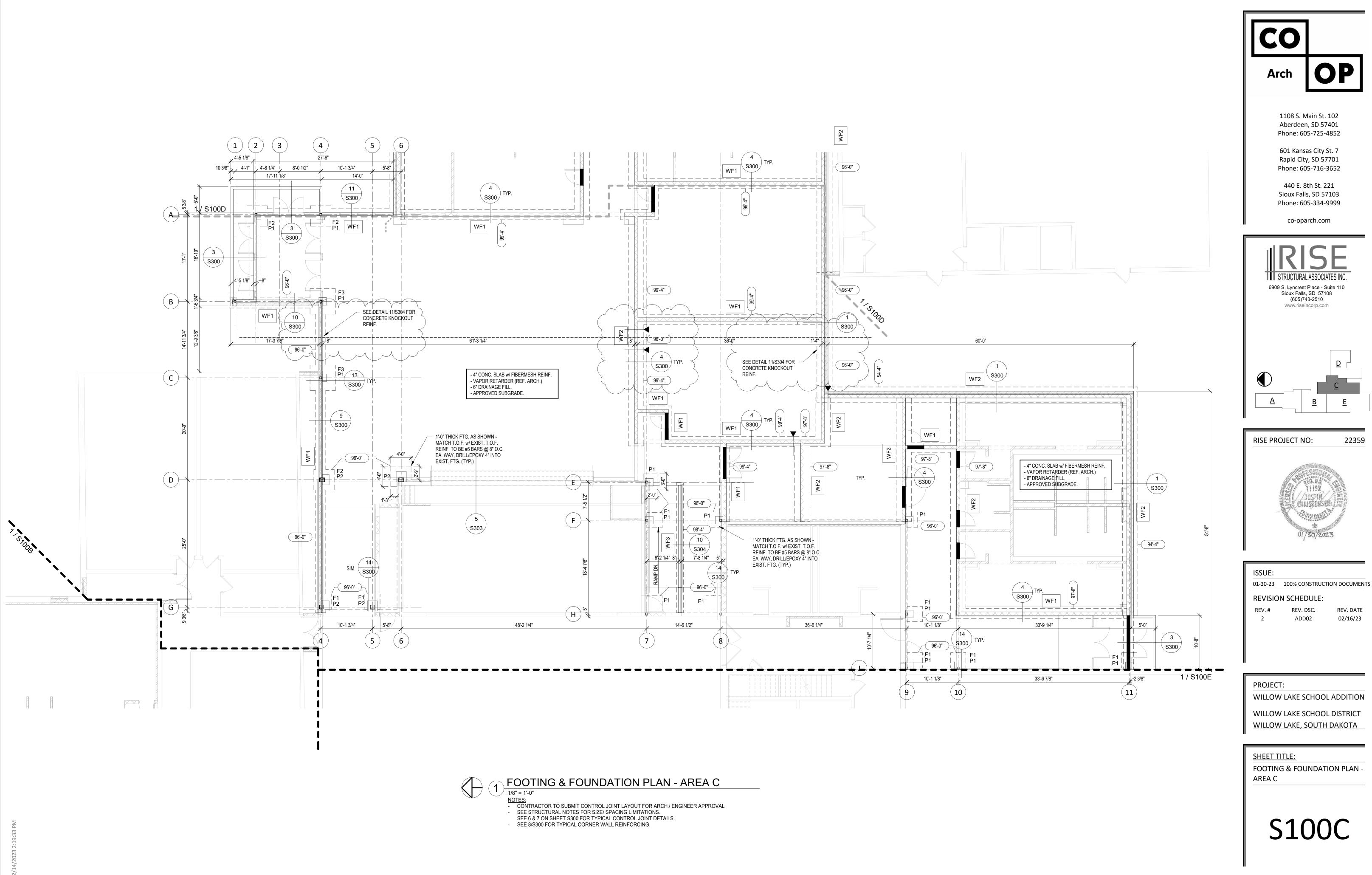
3. END TRACK GAGE SHALL MATCH WALL STUD GAGE. ALIGN STUDS BELOW STRUCTURAL MEMBERS ABOVE. PROVIDE FULL BEARING OF WALL STUDS TO TOP AND

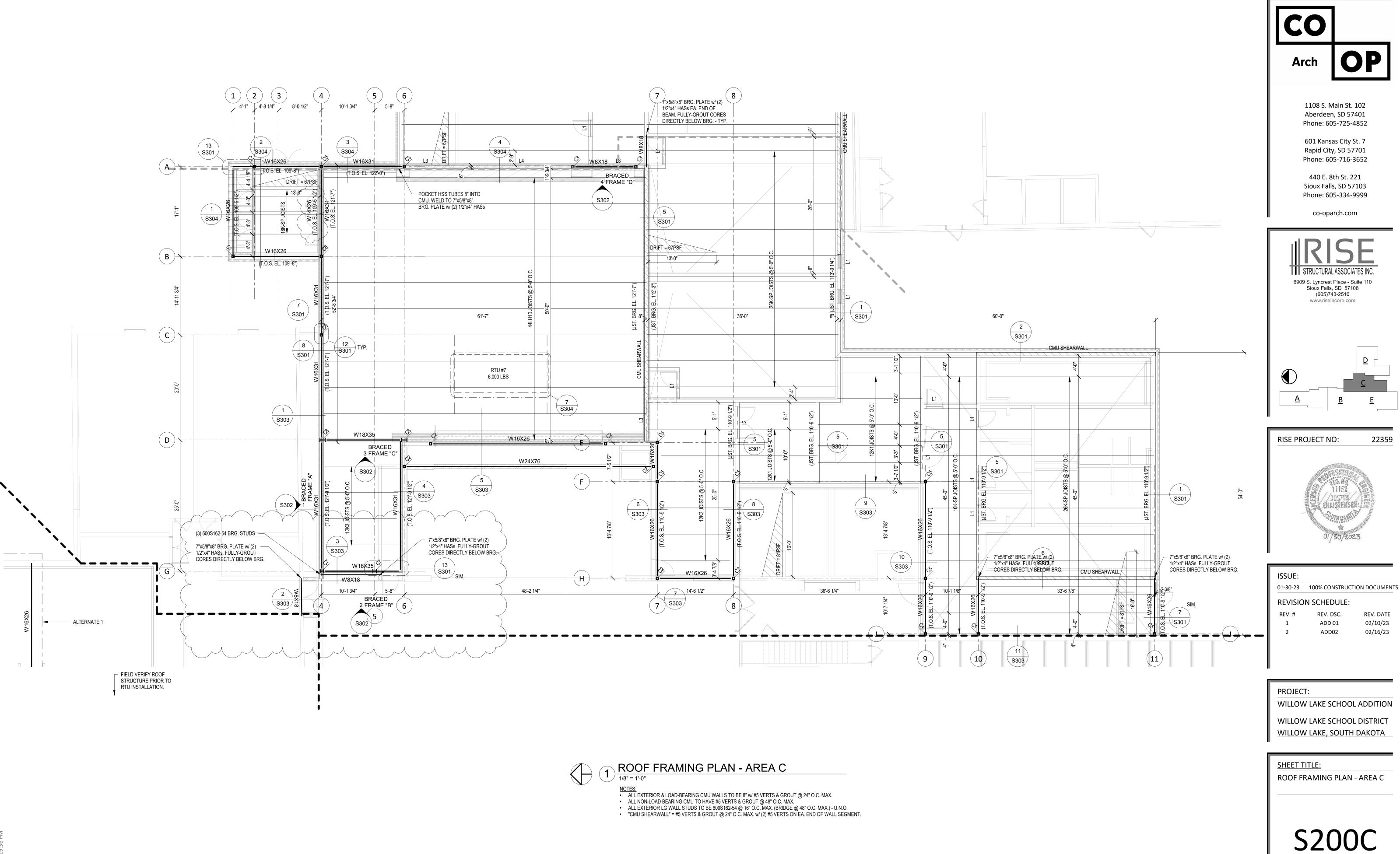
5. PROVIDE BRIDGING AT 4'-0" O.C. MAXIMUM SPACING IN BEARING , SHEAR AND EXTERIOR WALLS. PROVIDE FULL DEPTH BLOCKING AT ALL SHEAR PANEL EDGES. 6. SCREW SHEATHING FOR FLOORS & ROOFS WITH #8 SCREWS AT 6" O.C. AT PANEL EDGES AND 12" O.C. IN THE FIELD. STAGGER EDGES OF PANELS. 8. ALL WELDED CONNECTIONS SHALL BE DONE BY PERSONNEL CERTIFIED IN LIGHT-GAGE WELDING.

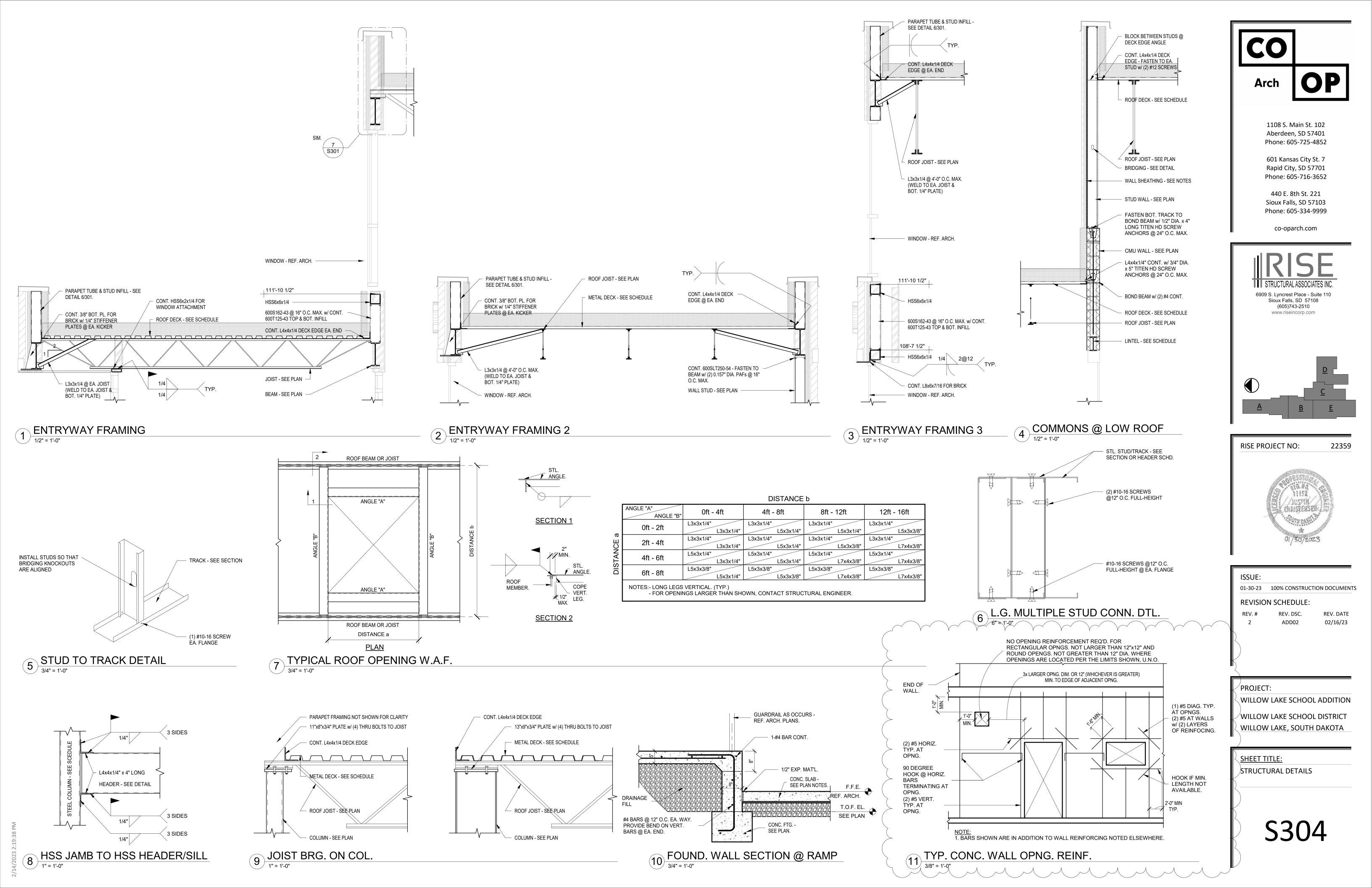
1. THE FOLLOWING STRUCTURAL COMPONENTS OF THE BUILDING WILL REQUIRE SHOP DRAWINGS AND/OR MIX DESIGNS TO BE SUBMITTED BY THE

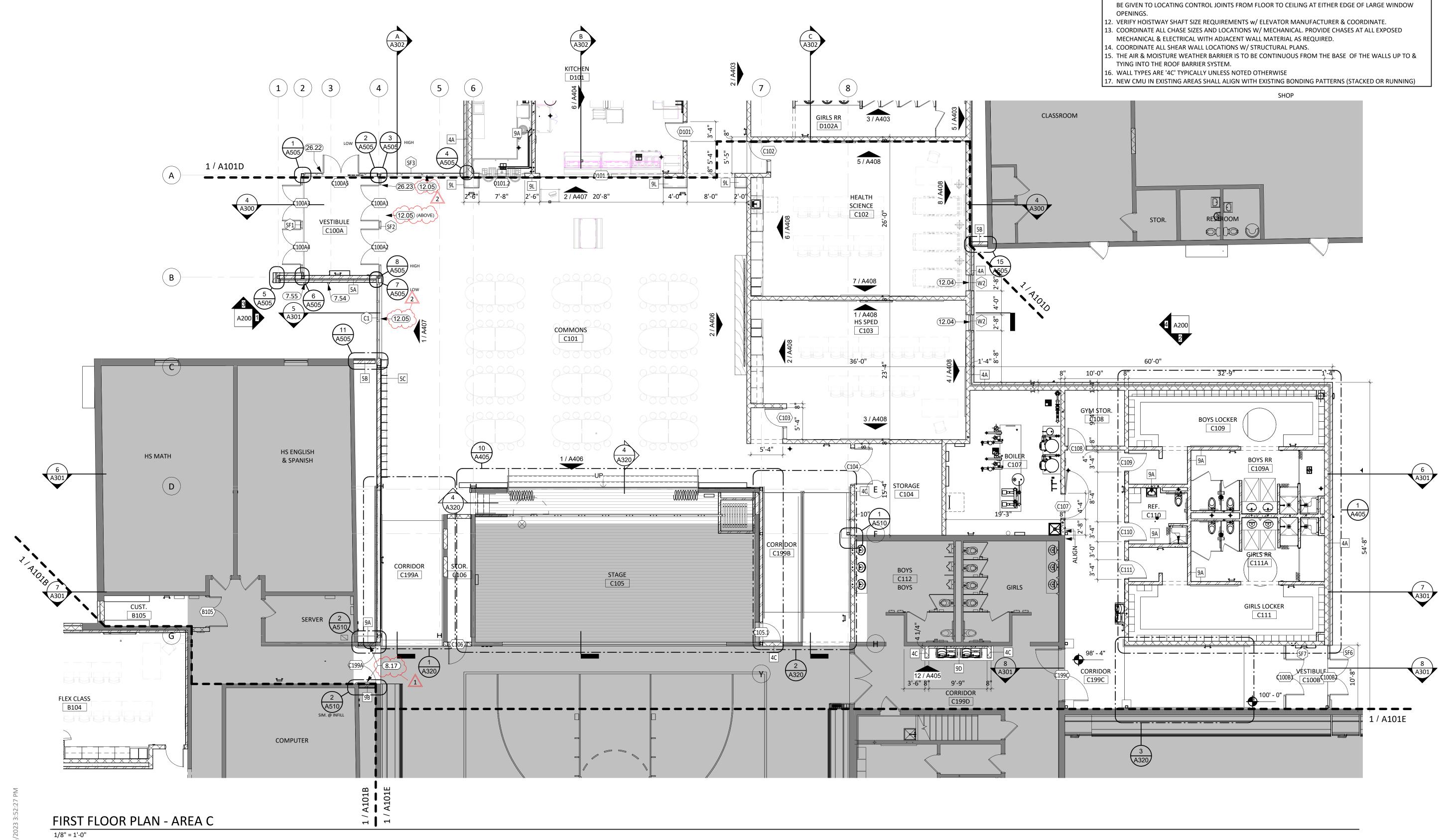
1. DESIGN ITEMS THAT HAVE BEEN DELEGATED WILL REQUIRE THE CONTRACTOR/SUPPLIER TO PROVIDE SHOP DRAWINGS AND CALCULATIONS TO THE ENGINEER OF RECORD THAT HAVE BEEN SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE DESIGN OF THE FOLLOWING STRUCTURAL COMPONENTS OF THE BUILDING HAVE BEEN DELEGATED TO THE CONTRACTOR/SUPPLIER.











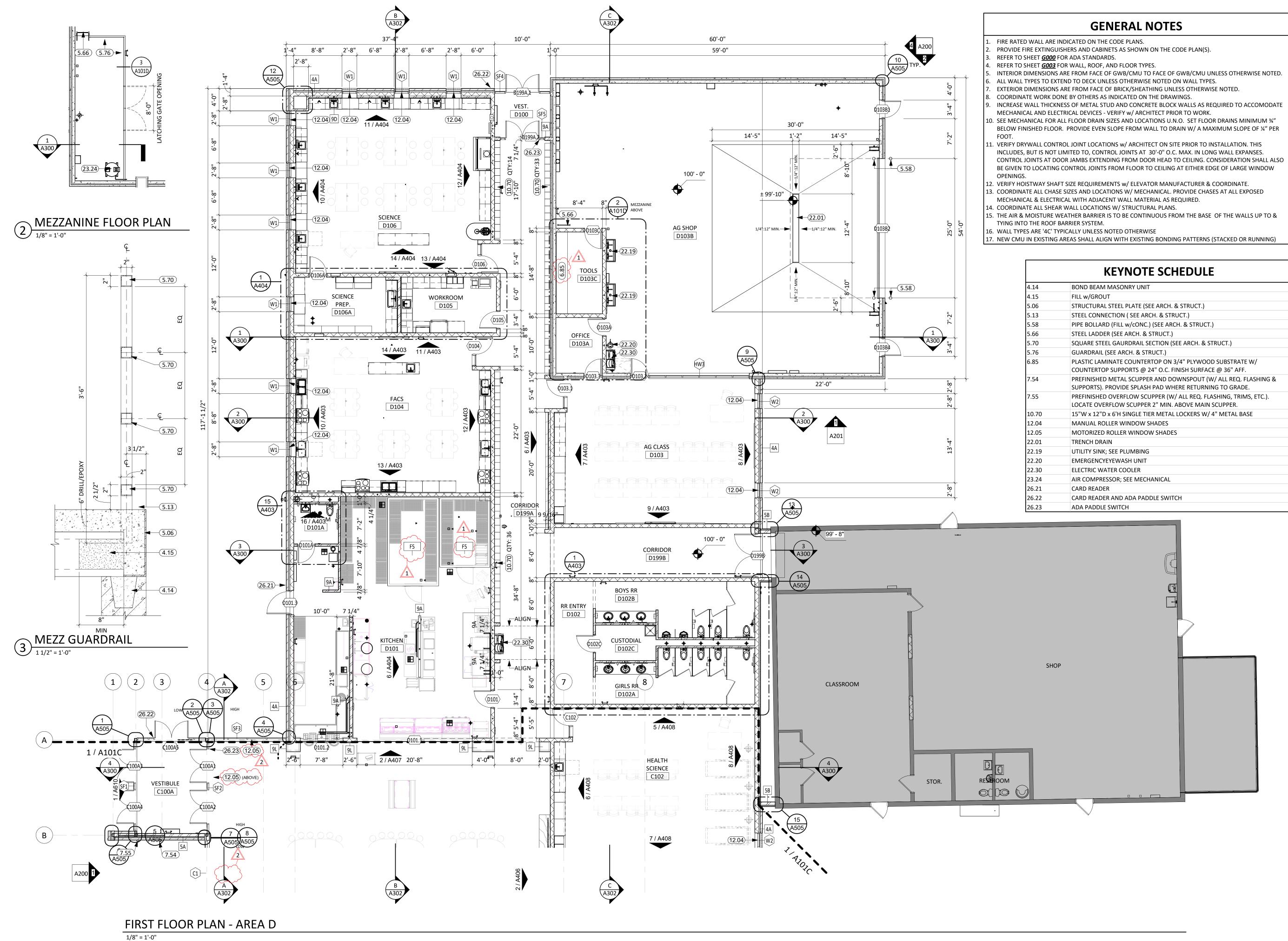
|       | KEYNOTE SCHEDULE                                                                                                         |          |                                           |
|-------|--------------------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------|
| 7.54  | PREFINISHED METAL SCUPPER AND DOWNSPOUT (W/ ALL REQ. FLASHING & SUPPORTS). PROVIDE SPLASH PAD WHERE RETURNING TO GRADE.  | 1.       | FIRE RATED WALL AR<br>PROVIDE FIRE EXTING |
| 7.55  | PREFINISHED OVERFLOW SCUPPER (W/ ALL REQ. FLASHING, TRIMS, ETC.).<br>LOCATE OVERFLOW SCUPPER 2" MIN. ABOVE MAIN SCUPPER. | 3.<br>4. |                                           |
| 8.17  | ACCESS DOOR & FRAME; 2HR RATING. BASIS OF DESIGN: ACUDOR FB-5060-DW 24"X48"                                              | 5.<br>6. | ALL WALL TYPES TO E                       |
| 12.04 | MANUAL ROLLER WINDOW SHADES                                                                                              | 7.       | EXTERIOR DIMENSIO                         |
| 12.05 | MOTORIZED ROLLER WINDOW SHADES                                                                                           | 8.       |                                           |
| 26.22 | CARD READER AND ADA PADDLE SWITCH                                                                                        | J.       | MECHANICAL AND EL                         |
| 26.23 | ADA PADDLE SWITCH                                                                                                        | 1(       | ). SEE MECHANICAL FO                      |
|       |                                                                                                                          |          | BELOW FINISHED FLC<br>FOOT.               |

# **GENERAL NOTES**

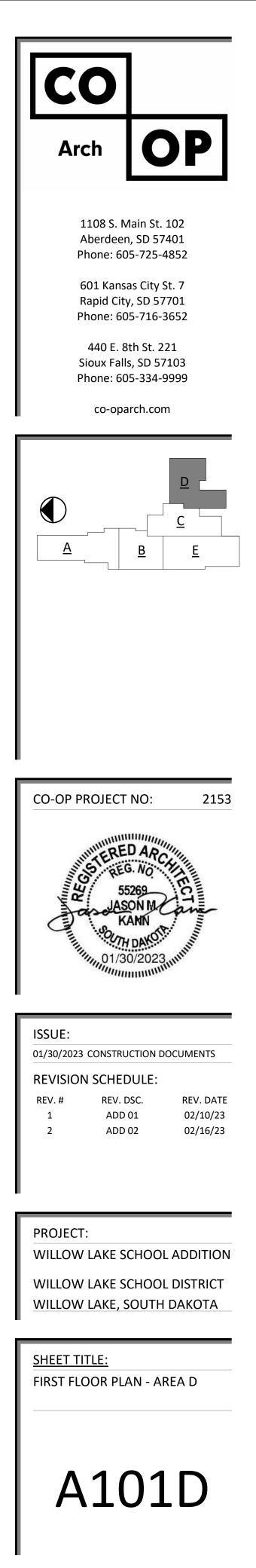
ARE INDICATED ON THE CODE PLANS.

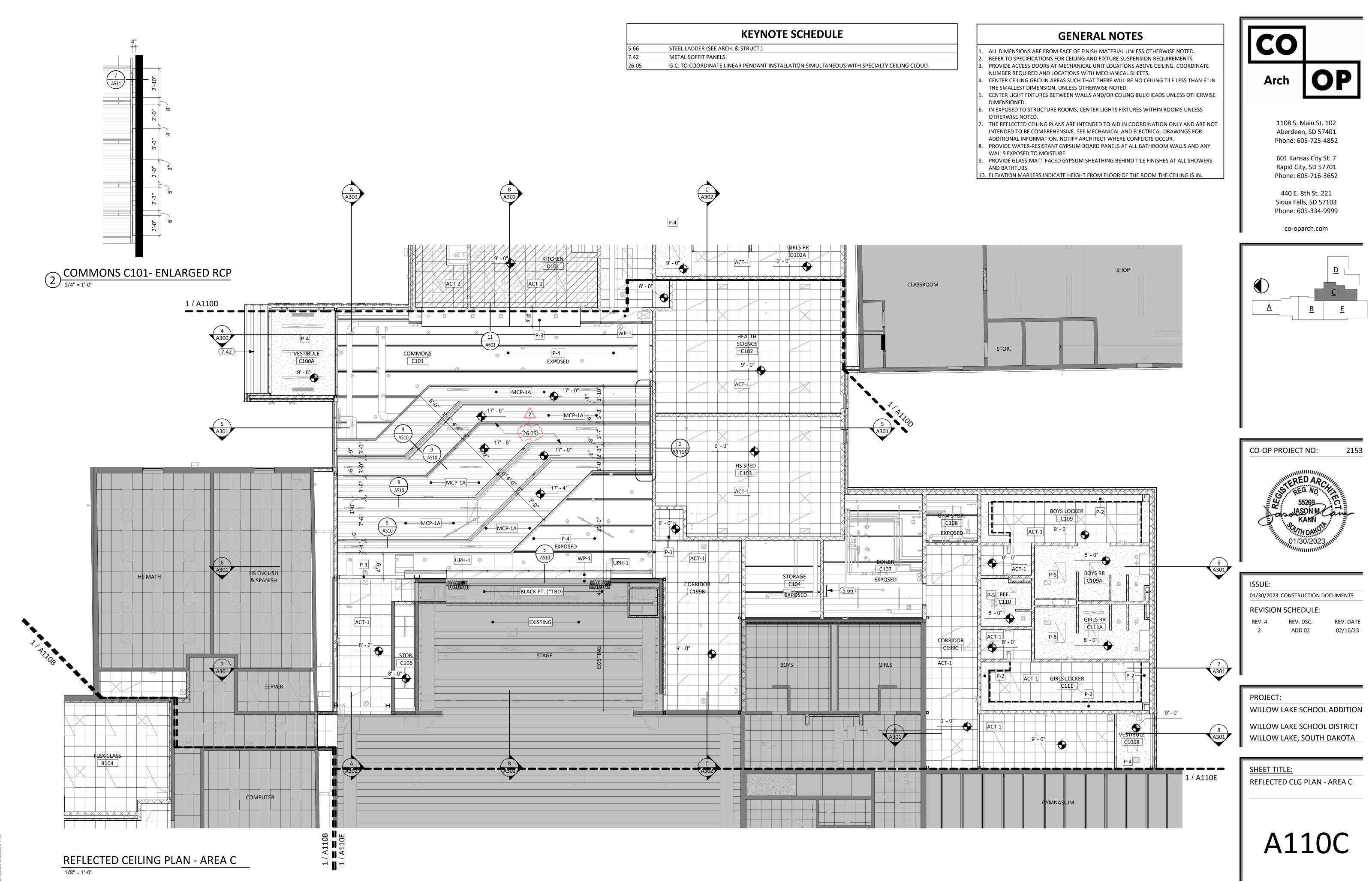
- INGUISHERS AND CABINETS AS SHOWN ON THE CODE PLAN(S).
- **5000** FOR ADA STANDARDS.
- **5003** FOR WALL, ROOF, AND FLOOR TYPES.
- SIONS ARE FROM FACE OF GWB/CMU TO FACE OF GWB/CMU UNLESS OTHERWISE NOTED. O EXTEND TO DECK UNLESS OTHERWISE NOTED ON WALL TYPES. IONS ARE FROM FACE OF BRICK/SHEATHING UNLESS OTHERWISE NOTED.
- RK DONE BY OTHERS AS INDICATED ON THE DRAWINGS.
- HICKNESS OF METAL STUD AND CONCRETE BLOCK WALLS AS REQUIRED TO ACCOMODATE D ELECTRICAL DEVICES - VERIFY w/ ARCHITECT PRIOR TO WORK.
- FOR ALL FLOOR DRAIN SIZES AND LOCATIONS U.N.O. SET FLOOR DRAINS MINIMUM <sup>3</sup>/<sup>"</sup> FLOOR. PROVIDE EVEN SLOPE FROM WALL TO DRAIN W/ A MAXIMUM SLOPE OF ¼" PER
- 11. VERIFY DRYWALL CONTROL JOINT LOCATIONS w/ ARCHITECT ON SITE PRIOR TO INSTALLATION. THIS INCLUDES, BUT IS NOT LIMITED TO, CONTROL JOINTS AT 30'-0" O.C. MAX. IN LONG WALL EXPANSES. CONTROL JOINTS AT DOOR JAMBS EXTENDING FROM DOOR HEAD TO CEILING. CONSIDERATION SHALL ALSO

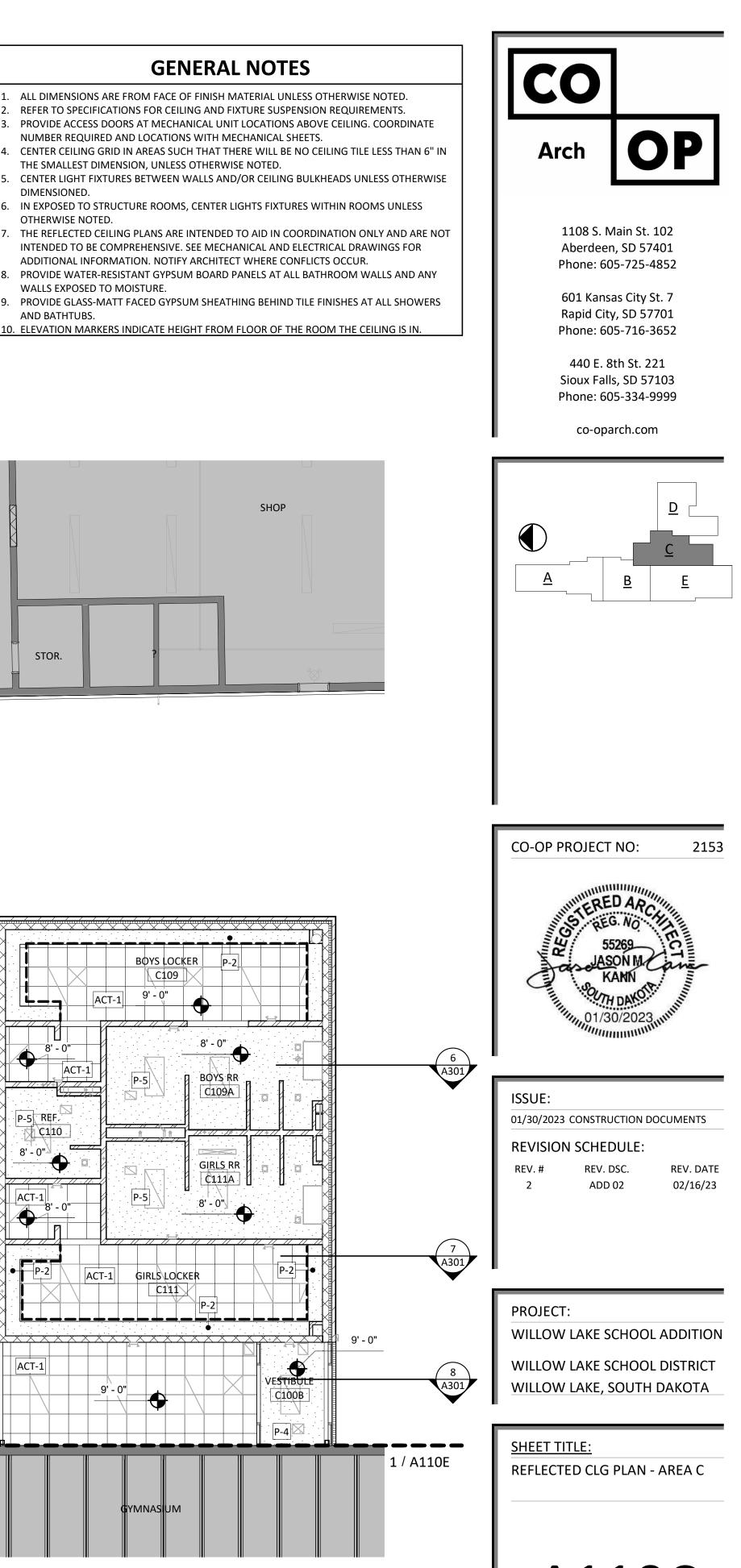
| Arch <b>OP</b>                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1108 S. Main St. 102<br>Aberdeen, SD 57401<br>Phone: 605-725-4852<br>601 Kansas City St. 7<br>Rapid City, SD 57701<br>Phone: 605-716-3652<br>440 E. 8th St. 221<br>Sioux Falls, SD 57103<br>Phone: 605-334-9999<br>co-oparch.com |
|                                                                                                                                                                                                                                  |
| CO-OP PROJECT NO: 2153                                                                                                                                                                                                           |
| ISSUE:<br>01/30/2023 CONSTRUCTION DOCUMENTS<br>REVISION SCHEDULE:<br>REV. # REV. DSC. REV. DATE<br>1 ADD 01 02/10/23<br>2 ADD 02 02/16/23                                                                                        |
| PROJECT:<br>WILLOW LAKE SCHOOL ADDITION<br>WILLOW LAKE SCHOOL DISTRICT<br>WILLOW LAKE, SOUTH DAKOTA                                                                                                                              |
| <u>SHEET TITLE:</u><br>FIRST FLOOR PLAN - AREA C                                                                                                                                                                                 |
| A101C                                                                                                                                                                                                                            |

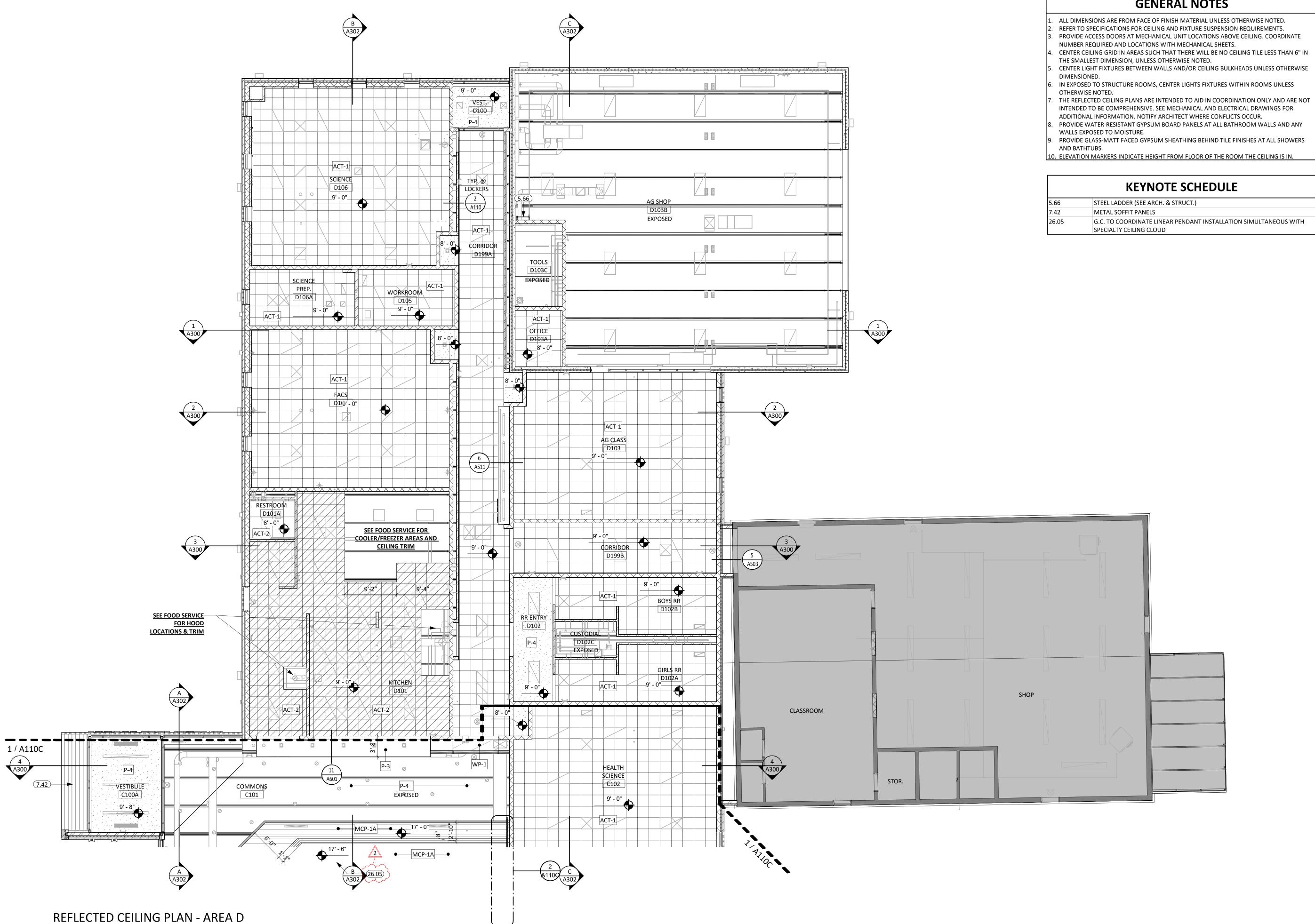


PREFINISHED METAL SCUPPER AND DOWNSPOUT (W/ ALL REQ. FLASHING & PREFINISHED OVERFLOW SCUPPER (W/ ALL REQ. FLASHING, TRIMS, ETC.).









1/8" = 1'-0"

# **GENERAL NOTES**

ALL DIMENSIONS ARE FROM FACE OF FINISH MATERIAL UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS FOR CEILING AND FIXTURE SUSPENSION REQUIREMENTS. PROVIDE ACCESS DOORS AT MECHANICAL UNIT LOCATIONS ABOVE CEILING. COORDINATE

CENTER CEILING GRID IN AREAS SUCH THAT THERE WILL BE NO CEILING TILE LESS THAN 6" IN

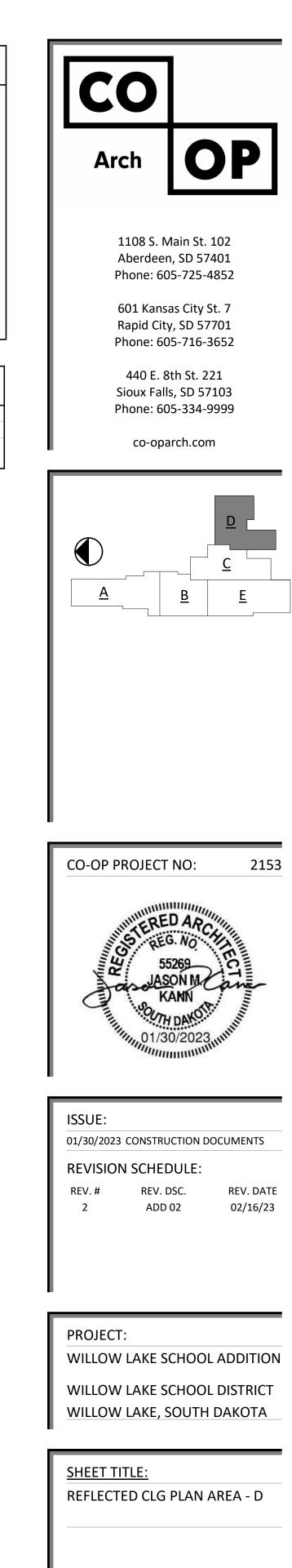
INTENDED TO BE COMPREHENSIVE. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION. NOTIFY ARCHITECT WHERE CONFLICTS OCCUR.

PROVIDE WATER-RESISTANT GYPSUM BOARD PANELS AT ALL BATHROOM WALLS AND ANY

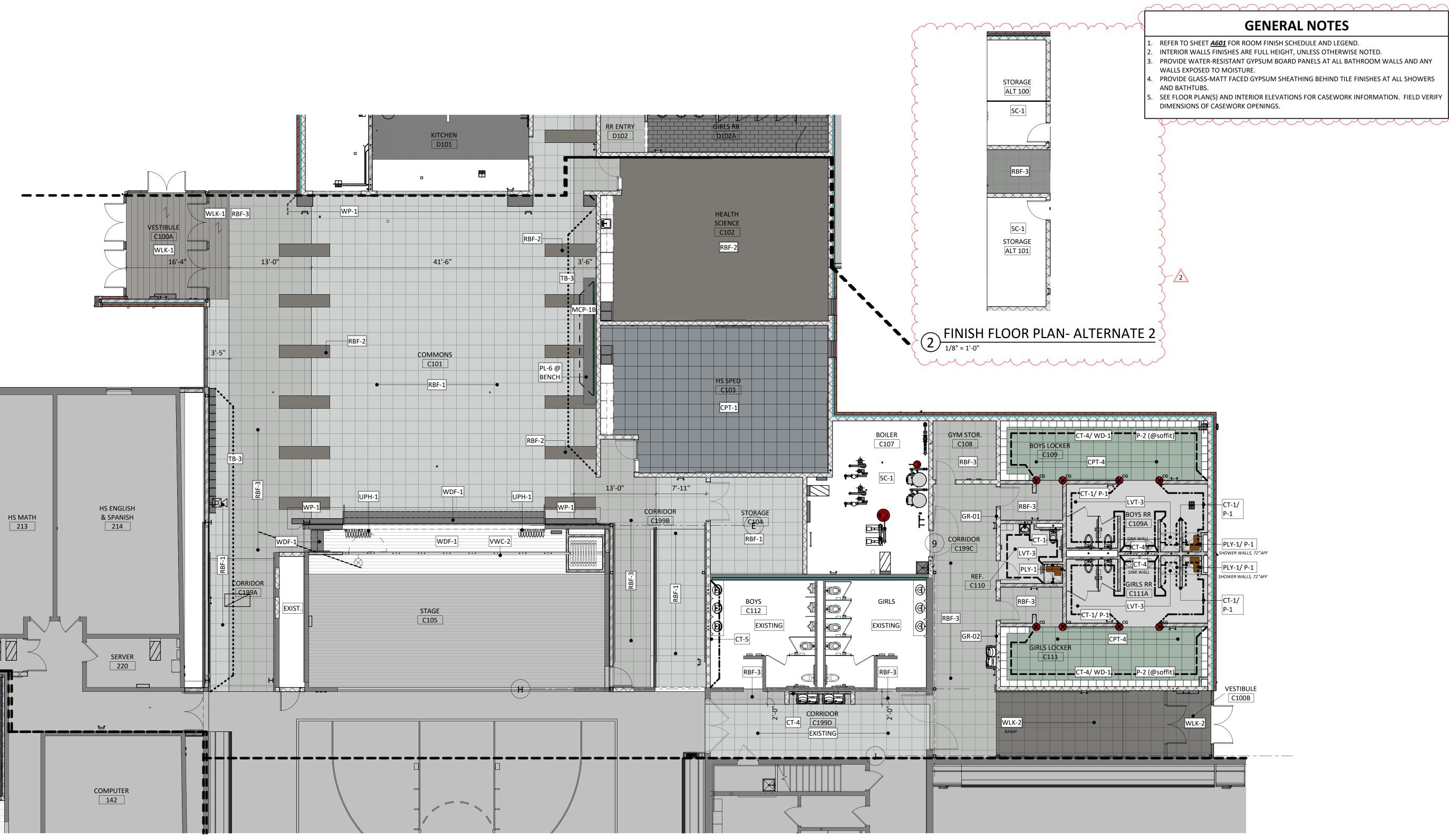
10. ELEVATION MARKERS INDICATE HEIGHT FROM FLOOR OF THE ROOM THE CEILING IS IN.

# **KEYNOTE SCHEDULE**

G.C. TO COORDINATE LINEAR PENDANT INSTALLATION SIMULTANEOUS WITH



A110D

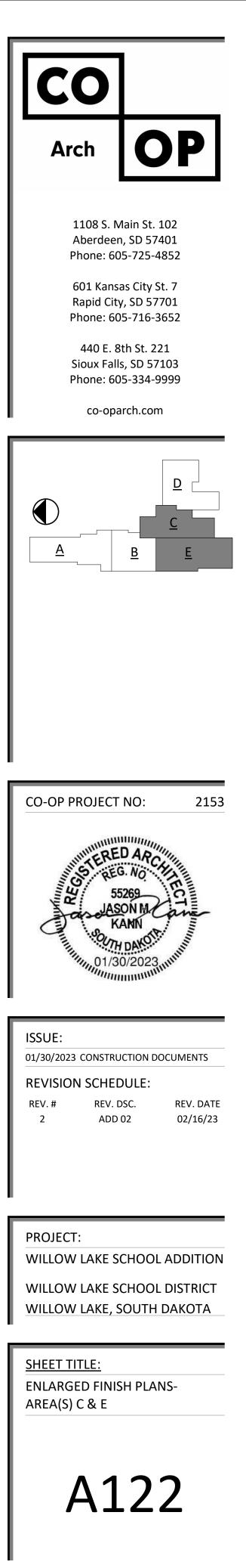


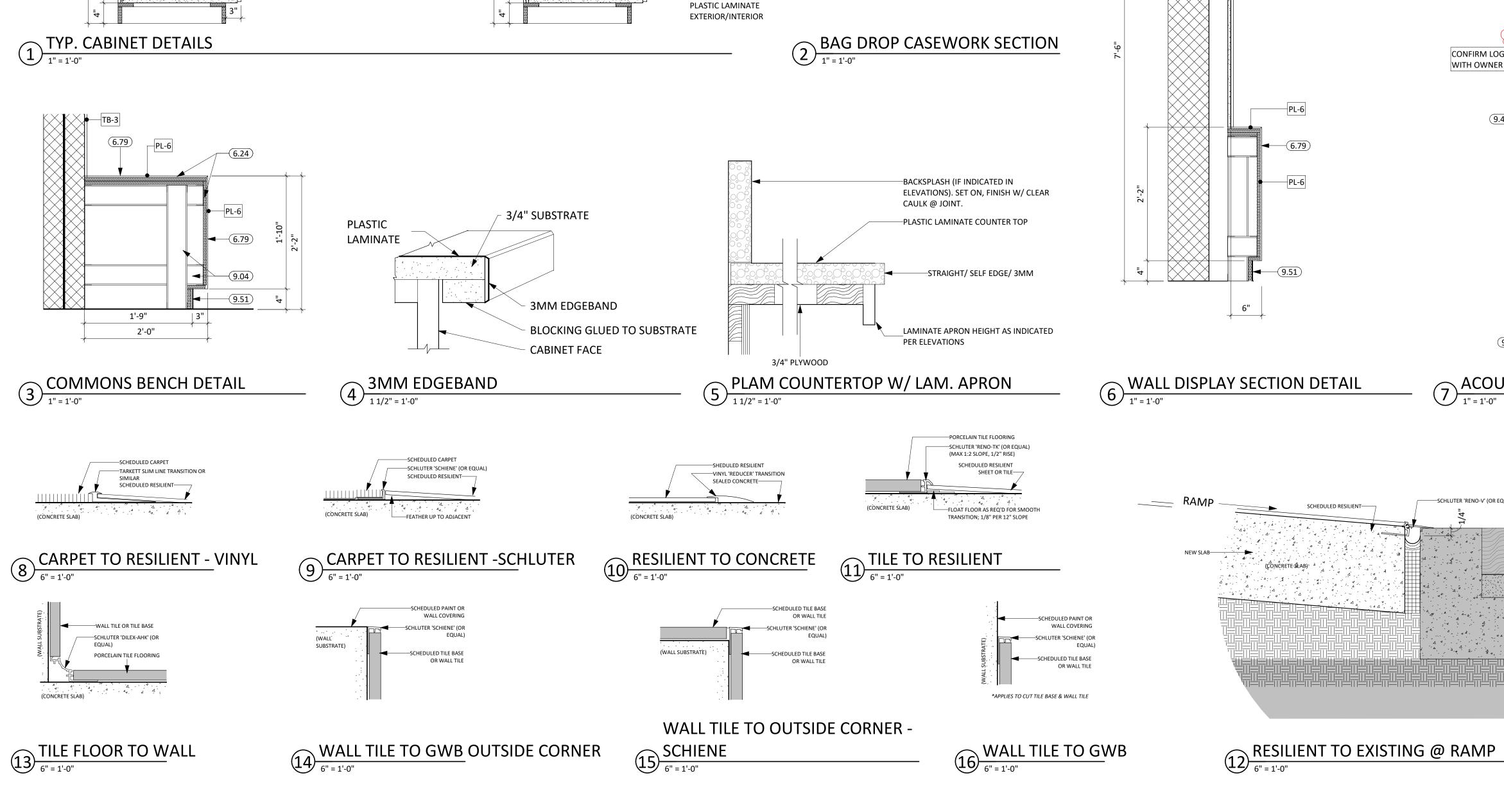
# FINISH FLOOR PLAN - AREA C & E 1/8" = 1'-0"

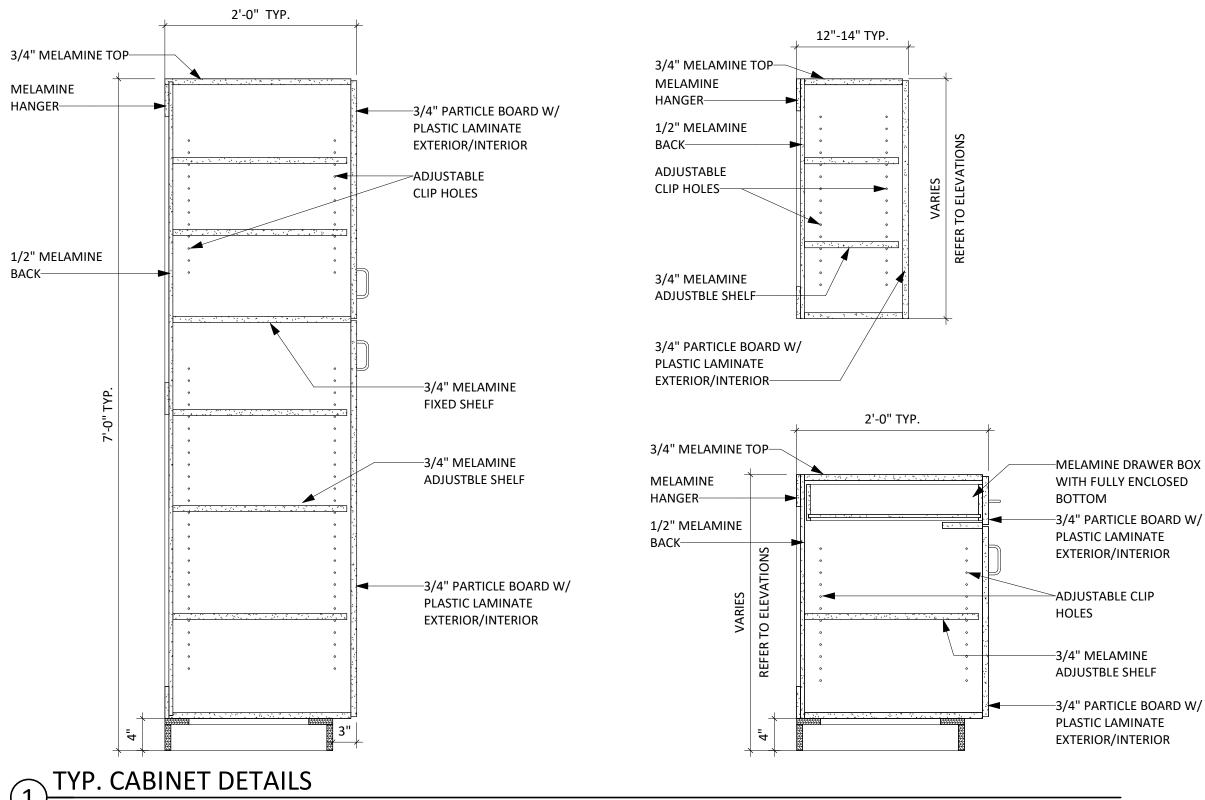
## **GENERAL NOTES**

PROVIDE WATER-RESISTANT GYPSUM BOARD PANELS AT ALL BATHROOM WALLS AND ANY

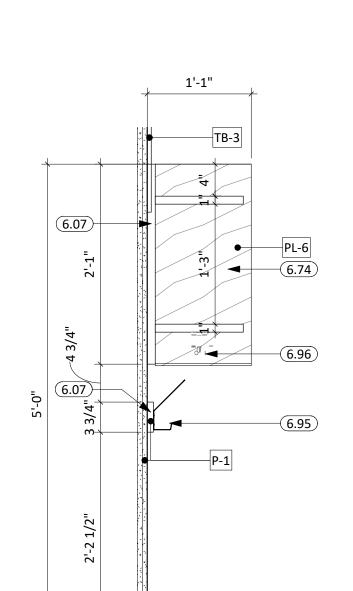
SEE FLOOR PLAN(S) AND INTERIOR ELEVATIONS FOR CASEWORK INFORMATION. FIELD VERIFY







MELAMINE DRAWER BOX WITH FULLY ENCLOSED BOTTOM -3/4" PARTICLE BOARD W/ PLASTIC LAMINATE EXTERIOR/INTERIOR



5.30 6.07 6.24 6.74 6.79 6.95 6.96 9.04 9.11 9.21 9.38 9.46 9.48 9.51

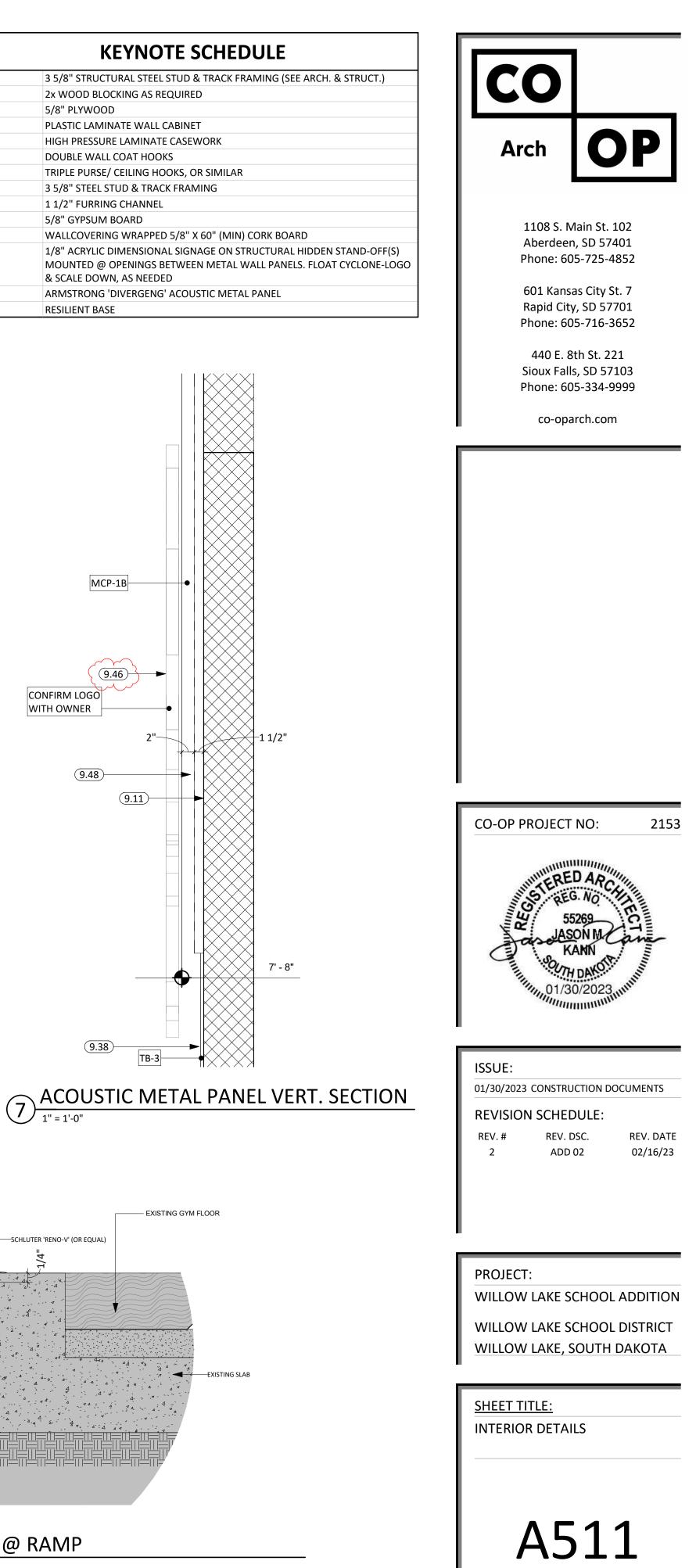
-(9.21)

-(5.30)

TB-3

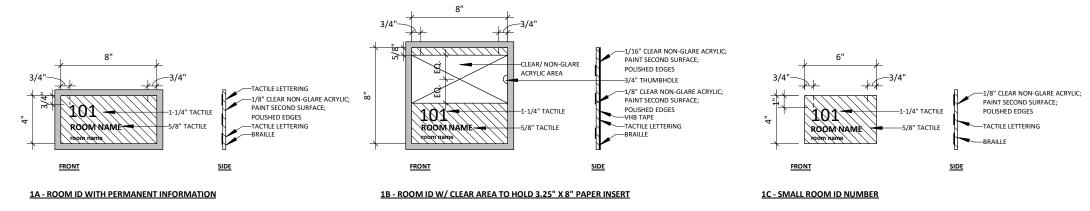
9.38

4C

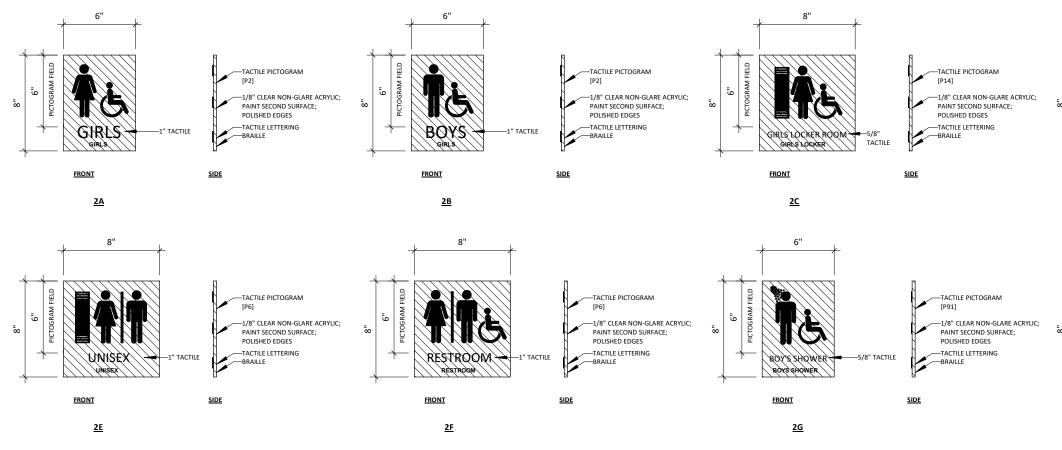


|                 |                  |                      | ROOM SIGN          | IAGE KEY     |                                                                  |               |                   |                          | ROOM SIGN          | NAGE KEY     |                                |
|-----------------|------------------|----------------------|--------------------|--------------|------------------------------------------------------------------|---------------|-------------------|--------------------------|--------------------|--------------|--------------------------------|
| Room<br>Number  | Name             | Signage Type & Color | Signage Mount Type | Text Color   | Signage Comments                                                 | Room<br>Numbe | r Name            | Signage Type & Color     | Signage Mount Type | e Text Color | Signa                          |
| A101            | WORK ROOM        | 1A   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE |                                                                  | C108          | GYM STORAGE       | 1A   KHAKI BROWN         | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME           |
| A102            | RR ENTRY         | 2A/ 2B   KHAKI BROWN | SIDE MOUNT         | BRIGHT WHITE | 2 SIGNS REQUIRED, LOCATION OF SIGNAGE MOUNT *TBD                 | C109          | BOYS LOCKER RM    | 2C   KHAKI BROWN         | DOOR MOUNT         | BRIGHT WHITE |                                |
| A102A           | BOYS             | -                    | -                  | -            |                                                                  | C109A         | BOYS RR           | -                        | -                  | -            |                                |
| A102B           | GIRLS            | -                    | -                  | -            |                                                                  | C110          | REF. LOCKER RM    | 2E   KHAKI BROWN         | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME           |
| A103            | ELEM. FLEX RM #1 | 1A   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             | C111          | GIRLS LOCKER RM   | 2D   KHAKI BROWN         | DOOR MOUNT         | BRIGHT WHITE |                                |
| A103A           | SM. GROUP        | 1C   KHAKI BROWN     | SIDE MOUNT W/ SIDE | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             | C111A<br>C112 | GIRLS RR          | -                        | -                  | -            | EXISTING SIGNAGE               |
| A103B           | SPEECH           | 1C   KHAKI BROWN     | SIDE MOUNT W/ SIDE | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             | C199A         | CORRIDOR          |                          | _                  | -            |                                |
|                 |                  |                      | LIGHT              |              |                                                                  | C199B         | CORRIDOR          | -                        | _                  | _            |                                |
| A103C           | OT/PT            | 1C   KHAKI BROWN     | SIDE MOUNT W/ SIDE | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             | C199C         | CORRIDOR          |                          | _                  | _            |                                |
|                 |                  |                      | LIGHT              |              |                                                                  | C199D         | CORRIDOR          |                          | _                  | _            |                                |
| A103D           | VESTIBULE        | -                    | -                  | -            |                                                                  | D100          | VESTIBULE         |                          |                    | _            |                                |
| A104            | ELEM. FLEX RM #2 | 1A   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             | D100          | KITCHEN           | 1A   KHAKI BROWN         | SIDE MOUNT         | BRIGHT WHITE |                                |
| A105            | SMALL GROUP      | 1A   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             | D101<br>D101A | RESTROOM          | 2F   KHAKI BROWN         | SIDE MOUNT         | BRIGHT WHITE |                                |
| A106            | SPEECH CLASSROOM | 1A   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             | D101A         | RR ENTRY          | 2A/2B   KHAKI BROWN      | SIDE MOUNT         | BRIGHT WHITE | 2 SIGNS REQUIRED, LOCATION OF  |
| A107A           | -                | -                    | -                  | -            | EXISTING SIGNAGE, VERIFY NEEDS                                   | D102          | GIRLS RR          |                          |                    |              | Z SIGINS REQUIRED, LOCATION OF |
| A107B           | -                | -                    | -                  | -            | EXISTING SIGNAGE, VERIFY NEEDS                                   |               | BOYS RR           |                          | -                  | -            |                                |
| A108            | RECEPTION        | 1A   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME WITH RECEPTION STAFF. MOUNT SIGN AT NEW     | D102B         |                   |                          |                    |              |                                |
|                 |                  |                      |                    |              | OPERABLE WINDOW OPENING                                          | D102C         | CUSTODIAL         |                          |                    | BRIGHT WHITE |                                |
| A199            | CORRIDOR         | -                    | -                  | -            |                                                                  | D103          | AG CLASSROOM      | 1A   KHAKI BROWN         | SIDE MOUNT W/ SIDE | BRIGHT WHITE | CONFIRM SIGNAGE NAME           |
| B101            | MUSIC OFFICE     | 1A   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME. 2 SIGNS REQUIRED                           | D103A         | AG OFFICE         | 1A   KHAKI BROWN         | DOOR MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME. 2 SIGN   |
| B102            | STORAGE          | 1C   KHAKI BROWN     | DOOR MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME WITH BAND STAFF                             | D103B         | AG SHOP           | 1A   KHAKI BROWN         | SIDE MOUNT         | BRIGHT WHITE | LOCATION OF SIGNAGE MOUNT *    |
| B103            | MUSIC ROOM       | 1A   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME. 2 SIGNS REQUIRED                           | D103C         | TOOLS             | 1C   KHAKI BROWN         | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME           |
| B103A           | BAND STORAGE     | 1C   KHAKI BROWN     | DOOR MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME WITH BAND STAFF. 2 SIGNS REQUIRED           | D104          | FACS CLASSROOM    | 1A   KHAKI BROWN         | SIDE MOUNT W/ SIDE | BRIGHT WHITE | CONFIRM SIGNAGE NAME           |
| B103B           | PRACTICE RM. #1  | 1C   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE |                                                                  |               |                   |                          | LIGHT              |              |                                |
| B103C           | PRACTICE RM. #2  | 1C   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE |                                                                  | D105          | WORK ROOM         | 1A   KHAKI BROWN         | SIDE MOUNT         | BRIGHT WHITE |                                |
| B104            | FLEX CLASSROOM   | 1B   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE | 2 SIGNS REQUIRED                                                 | D106          | SCIENCE CLASSROOM | 1A   KHAKI BROWN         | SIDE MOUNT W/ SIDE | BRIGHT WHITE | CONFIRM SIGNAGE NAME           |
| B105            | CUSTODIAL        | 1C   KHAKI BROWN     | DOOR MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             |               |                   |                          | LIGHT              |              |                                |
| B106            | 1-ON-1           | 1A   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             | D106A         | SCIENCE PREP ROOM | 1A   KHAKI BROWN         | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME           |
| B107            | FLEX CLASSROOM   | 1B   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE |                                                                  | D199A         | CORRIDOR          | -                        | -                  | -            |                                |
| B107A           | ART STORAGE      | 1C   KHAKI BROWN     | DOOR MOUNT         | BRIGHT WHITE |                                                                  | D199B         | CORRIDOR          | -                        | -                  | -            |                                |
| B108            | 1-ON-1           | 1A   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             |               |                   |                          |                    |              | 1                              |
| B199A/<br>B199B | CORRIDOR         | -                    | -                  | -            |                                                                  |               |                   |                          |                    |              |                                |
| C100A           | VESTIBULE        | -                    | -                  | -            |                                                                  | NOTE:         |                   |                          |                    |              |                                |
| C100B           | VESTIBULE        | -                    | -                  | -            |                                                                  | ALL RC        | OM NUMBERS ARE CO | ONNECTED TO THE ARCHITED | TURAL PLAN ROOM    | NUMBERING. N | <b>OT EXISTING ROOM NUMBE</b>  |
| C101            | COMMONS          | -                    | -                  | -            |                                                                  |               |                   | BY SCHOOL STAFF PRIOR TO |                    | ,            |                                |
| C102            | HEALTH SCIENCE   | 1A   KHAKI BROWN     | SIDE MOUNT W/ SIDE | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             | NOON          |                   |                          | Sobian fals.       |              |                                |
| C103            | SPED CLASSROOM   | 1A   KHAKI BROWN     | SIDE MOUNT W/ SIDE | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             |               |                   |                          |                    |              |                                |
| C104            | STORAGE          | 1C   KHAKI BROWN     | DOOR MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             |               |                   |                          |                    |              |                                |
| C105            | STAGE            | 1C   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME OR NEED. LOCATION OF SIGN NEAR STAIR ENTRY. |               |                   |                          |                    |              |                                |
| C106            | STORAGE          | 1C   KHAKI BROWN     | DOOR MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             |               |                   |                          |                    |              |                                |
| C107            | BOILER           | 1A   KHAKI BROWN     | SIDE MOUNT         | BRIGHT WHITE | CONFIRM SIGNAGE NAME                                             |               |                   |                          |                    |              |                                |
| 0107            |                  |                      |                    |              |                                                                  |               |                   |                          |                    |              |                                |

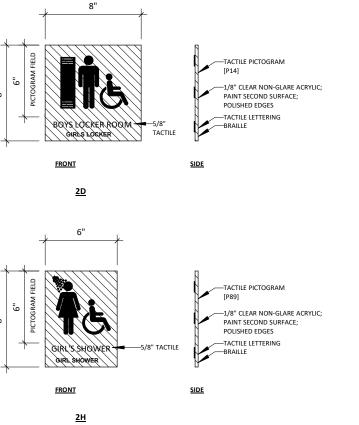
# ROOM SIGNAGE - '1' SERIES



# **RESTROOM SIGNAGE - '2' SERIES**



BERING. GC TO CONFIRM ALL



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| Arch <b>OP</b>                                                       |
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|                                                                      |
| 1108 S. Main St. 102<br>Aberdeen, SD 57401<br>Phone: 605-725-4852    |
| 601 Kansas City St. 7<br>Rapid City, SD 57701<br>Phone: 605-716-3652 |
| 440 E. 8th St. 221<br>Sioux Falls, SD 57103                          |
| Phone: 605-334-9999<br>co-oparch.com                                 |
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| CO-OP PROJECT NO: 2153                                               |
| THERED ARCHING                                                       |
| STERED ARCHINE                                                       |
| KAMN<br>01/30/2023                                                   |
|                                                                      |
| ISSUE:<br>01/30/2023 CONSTRUCTION DOCUMENTS                          |
| REVISION SCHEDULE:                                                   |
| 2 ADD 02 02/16/23                                                    |
|                                                                      |
| PROJECT:                                                             |
| WILLOW LAKE SCHOOL ADDITION WILLOW LAKE SCHOOL DISTRICT              |
| WILLOW LAKE, SOUTH DAKOTA                                            |
| <u>SHEET TITLE:</u><br>INTERIOR SIGNAGE                              |
|                                                                      |
|                                                                      |
|                                                                      |
|                                                                      |

## Addendum No. ME-1 To Mechanical & Electrical Plans and Specifications: Willow Lake School Addition Willow Lake, South Dakota

Addendum Dated: February 16, 2023 Original Plans & Specifications Dated: January 30, 2023

SCOPE OF THIS ADDENDUM: The following becomes part of the original plans and specifications, taking precedence over the items that may conflict. The bidder shall note receipt and make acknowledgement of the addendum on the bid form, incorporating its provision in the bid.

## PLAN AND SPECIFICATION CHANGES AND CLARIFICATIONS:

- Mechanical Table of Contents See the attached revised table of contents to include section 23 0900 under the scope of Ventilation and Air Conditioning Work (price to be included in HVAC bid, but still broken out under line items #1 & #2).
- 2. Sheet M202C See the attached revised sheet for temporary heat provisions in existing gym, and temporary re-installation of lavs in Boys 279.
- 3. Sheet M402C Add floor drain to shower in Ref C110 with piping as shown. This is the same style shower as the transfer SH-1A's in the locker rooms.
- 4. Sheet M502C See the attached revised sheet for revisions to hydronic piping.
- 5. Sheet M503D See the attached revised sheet for revisions to hydronic piping.
- 6. Sheet M704E See the attached revised sheet for clarification to TC/VC phasing.
- 7. Sheet M904 See the attached revised sheet for revisions to the exhaust fan schedule.
- 8. Sheet E202CD See the attached revised sheet for temp heater connection and stage panel demolition.
- 9. Sheet E302C See the attached revised sheet for new stage panel.
- 10. Sheet E304E See attached revised sheet for Electric Heat phasing note.
- 11. Sheet E402C See the attached revised sheet for coordination notes.
- 12. Sheet E600 See the attached revised sheet for riser diagram update.
- 13. Sheet E700 See the attached revised sheet for new panel schedule.
- 14. Sheet E702 See the attached revised sheet for Luminaire Schedule updates.

## APPROVED EQUALS:

The following list of equipment manufacturers shall be added to the approved equals listed on the plan sheet schedules and considered as approved equals subject to meeting all requirements of the plans and specifications – final acceptance subject to shop drawing approval.

- 1. Slotted Fume Exhaust Hoods: Nordfab
- 2. Panelboards and Gear: Siemens

Sichmeller Engineering (605) 225-4344

| Attachments: | Revised Mechanical Table of Contents<br>Sheet M202C – Area C – Plumbing & Hydronics Demolition Plan                                                              |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              | Sheet M502C – Area C – Above Grade Plumbing & Hydronics Plan<br>Sheet M503D – Area D – Above Grade Plumbing & Hydronics Plan<br>Sheet M704E – Area E – HVAC Plan |

Sheet M904 – Mechanical Schedules

Sheet E202CD - Area C & D - Electrical Demolition Plan

Sheet E302C – Area C – Power & Data Plan

Sheet E304E – Area E – Power & Data Plan

Sheet E402C – Area C – Lighting Plan

Sheet E600 – Electrical Details

Sheet E700 – Electrical Schedules

Sheet E702 – Electrical Schedules – Continued 2

| Table of Contents                                                |        |
|------------------------------------------------------------------|--------|
| DivisionSection Title                                            | Pages  |
| DIVISION 21 – FIRE PROTECTION<br>21 1000Fire Suppression Systems |        |
| DIVISION 22 - PLUMBING<br>22 0500General Plumbing Requirements   | 6<br>3 |
| DIVISION 23 – HEATING, VENTILATION AND AIR CONDITIONING          |        |
| 23 0500 General HVAC Requirements                                | 7      |
| 23 0510Basic HVAC Materials and Methods                          |        |
| 23 0593 Testing, Adjusting, and Balancing (Air and Water)        | 3      |
| 23 0700 HVAC Systems Insulation                                  | 5      |
| 23 0900 Controls & Control Sequences                             | 13     |
| 23 2113 Hydronic Piping Systems                                  | 16     |
| 23 2123 HVAC Hydronic Pumps                                      | 4      |
| 23 7000 Ventilation and Air Conditioning                         |        |
| FIRE PROTECTION WORK SHALL INCLUDE:                              |        |

**SECTION 21 1000** 

## PLUMBING, & HYDRONICS WORK SHALL INCLUDE:

SECTION 22 4000, 23 2113, & 23 2123

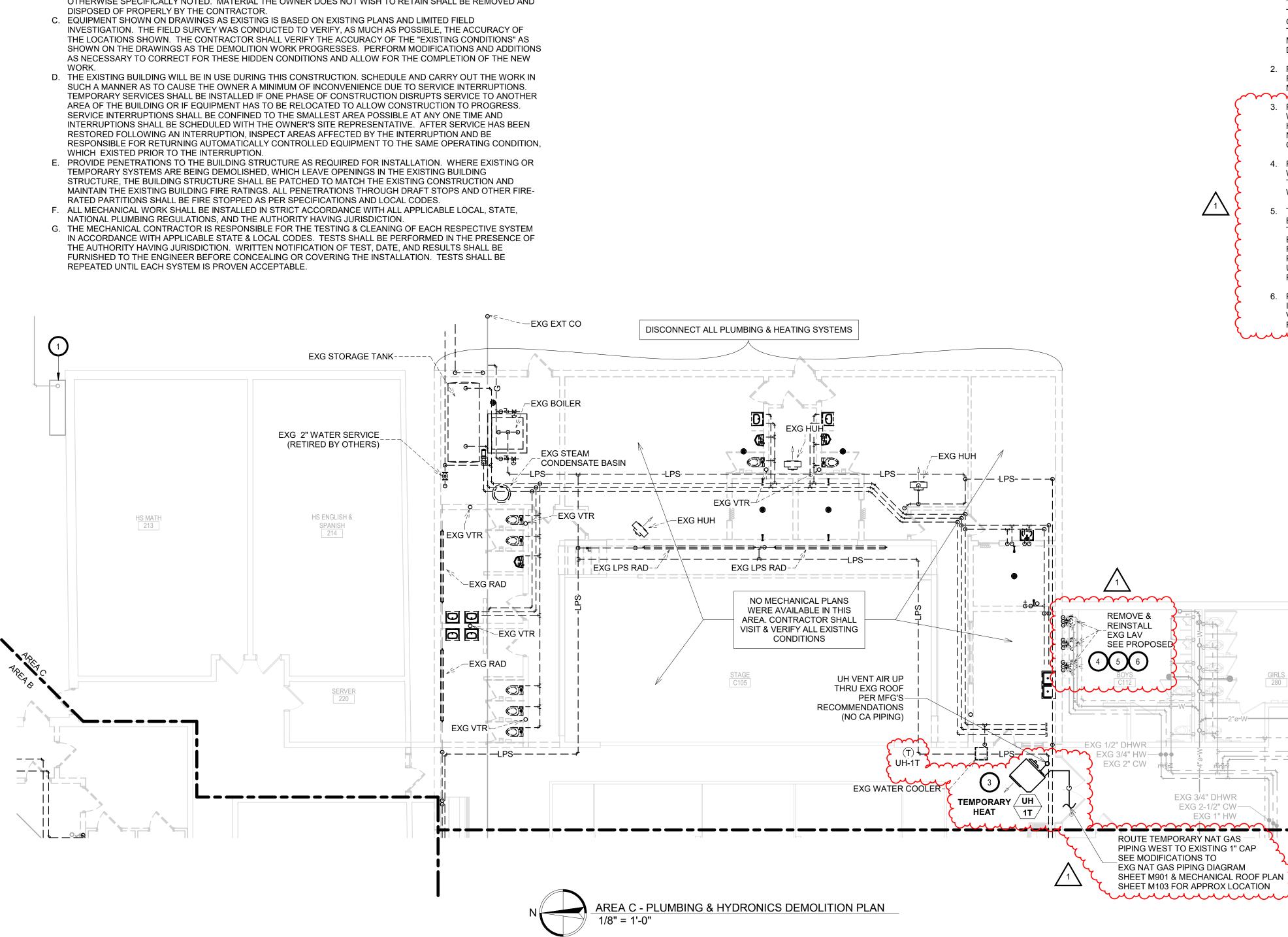
& SECTIONS 22 0500, 22 0510, 22 0700, 23 0500, 23 0510, & 23 0700 AS APPLIES

## VENTILATION AND AIR CONDITIONING WORK SHALL INCLUDE:

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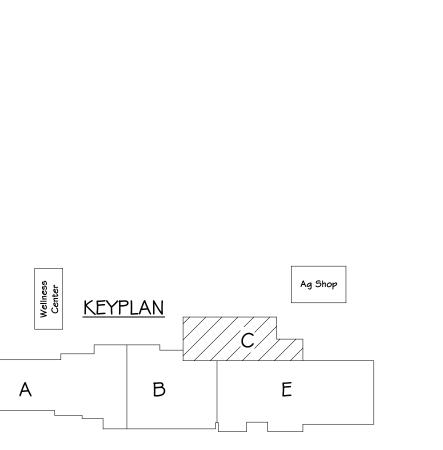
SECTION 23 0593, 23 0900, & 23 7000 & SECTIONS 23 0500, 23 0510 & 23 0700 AS APPLIES MECHANICAL GENERAL NOTES:

- A. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES, INCLUDING ANY NECESSARY DEMOLITION.
- B. REMOVE MECHANICAL EQUIPMENT IN THE AREAS SHOWN ON THE PLAN, DISCONNECT SERVICES AND REMOVE TO A POINT OUT OF THE WAY OF THE GENERAL DEMOLITION. MARK ON THE PLAN TO CLEARLY SHOW WHERE THESE SERVICES ARE STOPPED. DEMOLITION WORK SHALL BE COORDINATED WITH THE OWNER. SHOULD QUESTIONS ARISE REGARDING THE REMOVAL OF EQUIPMENT, CONFER WITH THE OWNER BEFORE SUCH EQUIPMENT IS DEMOLISHED. MATERIALS REMOVED BY DEMOLITION SHALL REMAIN THE PROPERTY OF THE OWNER UNLESS OTHERWISE SPECIFICALLY NOTED. MATERIAL THE OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED AND
- WORK
- RATED PARTITIONS SHALL BE FIRE STOPPED AS PER SPECIFICATIONS AND LOCAL CODES.
- NATIONAL PLUMBING REGULATIONS, AND THE AUTHORITY HAVING JURISDICTION.
- REPEATED UNTIL EACH SYSTEM IS PROVEN ACCEPTABLE.



KEYNOTES

- 1. EXISTING GRADE ELEVATIONS WILL CHANGE. EXISTING GAS METERFIT WILL HAVE TO BE RAISED BY UTILITY TO ACCOMMODATE PROPOSED GRADE CHANGES. EXISTING NORTHWESTERN ENERGY NATURAL GAS METER #23464. PLUMBING CONTRACTOR TO COORDINATE WITH KIRBY WICKS OF NWE AT 605-353-7609 FOR ANY UTILITY REQUIRED CHANGES TO THE METER FIT (ANY NWE COSTS ASSOCIATED WITH THE NATURAL GAS METERFIT WILL BE BILLED DIRECTLY TO THE OWNER). PC TO MODIFY EXISTING NATURAL GAS PIPING AFTER NWE METERFIT TO ACCOMMODATE THE ADDITIONAL NATURAL GAS PIPING. SEE MODIFICATIONS TO EXISTING NATURAL GAS PIPING DIAGRAM.
- 2. PC TO DISCONNECT AND REMOVE EXISTING PLUMBING FIXTURE, DOMESTIC WATER AND INSTALL CAP NEAR MAIN
- \cdot 3. PC TO PROVIDE & INSTALL UH-1T, REZNOR UDX-400 WITH 332 MBH OUTPUT, POWER VENTING, WITH HANGING VIBRATION ISOLATION, AND LOW VOLTAGE NON-PROGRAMMABLE T-STAT, CLEAR LOCKABLE COVER, AND CONTROL WIRING.
- 4. PC TO DEMO ALL WASTE, VENT, AND WATER PIPING IN WALL TO BE DEMO'D. DEMO WASTE BELOW GRADE TO THE SOUTH TO ALLOW FOR TEMPORARY EXTERIOR WALL INSTALLATION.
- 5. TEMPORARY WASTE, VENT, COLD AND HOT WATER TO BE ROUTED UNINSULATED SURFACE MOUNTED TO TEMPORARY WALL. NO PIPING WILL BE ALLOWED IN EXTERIOR WALL. DEMO AND PATCHING OF CONCRETE FLOOR BY OTHERS. ROUTE HOT, COLD, AND VENT PIPING DOWN WEST OF THE COUNTERTOP, AND ROUTE UNDER COUNTERTOP TO EACH LAV. TEMPORARILY REINSTALL EXISTING LAVS.
- 8. REMOVE AND SALVAGE LAVS AFTER TEMPORARY WALL IS TAKEN DOWN. DEMO ALL TEMPORARY WASTE, VENT, AND WATER PIPING. SEE PROPOSED TO REINSTALL LAVS IN FINAL WALL.



INSTALL CAP NEAR MAIN

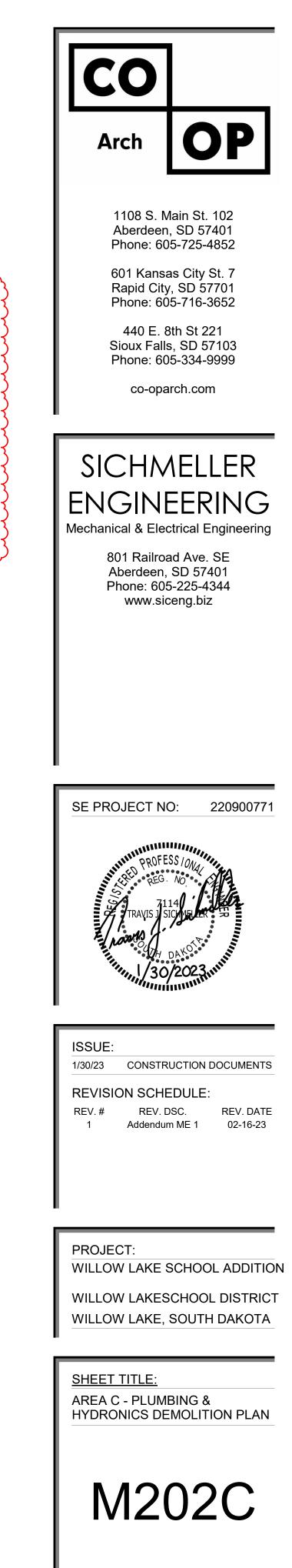
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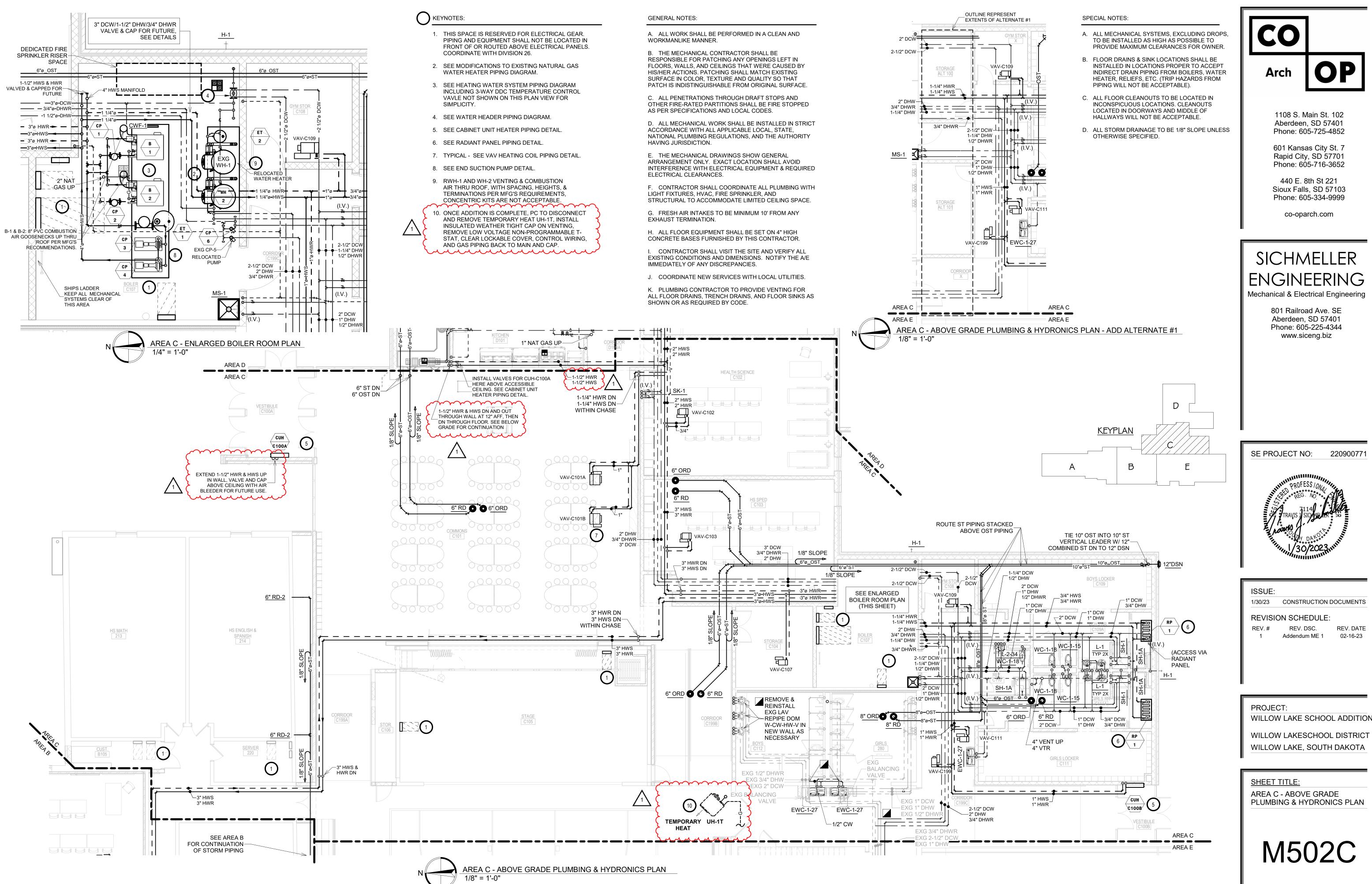
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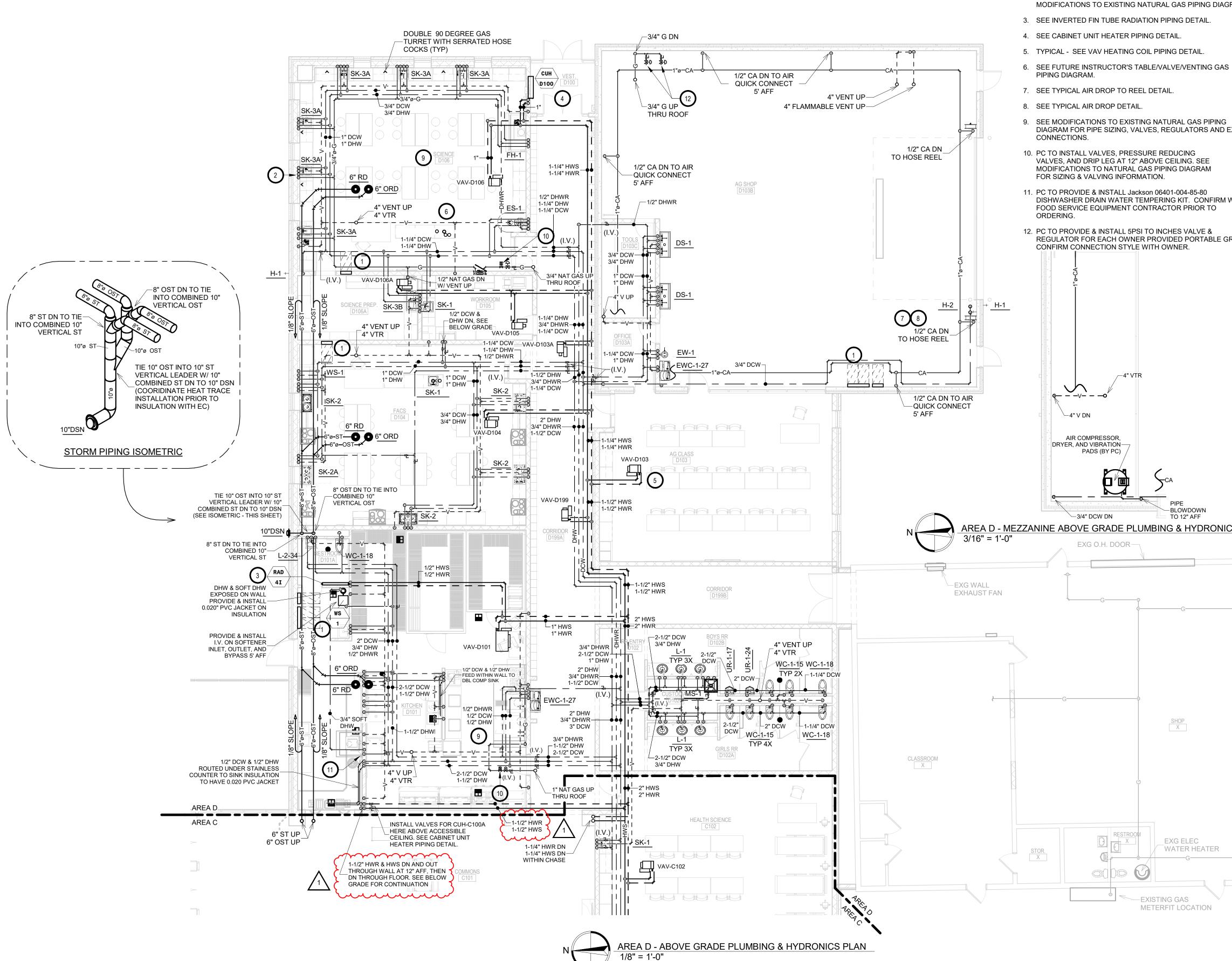
EXG 1" CW

EXG 1" HW-

EXG 1/2" DHWR







KEYNOTES:	GENERAL NOTES:	
 THIS SPACE IS RESERVED FOR ELECTRICAL GEAR. PIPING AND EQUIPMENT SHALL NOT BE LOCATED IN FRONT OF OR ROUTED ABOVE ELECTRICAL PANELS. COORDINATE WITH DIVISION 26. 	A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER.	
 TYPICAL - 1/2" WELDED NAT GAS DN TO GAS TURRET, SEE MODIFICATIONS TO EXISTING NATURAL GAS PIPING DIAGRAM. SEE INVERTED FIN TUBE RADIATION PIPING DETAIL. 	B. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ANY OPENINGS LEFT IN FLOORS, WALLS, AND CEILINGS THAT WERE CAUSED BY HIS/HER ACTIONS. PATCHING SHALL MATCH EXISTING SURFACE IN COLOR, TEXTURE AND QUALITY SO THAT	Arch OP
4. SEE CABINET UNIT HEATER PIPING DETAIL.	PATCH IS INDISTINGUISHABLE FROM ORIGINAL SURFACE.	
5. TYPICAL - SEE VAV HEATING COIL PIPING DETAIL.	OTHER FIRE-RATED PARTITIONS SHALL BE FIRE STOPPED AS PER SPECIFICATIONS AND LOCAL CODES.	1108 S. Main St. 102
 SEE FUTURE INSTRUCTOR'S TABLE/VALVE/VENTING GAS PIPING DIAGRAM. SEE TYPICAL AIR DROP TO REEL DETAIL. 	D. ALL MECHANICAL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, NATIONAL PLUMBING REGULATIONS, AND THE AUTHORITY HAVING JURISDICTION.	Aberdeen, SD 57401 Phone: 605-725-4852
8. SEE TYPICAL AIR DROP DETAIL.	E. THE MECHANICAL DRAWINGS SHOW GENERAL	601 Kansas City St. 7 Rapid City, SD 57701
 SEE MODIFICATIONS TO EXISTING NATURAL GAS PIPING DIAGRAM FOR PIPE SIZING, VALVES, REGULATORS AND EXACT CONNECTIONS. 	ARRANGEMENT ONLY. EXACT LOCATION SHALL AVOID INTERFERENCE WITH ELECTRICAL EQUIPMENT & REQUIRED ELECTRICAL CLEARANCES.	Phone: 605-716-3652 440 E. 8th St 221
 PC TO INSTALL VALVES, PRESSURE REDUCING VALVES, AND DRIP LEG AT 12" ABOVE CEILING. SEE MODIFICATIONS TO NATURAL GAS PIPING DIAGRAM FOR SIZING & VALVING INFORMATION. 	F. CONTRACTOR SHALL COORDINATE ALL PLUMBING WITH LIGHT FIXTURES, HVAC, FIRE SPRINKLER, AND STRUCTURAL TO ACCOMMODATE LIMITED CEILING SPACE.	Sioux Falls, SD 57103 Phone: 605-334-9999
11. PC TO PROVIDE & INSTALL Jackson 06401-004-85-80 DISHWASHER DRAIN WATER TEMPERING KIT. CONFIRM WITH	G. FRESH AIR INTAKES TO BE MINIMUM 10' FROM ANY EXHAUST TERMINATION.	co-oparch.com
FOOD SERVICE EQUIPMENT CONTRACTOR PRIOR TO ORDERING.	H. ALL FLOOR EQUIPMENT SHALL BE SET ON 4" HIGH CONCRETE BASES FURNISHED BY THIS CONTRACTOR.	·
12. PC TO PROVIDE & INSTALL 5PSI TO INCHES VALVE & REGULATOR FOR EACH OWNER PROVIDED PORTABLE GRILLE.	I. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE A/E	SICHMELLER
CONFIRM CONNECTION STYLE WITH OWNER.	IMMEDIATELY OF ANY DISCREPANCIES. J. COORDINATE NEW SERVICES WITH LOCAL UTILITIES.	1
1"ø-CA-	K. PLUMBING CONTRACTOR TO PROVIDE VENTING FOR ALL FLOOR DRAINS, TRENCH DRAINS, AND FLOOR SINKS AS	ENGINEERING Mechanical & Electrical Engineering
	SHOWN OR AS REQUIRED BY CODE.	801 Railroad Ave. SE Aberdeen, SD 57401 Phone: 605-225-4344 www.siceng.biz
	SPECIAL NOTES:	
4" VTR	A. ALL MECHANICAL SYSTEMS, EXCLUDING DROPS,	
	TO BE INSTALLED AS HIGH AS POSSIBLE TO PROVIDE MAXIMUM CLEARANCES FOR OWNER.	
AIR COMPRESSOR, DRYER, AND VIBRATION-7	B. FLOOR DRAINS & SINK LOCATIONS SHALL BE INSTALLED IN LOCATIONS PROPER TO ACCEPT INDIRECT DRAIN PIPING FROM BOILERS, WATER HEATER, RELIEFS, ETC. (TRIP HAZARDS FROM PIPING WILL NOT BE ACCEPTABLE).	
	C. ALL FLOOR CLEANOUTS TO BE LOCATED IN INCONSPICUOUS LOCATIONS. CLEANOUTS LOCATED IN DOORWAYS AND MIDDLE OF HALLWAYS WILL NOT BE ACCEPTABLE.	SE PROJECT NO: 220900771
	D. ALL STORM DRAINAGE TO BE 1/8" SLOPE UNLESS	
EZZANINE ABOVE GRADE PLUMBING & HYDRONICS PLAN EXG O.H. DOOR	OTHERWISE SPECIFIED.	TRAVIS J SICHERER
		ISSUE:
		1/30/23 CONSTRUCTION DOCUMENTS
		REVISION SCHEDULE:
G		REV. # REV. DSC. REV. DATE 1 Addendum ME 1 02-16-23
SHOP X		
		PROJECT:
EXG HUH-		WILLOW LAKE SCHOOL ADDITION
DESTROOM		WILLOW LAKESCHOOL DISTRICT
STOR.		WILLOW LAKE, SOUTH DAKOTA

<u>KEYPLAN</u>

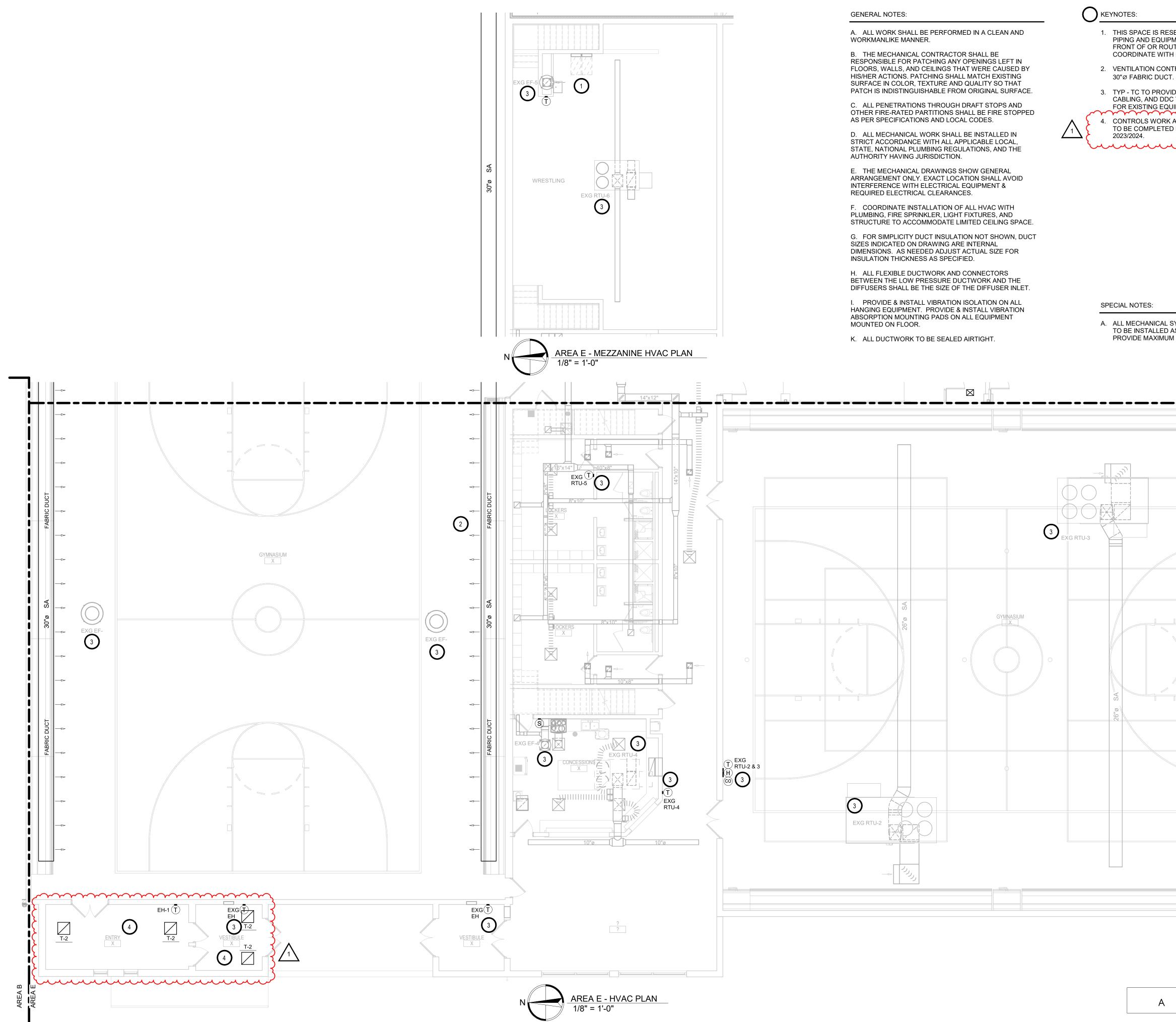
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KEYNOTES:

SHEET TITLE: AREA D - ABOVE GRADE PLUMBING & HYDRONICS PLAN

M503D



1. THIS SPACE IS RESERVED FOR ELECTRICAL GEAR. PIPING AND EQUIPMENT SHALL NOT BE LOCATED IN FRONT OF OR ROUTED ABOVE ELECTRICAL PANELS. COORDINATE WITH DIVISION 26. 2. VENTILATION CONTRACTOR TO PROVIDE AND INSTALL ΟΡ Arch 3. TYP - TC TO PROVIDE NEW T-STATS, CONTROL CABLING, AND DDC TEMPERATURE CONTROL SYSTEM FOR EXISTING EQUIPMENT, SEE SPECS. CONTROLS WORK AND TRANSFER REGISTERS WORK TO BE COMPLETED PRIOR TO HEATING SEASON OF 1108 S. Main St. 102 Aberdeen, SD 57401 Phone: 605-725-4852 601 Kansas City St. 7 Rapid City, SD 57701 Phone: 605-716-3652 440 E. 8th St 221 Sioux Falls, SD 57103 Phone: 605-334-9999 co-oparch.com SICHMELLER ENGINEERING A. ALL MECHANICAL SYSTEMS, EXCLUDING DROPS, TO BE INSTALLED AS HIGH AS POSSIBLE TO PROVIDE MAXIMUM CLEARANCES FOR OWNER. Mechanical & Electrical Engineering 801 Railroad Ave. SE Aberdeen, SD 57401 Phone: 605-225-4344 www.siceng.biz AREA C AREA E SE PROJECT NO: 220900771 ISSUE: 1/30/23 CONSTRUCTION DOCUMENTS **REVISION SCHEDULE:** REV. # REV. DSC. REV. DATE 02-16-23 Addendum ME 1 PROJECT: WILLOW LAKE SCHOOL ADDITION WILLOW LAKESCHOOL DISTRICT WILLOW LAKE, SOUTH DAKOTA SHEET TITLE: AREA E - HVAC PLAN D

<u>KEYPLAN</u>

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M704E

									PACK	AGED R	OOFTOP	UNIT	SCH	EDULE	- NA	TURAL	_ GAS	HEAT													RTU
					SUPPLY	POWERED								HOT GAS REHEAT			NATURAL GAS HEATING						MOTOR		ELECTRICAL						
EQUIP. MANUFACTURER & MODEL NO.	LOCATION	SERVING	SUPPLY AIR CFM	OUTSIDE Air CFM	FAN E.S.P. (IN)	EXHAUST FAN E.S.P. (IN)	NOM. Tons	TOTAL MBH	EAT (DB/WB) (°F)	LAT (DB/WB) (°F)	EER	IEER	MBH	LAT (DB/WB) (°F)	%RH	MBH Input	MBH OUTPUT	EAT (DB) (°F)	LAT (DB) (°F)	STAGES	QTY	HP (EACH)	FRPM	FAN TYPE/ Size (IN) Each	V./PH./CY.	FLA	MCA	MOCP	MIN SCCR (KAIC)	UNIT WEIGHT (LBS)	NOTES
RTU-7 JCI JV28T3DX2K1CARA6L2	NEW ADDITION ROOF	EXG GYMNASIUM	9,700	3,400	2.27	0.2	27 1/2	306.5	80.1/66.4	60.2/56.3	10.5	13.8	-	-	-	620.0	502.2	36.9	84.8	MOD	1	15	1077	-	208/3/60	-	178.3	200	65	5,040 + CURB	1,3,4,6,7, 9,10,11
RTU-8 JCI JV40T3DH2K1CARA6L2	NEW ADDITION ROOF	CLASSROOM ADDITION VAV TERMINALS	14,860	3,700	2.33	0.2	40	427.6	78.9/65.0	58.4/55.5	10.8	15.2	-	-	-	800.0	648.0	44.9	85.3	MOD	1	20	1006	-	208/3/60	-	223.2	275	65	6,877 + CURB	1,2,3,6,7, 9,10,11
RTU-9 JCI ZT120S24R2D6BCD2E2	NEW ADDITION ROOF	SHOP	3,140	1,090	1.55	0.2	10	117.4	80.6/65.6	54.6/53.1	13.1	21.2	-	-	-	240.0	194.0	40.5	97.7	2	1	3	1264	-	208/3/60	-	75.6	90	65	1,725 + CURB	1,4,5,6,7, 9,10,11
RTU-10 JCI ZT150S24R2D6BCD2A2	EXG ROOF	AREA B REMODEL VAV TERMINALS	4,500	1,350	1.25	0.2	12 1/2	149.4	79.7/65.5	55.9/54.5	12.5	20.2	-	-	-	240.0	194.0	31.6	71.5	2	1	5	1466	-	208/3/60	-	83.1	100	65	1,743 + CURB	1,2,5,6,7,
NOTES: 1. PROVIDE UNIT WITH FACTORY UNE ROVIDE UNIT CONFIGURED FOR W. 3. PROVIDE UNIT CONFIGURED FOR S. 5. PROVIDE UNIT CONFIGURED FOR S. 5. PROVIDE UNIT WITH SINGLE MALL 6. PROVIDE MAD INSTALL P. TRAP FEE 7. PROVIDE FACTORY AUTHORIZED ST.	AV APPLICATION WITH FACTORY INS INSULATED CONSTRUCTION, 4-STAC INGLE ZONE VAV APPLICATION WITH CONSTRUCTION WITH FOAM FACE IN R MANUFACTURERS RECOMMENDATIONS ARTUP.		OUTLET, THROUGH TH STEEL HEAT EXCHANC CONVENIENCE OUTLET ITH STAINLESS STEEL	HE BASE ELECTRICAL SER, CIRCUIT BREAK T, THROUGH THE BASE L HEAT EXCHANGER, M	PROVISIONS, PHASE ER DISCONNECT WITH E ELECTRICAL PROVIS NON-FUSED DISCONNEC	MONITOR, 2" MERV 8 SINGLE POINT POWER GIONS, PHASE MONITO T SWITCH WITH SING				MIZER WITH MODULATING IAIN PAN, FACTORY INSI ITHALPY ECONOMIZER WIT AND FLUE EXHAUST EXT	ALLED CONDENSATE OVERF H POWERED EXHAUST.	FLOW SWITCH, HIGH	HEAT FLUE EXHAUS	T, FACTORY INSTALLED	D LOUVERED HAIL	GUARDS, HINGED AC	CESS PANELS AND	SERVICE ISOLATION VAL	VES.					·							

7. PHOLDE FRJUNT AUTIMUZZD SINITOF. 8. PROVIDE (1) ADDITIONAL SET OF DISPOSABLE FILTERS. 10. PROVIDE (1) ADDITIONAL SET OF DISPOSABLE FILTERS. 11. PROVIDE & INSTALL FULLY INSULATED MINIMUM 18' HIGH ROOF CURB. FOR ACOUSTICAL PURPOSES, FIELD INSTALL TWO LAYERS OF WATERPROOF SHEETROCK TOPPED WITH BATT INSULATION TO COMPLETELY FILL ALL VOIDS IN THE ROOF CURB. ALL ROOFING WORK TO BE BY OTHERS (ROOFING BID PACKAGE), PC, VC, & TC TO COORDINATE.

			DUST	COLL	ECTOR S	CHEDU	ILE				
EQUIP.	MANUFACTURER & MODEL	SERVING	LOCATION	CFM	STATIC PRESS.		E	LECTRICAL		UNIT WEIGHT	NOTES
NO.		ULITING .	LUCATION	0. m	(IN W.G.)	HP	FRPM	VOLT./PH./CY.	FLA	(LBS)	NOTED
DC - 1	JET DC-1100VX-CK	SEE PLANS	AG SHOP D105B	1100	10.5	1 1/2		120/1/60	11.0	117	1,2
NOTES:	1. PORTABLE DUST COLLECTOR W										
	2. PROVIDE WITH TWO ANTI-STA										
	BLAST GATES AT EACH PIECE	OF OWNER EQUIPMENT. LE	NGIHS SHALL ACCOMMODATE E	QUIPMENT UP TO	15 FEEL AWAY AND I	IN BOIH DIREC	IIONS.				

								AIR	CLE	ANER	SCH	EDUL	.E									AC
									ELECTRIC	PRE-HEAT		NATURA	GAS HEAT	(10:1 TU	RNDOWN)		ELECT	RICAL			UNIT	
EQUIP NO.	MANUFACTURER & MODEL	SERVING	SUPPLY AIR CFM	OUTSIDE AIR CFM	E.S.P. (IN)	T.S.P. (IN)	FAN RPM	CAPACITY (KW)	STAGES	EAT (°F) (DB/WB)	LAT (°F) (DB/WB)	MBH Input	MBH Output	EAT (°F) (DB/WB)	LAT (°F) (DB/WB)	MOTOR HP	V./PH./CY.	FLA	MCA	MOCP	WEIGHT (LBS)	NOTES
AC-1	BLUE OX OX3000	AG SHOP D105B	3000	-		-	-	-	-	-	-	-	-	-	-	3/4	120/1/60	10.2	12.8	20	165	1,2,3
AC-2	BLUE OX OX3000	AG SHOP D105B	3000	-		-	-	-	-	-	-	-	-	-	-	3/4	120/1/60	10.2	12.8	20	165	1,2,3
AC-3	BLUE OX OX3000	AG SHOP D105B	3000	-	-	-		-	-	-	-	-	-	-	-	3/4	120/1/60	10.2	12.8	20	165	1,2,3
	 PROVIDE WITH (2) 24X PROVIDE WITH SILENCE PROVIDE WITH MAGNAHE 	R WITH 4 WAY D	DIRECTIONAL		S AND (2	24X24X2	22 65%	8 POCKET	BAG FILTE	RS.												

						MAX	MAX			HEA	TING COIL	(EWT =180)°F)			COIL			
EQUIP. NO.	MANUFACTURER & MODEL	MAX CFM	MIN CFM	INLET SIZE	MAX TERM APD	RAD	DISCH NC	CFM	MIN MBH	EAT (°F)	LAT (°F)	GPM	LWT (°F)	WPD (FT)	ROWS	CONN. SIZE	RUNOUT SIZE	WEIGHT (LBS.)	NOTES
VAV-218	TITUS DESV	220	90	5	0.50	35	35	220	10.3	55.0	98.3	1.0	158.3	0.22	2	1/2"	3/4"	30	1,2,3,4,
/AV-B101	TITUS DESV	150	80	5	0.50	35	35	120	6.2	55.0	102.5	0.5	154.1	0.06	2	1/2"	3/4"	30	1,2,3,4,
AV-B103	TITUS DESV	1480	890	12	0.50	35	35	890	29.1	55.0	85.1	1.5	139.2	0.32	2	7/8"	3/4"	45	1,2,3,4,
AV-B103B	TITUS DESV	200	100	5	0.50	35	35	195	7.4	55.0	90.1	0.5	148.8	0.06	2	1/2"	3/4"	30	1,2,3,4,
AV-B104A	TITUS DESV	510	310	8	0.50	35	35	310	13.6	55.0	95.4	1.0	151.5	0.29	2	1/2"	3/4"	32	1,2,3,4,
V-B104B	TITUS DESV	510	310	8	0.50	35	35	310	13.6	55.0	95.4	1.0	151.5	0.29	2	1/2"	3/4"	32	1,2,3,4,
AV-B106	TITUS DESV	120	70	5	0.50	35	35	120	6.2	55.0	102.5	0.5	154.1	0.06	2	1/2"	3/4"	30	1,2,3,4,
V-B107A	TITUS DESV	510	305	8	0.50	35	35	305	13.5	55.0	95.8	1.0	151.7	0.29	2	1/2"	3/4"	32	1,2,3,4,
V-B107B	TITUS DESV	370	225	6	0.50	35	35	225	10.4	55.0	97.7	1.0	158.1	0.22	2	1/2"	3/4"	30	1,2,3,4,
AV-B108	TITUS DESV	120	65	5	0.50	35	35	120	6.2	55.0	102.5	0.5	154.1	0.06	2	1/2"	3/4"	30	1,2,3,4,
V-B199A	TITUS DESV	360	145	6	0.50	35	35	285	11.4	55.0	91.9	1.0	156.1	0.22	2	1/2"	3/4"	30	1,2,3,4,
V-B199B	TITUS DESV	510	205	8	0.50	35	35	405	14.9	55.0	88.9	1.0	148.7	0.29	2	1/2"	3/4"	32	1,2,3,4,
V-C101A	TITUS DESV	2640	2195	16	0.50	35	35	2295	84.0	55.0	88.8	6.0	150.6	0.69	2	7/8"	1"	60	1,2,3,4,
AV-C101B	TITUS DESV	2640	2195	16	0.50	35	35	2295	84.0	55.0	88.8	6.0	150.6	0.69	2	7/8"	1"	60	1,2,3,4,
AV-C102	TITUS DESV	1010	895	10	0.50	35	35	895	29.2	55.0	85.1	2.0	149.3	0.46	2	7/8"	3/4"	38	1,2,3,4,
AV-C103	TITUS DESV	890	785	10	0.50	35	35	785	28.0	55.0	87.9	2.0	150.6	0.46	2	7/8"	3/4"	38	1,2,3,4,
AV-C107	TITUS DESV	180	75	5	0.50	35	35	140	6.6	55.0	98.3	0.5	152.4	0.06	2	1/2"	3/4"	30	1,2,3,4,
AV-C109	TITUS DESV	270	115	6	0.50	35	35	240	19.7	55.0	130.8	2.0	159.3	0.79	3	1/2"	3/4"	30	1,2,3,4,
AV-C111	TITUS DESV	240	100	5	0.50	35	35	230	10.5	55.0	97.2	1.0	157.9	0.22	2	1/2"	3/4"	30	1,2,3,4,
AV-C199	TITUS DESV	510	205	8	0.50	35	35	510	19.8	55.0	90.8	1.5	152.3	0.54	2	1/2"	3/4"	32	1,2,3,4,
AV-D101	TITUS DESV	3100	1240	24x16	0.50	35	35	2315	96.7	55.0	93.5	5.0	139.3	0.68	2	7/8"	1'	89	1,2,3,4,
AV-D103	TITUS DESV	1010	900	10	0.50	35	35	900	29.3	55.0	85.0	2.0	149.3	0.46	2	7/8"	3/4"	38	1,2,3,4,
AV-D103A	TITUS DESV	120	65	5	0.50	35	35	120	6.2	55.0	102.5	0.5	154.1	0.06	2	1/2"	3/4"	30	1,2,3,4,
AV-D104	TITUS DESV	1060	935	10	0.50	35	35	935	29.6	55.0	84.2	2.0	148.9	0.46	2	7/8"	3/4"	38	1,2,3,4,
AV-D105	TITUS DESV	170	70	5	0.50	35	35	130	6.4	55.0	100.3	0.5	153.2	0.06	2	1/2"	3/4"	30	1,2,3,4,
AV-D106	TITUS DESV	1190	1055	10	0.50	35	35	1055	40.1	55.0	90.0	4.0	159.0	1.08	2	7/8"	1"	38	1,2,3,4,
AV-D106A	TITUS DESV	200	185	5	0.50	35	35	185	7.3	55.0	91.3	0.5	149.4	0.06	2	1/2"	3/4"	30	1,2,3,4,
AV-D199	TITUS DESV	1270	510	10	0.50	35	35	1270	36.3	55.0	81.3	2.5	149.5	0.62	2	7/8"	3/4"	38	1,2,3,4,

SUGNU DATA STALL BE TAKEN FROM ANL STANDARD BBG (LATEST EDITION) POBLISHED DATA.
 INLET STATIC PRESUME FOR TERMINAL SELECTION IS 1.0°. TERMINAL S.P. INCLUDES COIL APD.
 PERFORMANCE BASED ON 30% PROPYLENE GLYCOL
 LH OR RF CONNECTION OF OIL PIPING VARIES, SEE PLAN.
 SEE VAV HEATING COIL PIPING DETAIL.

						LOW	STATIC				мо	TOR		UNIT	
EQUIP. NO.	MANUFACTURER & MODEL (STYLE)	SERVING	LOCATION	TYPE	CFM	SPEED	PRESS. (IN W.G.)	SONES	WATTS	HP	FRPM	VOLT./PH./CY.	FLA	WEIGHT (LBS)	NOTES
EF - 6	AEROVENT ACXD 120B	EXHAUST - STORAGE C104, GYM STOR. C108, BOYS C109, REF. C110, GIRLS C111	NEW ROOF	PRV	975		0.35	9.8		1/3	1268	120/1/60	7.2	92	1,2,3,4
EF-7	AEROVENT ATD 180B	GREASE EXHAUST - KITCHEN D101	NEW ROOF	PRV	2550		0.50	11.5	-	1	970	208/3/60	4.6	151	2,5,6,
EF-8	AEROVENT PCU 110	CONDENSATE EXHAUST - KITCHEN D101	NEW ROOF	PRV	600	-	0.50	4.0	-	1/8	1025	120/1/60	3.8	72	2,3,4,6,
EF - 9	PANASONIC FV-0511VQ1	EXHAUST - RESTROOM D101A	RESTROOM D101A	CEILING	80		0.25	0.6	10.8	-	1172	120/1/60	0.27	9.3	7,8,1
-F-S	AEROVENT ACX8-1208	EXHAUST - GIRLS RR D102A, BOYS RR D102B,	NEW ROOF		5 50	~~			\sim	- 1 8-	983	12041/60	~	\sim	1,2,00
EF-11	AEROVENT ACXD 130BE	EXHAUST - FACS D104	NEW ROOF	PRV	1440		0.35	13.5		3/4	1218	120/1/60	13.8	114	1,2,4,6,
er-12	PANASONIC TH SOVQS	EXITALIST NORKROOM D105	WORKROOM DIE	CETLING	250		0.25	2.5	65.8		990	20/1/00	9.52	17.0	ر ج ,8 ,1
EF-13	AEROVENT PC-083	EXHAUST - SCIENCE PREP D106A	NEW ROOF	PRV	220	-	0.25	5.5	-	1/30	1445	120/1/60	3.0	63	1,2,3,
EF-14	AEROVENT ACXD 130B	EXHAUST - SCIENCE D106	NEW ROOF	PRV	1080	-	0.35	10.4	-	1/4	1064	120/1/60	5.8	114	1,2,3,
EF-15	AEROVENT AFE 90C6	EXHAUST - SCIENCE D106 FUME HOOD	NEW ROOF	PRV	780	-	0.5	20.0	-	1/2	2706	120/1/60	9.8	557	2,4,6,
EF-16	AEROVENT ACXD 170B	EXHAUST - SHOP D103B	NEW ROOF	PRV	2200	1090	0.35	11.3	-	1	943	208/3/60	4.6	126	1,2,3,4 10,11,
EF-17	PANASONIC FV-30VQ3	EXHAUST - WORK ROOM A101	WORK ROOM A101	CEILING	250	-	0.25	2.5	65.8	-	990	120/1/60	0.52	17.0	7,8,1
EF-18	AEROVENT ACXD 120B	EXHAUST - BOYS A102 & GIRLS A103	EXG ROOF	PRV	650		0.35	7.2		1/8	1089	120/1/60	3.8	92	1,2,3
EF-19	AEROVENT ACX 240D	EXHAUST - WELDING HOODS	NEW ROOF	PRV	4000		1.5	16.7		2	836	208/3/60	7.5	300	1,2,4,2
EF-20	AEROVENT ACX 300D	AREA A RELIEF	EXG ROOF	PRV	10000		0.25	16.4	-	2	732	208/3/60	7.5	350	1,2,9,
EF-21	AEROVENT PC 083	EXHAUST - AREA B&C CHASE INCLOSURE	EXG ROOF	PRV	200		0.25	5.1		1/30	1391	120/1/60	3.0	63	1,2,3,
EF-A	BROAN MODEL 433004	RANGEHOOD EXHAUST	FACS D106	RANGE HOOD	190		0.1	7.0	207			120/1/60	1.8		16,17,

PROVIDE WITH FACTORY INSTALLED DISCONNECT.
PROVIDE WITH FACTORY INSTALLED DISCONNECT.
PROVIDE WITH FACTORY INSTALLED DISCONNECT.
PROVIDE A INSTALL WITH MALE FAN SPEED CONTROLLER FOR BALANCING.
PROVIDE & INSTALL WITH MALE FAN SPEED CONTROLLER FOR BALANCING.
PROVIDE & INSTALL WITH WITH INTER, RATCH FACTORY FUED FACTORY FOOF CURB. VERIFY SLOPE WITH GEASE TERMINATION KIT AND HINGED BASE KIT.
ALL ROOFING WITH INTEGRAL BACKORAFT DAMPER, FACTORY FUED DISCONNECT, AND ECM FAN WOTD KIT B SPEED FAN SPEED CONTROLLER.
PROVIDE & INSTALL MANGINO VIBRES (ROOFING BOT PACKAGE), V. A. TC TO CONDUTATE.
PROVIDE & INSTALL HANGINO VIBRES (ROOFING BOT CONNECTIONS ON SHORT PIECE OF FLEXIBLE DUCT WITH 2.3 FT STRAIGHT RUN OF 6" RIGID DUCT BEFORE WALL CAP TERMINATION OR BEFORE UP THEU ROOF TO GOOSENECX TERMINATION.
V CT O VERIFY EXISTING CONDITIONS. PROVIDE & INSTALL MORE OF CURBA DATER AS NECESSARY TO UTILIZE EXISTING ROOF CURB.
T.C. TO PROVIDE & INSTALL LIGHTED PILOT SWITCH WHERE SHOWN ON PLANS. WHEN SWITCH IS ENABLED, FAN TO BE EVABLED AT LOW SPEED INDICATED ON SCHEDULE.
T.C. TO PROVIDE & INSTALL LIGHTED PILOT SWITCH WHERE SHOWN ON PLANS. (24V POWER WIRING AND CONTROL WIRING BY CC). WHEN BETECTOR IS ENABLED, TC TO OVERRIDE FAN TO OFERATE WITH ILIGHTED PILOT SWITCH BY E.C.
FAN TO OPERATE WITH INTEGRAL SWITCH OF GRASE HOOD HO-1. E.C. TO PROVIDE & INSTALL CONTROL WIRING.
FORDUED WITH WITH INTEGRAL SWITCH BY E.C.
FAN TO OPERATE WITH INTEGRAL SWITCH BY E.C.
FAN TO OPERATE WITH INTEGRAL SWITCH BY E.C.
FAN TO OPERATE WITH INTEGRAL SWITCH WEIGHT ADDIVED ALL TWO-SPEED SWITCH. WHERE WOTED ON PLANS, WALL SWITCH CONTROL TO BE INSTALLED FOR ADA COMPLIANCE BY ECE (REPLACES INTEGRADARY ADAPTE

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/ 1	1		PROVIDE							>												
	١,									BY EC. SHOWN	ON PI	LANS	NEAR	WELDING	STATIO	NS. WHEN	SWITC	HISI	ENABLED	, ENABL	E FAN.	
A		21.														INSTALLE						

GRILLE - REGISTER - DIFFUSER SCHEDULE

EQUIP. NO.	MANUFACTURER & MODEL	NOMINAL SIZE	THROAT SIZE	MAX CFM	MAX APD	THROW (50 FPM)	NC	FRAME	MATERIAL	FINISH	NOTES
S-1	TITUS TMS	24X24	6"Ø	100	0.03"	5'	< 10	LAY-IN	STEEL	WHITE	1
S-2	TITUS TMS	24X24	8"ø	230	0.04"	9'	14	LAY-IN	STEEL	WHITE	1
S-3	TITUS TMS	24X24	10"ø	410	0.06"	14 '	20	LAY-IN	STEEL	WHITE	1
S-4	TITUS ML-39 3-SLOT	48" X 6-3/4"	47-1/4" X 5-7/8"	360	0.07"	22'	28	SURFACE	ALUMINUM	WHITE	1,4
S-5	TITUS ML-39 1-SLOT	48" X 3-1/4"	47-1/4" X 2-3/8"	100	0.05"	16'	19	SURFACE	ALUMINUM	WHITE	1,6
S-6	TITUS 300RL	8X6	6X4	50	0.04"	10'	< 10	SURFACE	STEEL	WHITE	1
S-7	TITUS 300RL	10X8	8X6	110	0.04"	15'	< 10	SURFACE	STEEL	WHITE	1
S-8	TITUS 300RL	12X10	10X8	200	0.04"	20'	< 10	SURFACE	STEEL	WHITE	1
S-9	TITUS 300RL	16X12	14X10	350	0.04"	27 '	13	SURFACE	STEEL	WHITE	1
S-10	TITUS S300FL	16X10	14X8	265	0.04"	23 '	< 10	DUCT MTD	STEEL	WHITE	1,2,5
S-11	TITUS PAS-AA	24X24	8X8	230	0.09"	12'	20	LAY-IN	STEEL	WHITE	1
S-12	TITUS PAS-AA	24X24	10X10	325	0.08"	14'	21	LAY-IN	STEEL	WHITE	1
R-1	TITUS 350RL	24X12	22X10	800	0.07"		30	LAY-IN	STEEL	WHITE	1,3
R-2	TITUS 350RL	24X24	22X22	1800	0.07"		34	LAY-IN	STEEL	WHITE	1,3
R-3	TITUS 350RL	10X8	8X6	110	0.04"		20	SURFACE	STEEL	WHITE	1,3,4
R-4	TITUS 350RL	50X16	48X14	1480	0.02"		30	SURFACE	STEEL	WHITE	1,3
R-5	TITUS 33RS	38X98	36X96	9700	0.04"		27	SURFACE	STEEL	WHITE	1
R-6	TITUS 350RL	24X8	22X6	250	0.02"		22	LAY-IN	STEEL	WHITE	1,3
E-1	TITUS 350FL	10X8	8X6	100	0.03"		19	SURFACE	ALUMINUM	WHITE	1,2,3
E-2	TITUS 350FL	24X8	22X6	250	0.02"		22	LAY-IN	ALUMINUM	WHITE	1,3
E-3	TITUS 350FL	24X24	22X22	540	0.01"		22	LAY-IN	ALUMINUM	WHITE	1,2,3
E-4	TITUS 350FL	12X12	10X10	220	0.03"		22	SURFACE	ALUMINUM	WHITE	1,3
T-1	TITUS 350RL	24X12	22X10	800	0.07"		30	LAY-IN	STEEL	WHITE	1,3,4
T-2	TITUS 350RL	24X24	22X22	1800	0.07"		34	LAY-IN	STEEL	WHITE	1,3,4
T-3	TITUS 350RL	18X18	16X16	500	0.02"		25	SURFACE	STEEL	WHITE	1,3
T-4	TITUS MLR-39 2-SLOT	60" X 5"	59-1/4" X 4-1/8"	250	0.03"		15	SURFACE	ALUMINUM	WHITE	1,6
T-5	TITUS MLR-39 2-SLOT	36" X 5"	35-1/4" X 4-1/8"	150	0.03"		13	SURFACE	ALUMINUM	WHITE	1,6
T-6	TITUS 350RL	10X8	8X6	100	0.03"		19	SURFACE	STEEL	WHITE	1,3

 EGUIP. NO.
 MANUFACTURER & MODEL
 SERVING
 CO CAP (BT

 DSA-10A
 SMUSUNG ACCOGENNUCH/AA CELLING CASETTE
 SM GROUP A103A
 9,

 DSA-10B
 SMUSUNG ACCOGENNUCH/AA CELLING CASETTE
 SME GROUP A103B
 9,

 DSA-10B
 SMUSUNG ACCOGENNUCH/AA CELLING CASETTE
 SPEECH A103B
 9,

 DSA-10C
 SMUSUNG ACCOGENNUCH/AA CELLING CASETTE
 OT/PT A103C
 9,

 DSA-10D
 SMUSUNG ACCOGENNUCH/AA CELLING CASETTE
 CORRIDOR A199
 9,1

 DSA-11A
 SMUSUNG ACCOGENNUCH/AA CELLING CASETTE
 SM GROUP A105
 17,*

 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE
 SM GROUP A105
 17,*

 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE
 SM GROUP A105
 17,*

 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE
 SM GROUP A105
 17,*

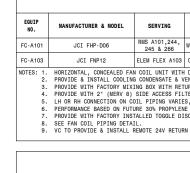
 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE
 SPEECH A106
 17,*

 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE
 SPEECH A106
 17,*

 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE
 SPEECH A106
 17,*

 DSA-11B
 SMUSUNG ACGORENNUCH/AA CELLING CASETTE<

EQUIP.			COOLING CAPACITY	HEATING CAPACITY	REFRIGERA	NT PIPING	
NO.	MANUFACTURER & MODEL	SERVING	(BTU/HR)	(BTU/HR @47F)	LIQUID	SUCTION	
DSC-10	SAMSUNG AJ036BXJ4CH/AA	DSA-10A/B/C/D	6,500 - 32,000	7,600 - 36,000	(4) 1/4"	(2) 3/8" (2) 1/2"	
DSC-11	SAMSUNG AJ036BXJ4CH/AA	DSA-11A/B	6,500 - 32,000	7,600 - 36,000	(2) 1/4"	(2) 1/2"	
NOTES: 1	. FURNISH AND INSTALL LINE S	T FOR EACH INDOO	R UNIT SERVED, BOTH S	UCTION & LIQUID LINE 1	TO BE INSULATED	. F	RUN
2	. PROVIDE & INSTALL ALL REQU	IRED ACCESSORIES	FOR MULTI ZONE CONFIG	URATION.			
3	 ROOFING WORK BY ROOFING COL CURB, AND INSTALL RL/RS NE/ 					AIL FOR LINESE	ſS/F
4	. PROVIDE & INSTALL 24" MIN H	HIGH EQUIPMENT RA	ILS WITH VIBRATION IS	OLATION SPRINGS FOR M	DUNTING ON EXIS	TING FLAT ROOF	



	MANUFACTURER & MODEL	EQUIP NO.
	FRASER-JOHNSTON TC17B3621S	CU-A103
ER DI	PROVIDE & INSTALL LIQUID LINE FILT	NOTES: 1.
ND L	PROVIDE & INSTALL HARD START KIT A	2.
FRIG	PROVIDE & INSTALL PRE-INSULATED RE	3.
LL TR	ROOFING WORK BY ROOFING CONTRACTOR, A	4.
MANUF	CURB, AND INSTALL RL/RS NEATLLY ON PRE-	
IT RAI	PROVIDE & INSTALL 24" MIN HIGH EQUIPMEN	5.

EQUIP. NO.	MANUFACTURER & MODEL	LOCATION
IH-1	ACME MANUFACTURING TIV	EXG FLAT ROOF
NOTES: 1 2 3	Thorize Reornene anoner re	OR CURBS AND MIN

EQUIP. NO.	MANUFACTURER & Model	SERVING
HD - A	VENTAIRE FEH4	WELDING STAT
NOTES:	1. PRE-MANUFACTURED SLO 2. PROVIDE SLOTTED HOOD 3. PROVIDE & INSTALL BL/	BASE CONSTRUCTE

	D	UCTWORK						INSULATION	THICKNESS (E	XTERIOR WRAP UNL	ESS OTHERWISE N	OTED)				
SYSTEM	NAX DIMENSION OF Rectangular ducts or Diameter of Round ducts	GALVANIZED SHEET METAL GAUGE NUMBER	PRESSURE RATING	CONSTRUCTION	RECTANGULAR Supply Air Before Vav	ROUND Supply Air Before Vav	RECTANGULAR Supply Air After Vav	ROUND Supply Air After Vav	RETURN AIR	EXHAUST AIR DUCT (Including Fume Hood Exhaust)	EXHAUST AIR DUCT SERVING Welding Hoods In Shop	TRANSFER AIR	PLENUM TO Plenum Transfer Sleeves	OUTSIDE AIR	RELIEF AIR	NOTES
	UP THRU 12"	26		WHEN LONGEST						1-1/2"	1-1/2" FULL LENGTH OF					
ow	OVER 12" THRU 30"	24	1	SIDE IS 36" OR GREATER, SHALL						WITHIN 15' OF POWER	RECTANGULAR DUCT,					1.0
RESSURE	OVER 30" THRU 54"	22	2" W.G.	BE CONSTRUCTED USING DUCTMATE	-	-	1/2" LINER	1-1/2"	1/2" LINER	ROOF VENTILATOR	EXPOSED SPIRAL	1/2" LINER	1/2" LINER	2"	2"	1,2, 3,4,5, 7.8
UCIWORK	OVER 54" THRU 84"	20		35/25 SLIDE ON SYSTEM, TDF						OR FUME HOOD EXHAUST	RUNOUTS					7,8
	OVER 84"	18		FLANGE						(SEE NOTE 7)	UN-INSULATED PAINTGRIP					
	UP THRU 18"	24		SHALL BE												
EDIUM RESSURE	OVER 19" THRU 48"	22	-3" W.G.	CONSTRUCTED USING DUCTMATE	1-1/2"	1-1/2"		-	_							1,2, 3,6,
UCTWORK	OVER 48" THRU 72"	20	0	35/25 SLIDE ON SYSTEMS, TDF	1 1/2	1 1/2										8
	OVER 73" THRU 96"	18		FLANGE												
2. 3. 4. 5.	FOLLOW ALL SMACNA STAN ALL DUCTWORK 18" AND GI ALL SYSTEMS TO BE COMPI CONCEALED DUCTS MAY BE AIR IN COMMONS CIO1 ARI ALL EXPOSED UNINSULATE MEDIUM PRESSURE DUCTWO GREASE EXHAUST DUCT SH ALL DUCTWORK ROUTED OU TOP OF ALL EXTERIOR DU	REATER IN WIDTH LETELY INSULATH INSULATED WITH E CONSIDERED E: D DUCTWORK SHAR RK ROUTED EXPOS ALL BE 16GA WEH ISIDE SHALL BE	H SHALL BE ED UNLESS (H RIGID BO/ XPOSED AND LL BE PAINI SED AND AB(LDED BLACK INSULATED	CROSS-BROKEN. DTHERWISE NOTED. ARD OR FLEXIBLE F MUST BE INSULATE IGRIP DUCT (SPIRA DVE COMMONS C101 IRON WRAPPED WIT WITH 2" RIGID IN	D WITH RIGID L WHERE ROUND CLOUD CEILING H 3M FIRE BAR ISULATION WITH	INSULATION.). SHALL BE IN RIER DUCT WR/ VENTURECLAD	DO NOT INSUL SULATED WITH I AP 15A OR EQU 1577CW SMOOTI	NTE LOW PRESS	URE ROUNDS EX NSULATION.	POSED IN COMMONS	\$ C101. ALL DUC	TWORK ABOVE C				

	PIPING		INSU	LATION THICKN	IESS	
SYSTEM	TYPE/MATERIAL	FITTINGS	PIPE SIZES 1" OR SMALLER	PIPE SIZES 1-1/4" TO 2"	PIPE SIZES 2-1/2" AND LARGER	NOTES
DOMESTIC COLD, HOT, AND HOT RECIRC	TYPE L COPPER	SOLDER, PRO-PRESS	1/2"	1"	1-1/2"	1,2
BELOW GRADE STORM PIPING	SEE SPECIFICATIONS (SCH 40 PVC WHERE PERMITTED)	SEE SPECIFICATIONS (SCH 40 DWV SOLVENT WELD WHERE PERMITTED)		NONE		1,3
ABOVE GRADE STORM PIPING	SEE SPECIFICATIONS (SCH 40 PVC WHERE PERMITTED)	SEE SPECIFICATIONS (SCH 40 DWV SOLVENT WELD WHERE PERMITTED)		1"		1,3
BELOW GRADE SANITARY WASTE & VENT PIPING	SEE SPECIFICATIONS (SCH 40 PVC WHERE PERMITTED)	SEE SPECIFICATIONS (SCH 40 DWV SOLVENT WELD WHERE PERMITTED)		NONE		1
ABOVE GRADE SANITARY WASTE & VENT PIPING	SEE SPECIFICATIONS (SCH 40 PVC WHERE PERMITTED)	SEE SPECIFICATIONS (SCH 40 DWV SOLVENT WELD WHERE PERMITTED)	NONE	PTION,	1,3	
CONDENSATE DRAIN PIPING/VENTING	TYPE M COPPER, SCH 40 PVC OR ABS WHERE PERMITTED	SOLDER, PRO-PRESS, SOLVENT WELD		1/2"		1,3
HOT WATER SUPPLY, HOT WATER RETURN	TYPE L COPPER, SCH 40 BLACK STEEL	SOLDER, PRO-PRESS, SEE SPECS FOR STEEL FITTINGS	1/2"	1"	1-1/2"	1,2

				STORAGE	RECOVERY @					ELECTRIC	AL	PIPING CO	NNECTIONS	DIMEN	SIONS	SHIPPING	
NO.	MANUFACTURER & Model	SERVING	LOCATION	CAPACITY (GAL.)	100F RISE (GPH)	FUEL	INPUT	(MBH)	AFUE %	V./PH./CY.	AMPS	c.w.	н.w.	HEIGHT (IN)	DIA. (IN)	WEIGHT (LBS)	NOTE
EXG VH - 1	HTP PH199-119		BOILER C107	119	230	NAT GAS	40	- 199	96	120/1/60	-	1-1/2"	1-1/2"	74	27	405 + WATER	1
H-2	HTP PH199-119	DOM. HOT WATER 140°F	BOILER C107	119	230	NAT GAS	40	- 199	96	120/1/60	-	1-1/2"	1-1/2"	74	27	405 + WATER	2,3,

1. A the standars with elebw bown to existing flow of that south that condensate does not fool on flow. Route condensate first along back wall to minimize this flow flow.
 3. * PORED CONCRETE HOUSEKEFING PAD BY PC. PAD TO ACCOMMODATE WATER HEATERS & FLOOR MOUTED EXPANSION TANK ET-2.
 6. DOMESTIC HOT WATER TO BE STORED AT 140°F.
 7. PROVIDE & INSTALL WATES INTELLISTATION UR. LFISIONUL DIGITAL WATER TEMPERING SYSTEM WITH DIGITAL MIXED OUTLET TEMPERATURE CONTROL & MONITORING. 120V POWER & PLUG PROVIDED & INSTALLED BY EC. DOMESTIC HOT WATER TO BE STORED AT 140°F AND TEMPERED TO 120°F, CONTROLLED BY TC.

						WA	TER	S0F	TENER	SCH	EDULE							(ws
EQUIP.	MANUFACTURER	SERVING	LOCATION		SOFTENER E capacity	CONTINUOUS Service	BACKWASH RATE	RESIN VOLUME	BRINE TANK SALT	TANK CONFIG.	CONTINUOUS Flow		ING CTIONS	FLOOR SPACE Requirements	SYSTEM Dry	ELECT	RICAL		NOTES
NO.	& MODEL	SERVING	LUCATION	GRAINS	SALT DOSAGE LBS/CU.FT	FLOW RATE (GPM)	(GPM)	(CU.FT)	CAPACITY (LBS)	CONFIG.	PRESSURE DROP (PSI)	CW IN/OUT	DRAIN	(LXWXHIN Inches)	WEIGHT (LBS)	V./PH./CY.	MOP	FLA	NUTES
WS-1	CULLIGAN SOO10441 WITH FRP VESSEL	KITCHEN DISHWASHER HOT WATER	KITCHEN D101	31,736	12	5.0	2.4	0.5	200	SIMPLEX	10	1"	1/2"	30"X18"X28"	150	120/1/60	5	3.5	1,2
NOTES:	1. PROVIDE UNIT 2. PROVIDE WITH													SS VALVE, AND PR	E-WIRED P	OWER CABLE.			

				NA	TURAL	GAS	BOILE	R SC	HED	ULE					B
EQUIP.	MANUFACTURER & MODEL	LOCATION		SYSTEM	RELIEF	INPUT	OUTPUT	AFUE %	MIN	VOLUME		MOTOR		UNIT WEIGHT	10750
NO.	MANUFACIURER & MODEL	LOCATION	MEDIA	PRESSURE (PSI)	PRESSURE (PSI)	MBH	MBH	AFUE %	EWT	(GAL)	HP	V./PH./CY.	FLA	(LBS)	NOTES
B-1	THERMAL SOLUTIONS EVS-1500	MECH/ELEC ROOM	30% GLYCOL	30	75	500-1500	417-1,251	87%	135°F	17.4	1-1/2	120/1/60	7.5	1,327 +FLUID	1,2,3,4,5,6, 7,8,9,10,11,12
B-2	THERMAL SOLUTIONS EVS-1500	MECH/ELEC ROOM	30% GLYCOL	30	75	500-1500	417-1,251	87%	135°F	17.4	1-1/2	120/1/60	7.5	1,327 +FLUID	1,2,3,4,5,6, 7,8,9,10,11,12
	 UNITS SHALL BE COMMENDA ADJACENT COMBUSTION PER MFG'S RECOMMENDA ADJACENT COMBUSTION PC TO PROVIDE & INST ON PLANS. ROOFING W VC TO PROVIDE AND IN SPLIT RING STANDOFFS HAZARDS. SEE HEATING WATER SY INSTALL ON EXISTING PROVIDE FACTORY AUTH PROVIDE FACTORY AUTH PROVIDE AND INSTALL ELBOW DOWN ONTO CENT PERFORMANCE BASED ON PROVIDE WITH FULL LO PROVIDE WITH FACTORY MATNAIN MANUFACTURE 	TIONS, VC TO PRR AIR GOOSNECK PEF ALL 8° SCH.40 PI ORK BY ROOFING (J STALL VENTING DJ AND ELBOW DOWN STEM PIPING DIA(4° POURED CONCRE ORIZED STARTUP. BOILER DRAIN VAI ER OF EXISTING F 30% PROPYLENE (CKUP GAS REGULA' INSTALLED LOW V	DVIDE & INST 3 MANUFACTUR C COMBUSTIO CONTRACTOR. AAIN T SECTI ONTO CENTER GRAM. ETE HOUSEKEE LVE AND EXTE LOOR DRAIN SLYCOL. FOR. VATER CUT OF	ALL 6" AL29- R'S RECOMME N AIR THRU R ON INTO BOIL OF EXISTING PING PAD. E ND TO EXISTI SUCH THAT DR.	4C DOUBLE WA NDATIONS. I DOF AND TERM ER. PC TO PR FLOOR DRAIN KTEND PAD AS NG FLOOR DRA	LL (1" AIR GAF NSTALL GUY WIF INATE WITH GOO DVIDE AND INSI SUCH THAT DRA NECESSARY TO IN. DRAIN PIPJ) VENT THRU F RES IF REQUIRE DSENECK W/ BIF FALL P-TRAP WI AINAGE DOES NO ACCOMMODATE F ING TO BE SUPF	OOF. SEE P D BY VENTI D SCREEN 4 TH RIGID D T POOL ON UMPS, PUMP ORTED APPR	PLANS FOR ING MANUF. ABOVE RAIN PIP FLOOR OR CLEARAN	VENT LENG ACTURER. FINISHED RO ING, SUPPOR TOP LEDGE CES, & BOIN Y 6" ABOVE	THS. TERM DOF AS SHO RTED APPRO OF FLOOR LER CLEARA FINISHED	DXIMATELY 6" A DRAIN. ROUTE ANCES, SEE PLA FLOOR WITH SP	BOVE FIN PIPING T NS. LIT RING	ISHED FLOOR V O MINIMIZE TF	VITH RIP

				P	JMP \$	SCHEDU	ILE					EXG CP-5 & CP
EQUIP.					HEAD			E	LECTRICAL			
NO.	MANUFACTURER & MODEL	SERVING	LOCATION	GPM	(FEET)	TYPE	HP (W)	RPM	V./PH./CY.	FLA	WEIGHT (LBS)	NOTES
CP - 1	BELL & GOSSETT E-90 2AAB	BOILER CIRCULATOR FOR B-1	BOILER C107	125	20 '	IN-LINE	1-1/2	1800	208/3/60	6.6	67	1,2,8
CP-2	BELL & GOSSETT E-90 2AAB	BOILER CIRCULATOR FOR B-2	BOILER C107	125	20'	IN-LINE	1-1/2	1800	208/3/60	6.6	67	1,2,8
CP - 3	BELL & GOSSETT E-1510 2BD	PRIMARY HEATING WATER LOOP	BOILER C107	180	80'	BASE MOUNTED END SUCTION	7-1/2	1800	208/3/60	24.2	342	1,2,3,4,5,6,7,8
CP-4	BELL & GOSSETT E-1510 2BD	BACKUP HEATING WATER LOOP	BOILER C107	180	80'	BASE MOUNTED END SUCTION	7-1/2	1800	208/3/60	24.2	342	1,2,3,4,5,6,7,8
EXG CP-5	ARMSTRONG E13.2B	EXG WH-1 DOM. RECIRC	BOILER C107	3.0	9'	IN-LINE	1/6	3400	120/1/60	2.0	14.8	1,10,12
CP-6	ARMSTRONG R40-45 SS	WH-2 DOM. RECIRC	BOILER C107	4.5	25 '	IN-LINE	1/6	4000	120/1/60	2.0	10.21	1,10,11
3 4 5 6	 PERFORMANCE BASED ON 30 T.C. TO PROVIDE VFD, E. PROVIDE & INSTALL TRIPL PROVIDE WITH SHAFT GROU PC TO PROVIDE LASER ALI 	C. TO INSTALL. E DUTY VALVE AND SUCTION DIFFU NDING KITS.	SER.					FILTER FEEDE	R).			

8. SEE HEALING WALEN SYSTEM FILING DIAARAM. 9. SEE MODIFICATIONS TO MATURAL GAS WATER HEATER PIPING DIAGRAM. 10. PUMP SHALL BE STAINLESS STEEL CONSTRUCTION AND PROVIDED WITH SHUT-OFF FLANGES. SEE NATURAL GAS WATER HEATER PIPING DIAGRAM. TIMER & AQUASTAT CONTROL BY PC. 11. PUMP IS EXISTING - FOR INFORMATION ONLY.

				EXP	ANSIO	N TA	NK	SCHEI	DULE						ET
EQUIP.				CALCULATED	SYSTEM VOLUME	TEMP RA	NGE (°F)	PRESSURE R	ANGE (PSIG)	REQ'D TANK	REQ'D	ACTUAL	ACTUAL	SHIPPING	
NO.	MANUFACTURER & MODEL	SERVING	LOCATION	SYSTEM VOLUME (GAL)	WITH SAFETY Factor (Gal)	MAX	MIN	MAX	MIN	VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	WEIGHT (LBS)	NOTES
ET-1	BELL & GOSSETT B200	NEW HEATING WATER LOOP	BOILER C107	715	820	180	40	75	12	144.17	88.4	158.0	158.0	435 + WATER	1,2,3, 4,5,6
ET-2	AMERICAN WHEATLEY BDT-013	DOMESTIC WATER SYSTEM	BOILER C107	-	-	240	40	150	12	13	13	13	13	50 + WATER	7,8
	1. UNIT TO BE FLOOR MOUNTED 2. EXPANSION TANK SIZING SH 3. PC TO PROVIDE & INSTALL 4. SEE HEATING WATER SYSTEM	ALL BE BASED ON 30% 4" HIGH POURED CONCR	PROPYLENE GLYCOL.			•									

PC 10 PMOVIDE & INSTALL 4* INST POWHED CONCARTER POWER CONSERCETING PAGE.
 SEE HEATING WATER SYSTEM PIPING DIAGRAM.
 SEE HEATING WATER SYSTEM PIPING DIAGRAM.
 PROVIDE & INSTALL BAG R-4 4* AIR SEPARATOR WITH STRAINER WITH PROPER SERVICE CLEARANCE AND PROPER PIPING TO FLOOR MOUNTED BLADDER STYLE EXPANSION TANK PER MANUFACTURER'S REQUIREMENTS.
 THE HEATING EXPANSION TANK HAS BEEN SIZED FOR 820 GALLONS, WHICH IS INCLUDES THE ADDITION, REMODEL AND EXISTING ELEMENTARY VOLUME OF 274 GALLONS. THIS IS 1.15 TIMES THE CALCULATED VOLUME OF 715 GALLONS.
 PROVIDE POTABLE WATER ASME RATED FULL ACCEPTANCE REPLACEABLE EPDM BLADDER STYLE UNIT, DIAPHRAGM STYLE SHALL NOT BE ACCEPTABLE.
 SEE MODIFICATIONS NATURAL GAS WATER HEATER PIPING DIAGRAM.

				H	от \	VATI	ER (CAB		UN1	T HEA	TER				СИН
EQUIP.	MANUFACTURER & MODEL	LOCATION	CFM	MBH	GPM	LAT	EWT	LWT	WPD		ELECTRI	CAL		RUNOUT SIZE	UNIT WEIGHT	NOTES
NO.	MANOTACTORER & MODEL	LOUATION	UT IN	mon -		LAI			(FT)	HP	V/PH/CY	RPM	FLA	NONCOT CITE	(LBS)	NOTED
CUH-C100A	SIGMA SFF-A-10-SRI	VEST. C100B	1000	69.2	8.167	126.4	180	160.0	1.591	1/6	120/1/60	1500	2.0	1-1/4"	150 + WATER	1,2,3,4,5,6,7
CUH-C100B	SIGMA SFF-A-04-SRI	VEST. C100A	400	33.5	4.0	140.2	180	160.0	2.39	1/10	120/1/60	1075	1.7	1"	125 + WATER	1,2,3,4,5,6,7
CUH - D100	SIGMA SFF-A-04-SRI	VEST. D100	400	33.5	4.0	140.2	180	160.0	2.39	1/10	120/1/60	1075	1.7	1"	125 + WATER	1,2,3,4,5,6,7
3. 4. 5. 6.	. PERFORMANCE BASED ON 30% PRÓ . UNIT MOUNTED 3 SPEED SWITCH.	PYLENE GLYCOL. UNIT TO BE CON TANDARD COLOR N NG DETAIL. SET OF DISPOSAB	FIGURED F OT ACCEPT LE FILTER	OR FIELD ABLE. CU S.	INSTALLED STOM COLO	DDC CONT R TO BE S	ROLS.			IENT 101 - FF	XONT TOP IN, FR	ONT BOTTOM OU	Τ.			

				RA	DIANT	PANEL	SCHED	ULE					
EQUIP. NO.	MANUFACTURER & MODEL	LOCATION	PANEL QTY IN Zone	BTU/HR PER PANEL	BTU/HR PER PANEL GROUP	AVG GPM PER PANEL	GPM PER PANEL SERIES	PRESSURE DROP PER PANEL (FT)	AVG. WATER TEMP	OVERALL WIDTH	OVERALL LENGTH	FINISH	NOTES
RP - 1	AIRTEX HPH2448	BOYS RR C109A	1	1,500	1,500	0.5	0.5	0.23	170	24 "	48"	WHITE	1,2,3
RP - 1	AIRTEX HPH2448	GIRLS RR C111A	1	1,500	1,500	0.5	0.5	0.23	170	24"	48"	WHITE	1,2,3
	1. PROVIDE WITH SINK SCREEN F 2. SEE RADIANT PANEL PIPING D 3. PERFORMANCE BASED ON 30% P	ETAIL.	ACENT CEILING TI	LES.									

		I	FINNE	ED TU	BE RA	ADI/	ATI0	N HE	ATER	SC	HEDUL	E				LANS FOR EMENT, ">	
EQUIP.			CAPACITY		AVG WATER	FLOW			ELEI	MENT				ENCL	DSURE		
NO.	MANUFACTURER & MODEL	TYPE AND/OR MOUNTING	(BTU/HR)	LOCATIONS	TEMP. (°F)	GPM/ FOOT	TUBE SIZE	FIN SIZE	FINS/FT	BTU/FT	LENGTH	ROWS	GAUGE	LENGTH	HEIGHT	DEPTH	NOTES
RAD-XI	SIGMA SWE-12S-44C075	CU-AL / STYLE "S" SLOPE TOP	VARIES	MULTIPLE LOCATIONS	170	0.1	3/4"	4" SQ.	48	1,118	SEE PLAN	1	16	SEE PLAN	12"	5-1/4"	1,2,3,4,5
	3. PROVIDE FULL BACK PLATE,	ATED ON PLAN AS INVERTED & MOUN CORNERS, ACCESS TO VALVES. TO SUPPORT PIPING WITHIN ENCLOS	URE.	,				PING DETAIL									

DUC	TLESS S	PLIT	SYSTE	M INDO	OR U	NIT	SCHEDU	LE			
COOLING	HEATING	REFRIGER	ANT PIPING	ELE	CTRICAL			DIMENSIONS		UNIT	
CAPACITY (BTU/HR.)	CAPACITY (BTU/HR @47F)	LIQUID	SUCTION	V./PH./CY.	FLA	MOCP	WIDTH	HEIGHT	DEPTH	WEIGHT (LBS)	NOTES
9,100	10,000	1/4"	3/8"	208/1/60	0.3	N/A	22-5/8"	10"	22-5/8"	25.6	1,2,3,4
9,100	10,000	1/4"	3/8"	208/1/60	0.3	N/A	22-5/8"	10"	22-5/8"	25.6	1,2,3,4
9,100	10,000	1/4"	3/8"	208/1/60	0.3	N/A	22-5/8"	10"	22-5/8"	25.6	1,2,3,4
9,100	10,000	1/4"	3/8"	208/1/60	0.3	N/A	22-5/8"	10"	22-5/8"	25.6	1,2,3,4
17,400	20,000	1/4"	1/2"	208/1/60	0.3	N/A	22-5/8"	10"	22-5/8"	26.0	1,2,3,4,5
17,400	20,000	1/4"	1/2"	208/1/60	0.3	N/A	22-5/8"	10"	22-5/8"	26.0	1,2,3,4,5
E T-STAT. LED ELECTRICAL ILTERS FOR ALL NDENSATE PUMP		D OUTDOOR UNIT									

DUCTI	ESS SPL	IT SY	STEM	OUTDOO	RU	NIT	SC	HEDUL	.E			
ING CAPACITY	HEATING CAPACITY	REFRIGERA	NT PIPING	E E	LECTRICA	AL			DIMENSIONS		UNIT	
(BTU/HR)	(BTU/HR @47F)	LIQUID	SUCTION	V./PH./CY.	FLA	MCA	MOCP	WIDTH	HEIGHT	DEPTH	WEIGHT (LBS)	NOTES
00 - 32,000	7,600 - 36,000	(4) 1/4"	(2) 3/8" (2) 1/2"	208/1/60	12.2	26.0	30	37"	39-5/16"	13"	168.7	1,2,3,4
00 - 32,000	7,600 - 36,000	(2) 1/4"	(2) 1/2"	208/1/60	12.2	26.0	30	37"	39-5/16"	13*	168.7	1,2,3,4
TI ZONÉ CONFIG	JCTION & LIQUID LINE T JRATION. FF RFFRIGERATION BL/BS			RUN LINE SETS TH			& INSTALL	MTN 18" HTGH	18X18 BODE			

					F	AN CO	DIL S	CHE	DUL	E								FC V
EQUIP				SUPPLY	0A	ESP	DX COOLING		HEATIN	IG COIL	(EWT =	180.0)		EL	ECTRICAL		WEIGHT	
NO.	MANUFACTURER & MODEL	SERVING	LOCATION	(CFM)	(CFM)	(IN. W.G.)	MBH	MBH	EAT	LAT	LWT	GPM	WPD	V/PH/CY	MCA	MOCP	(LBS.)	NOTES
FC-A101	JCI FHP-D06	RMS A101,244, 245 & 266	WORK ROOM A101	500	140	0.25	N/A	28.7	43.8	96.4	160.0	3.0	5.3	120/1/60	2.5	15	59	1,4,5,6,7,8,9
FC-A103	JCI FNP12	ELEM FLEX A103	CORRIDOR A199	1000	290	0.25	27.9	46.9	40.0	81.3	160.0	4.7	4.0	120/1/60	9.63	15	246	1,2,3,4,5,6,7,8
2. 3. 4. 5. 6. 7. 8.	HORIZONTAL, CONCEALED FAI PROVIDE & INSTALL COOLIN PROVIDE WITH FACTORY MIX PROVIDE WITH FACTORY MIX PROVIDE WITH FACTORY MIX PROVIDE WITH FACTORY INS SEE FAN COIL PIPING DETA SEE FAN COIL PIPING DETA	G CONDENSATE & V ING BOX WITH RET SIDE ACCESS FIL DIL PIPING VARIE JRE 30% PROPYLEM TALLED TOGGLE DI IL.	VENT DRAIN PIPIN TURN AIR AND OUT LTERS AND (1) AD ES, SEE PLANS. C WE GLYCOL (PROPO ISCONNECT SWITCH	G PER MANU SIDE AIR CO DITIONAL SI OORDINATE I SED SYSTEM	ACTURER'S DNTROL DAMA T OF DISPO ANDING WIT TO BE 100	RECOMMENDATI PERS. DSABLE FILTER TH THE PC PRI NHIBITED W	ONS & PLUMB] S. OR TO ORDER] ATER).	NG CODE	DOWN TO) MOP SI	INK.		E NORMA	LLY CLOSED.	TC TO P	ROVIDE A	CTUATOR A	ND CONTROL.

Α	IR COOLI	ED CONDE	NSING U	NIT SCHE	DULE			CU
ERVICE		COOLING			ELECTRICAL		WEIGHT	NOTES
ERVICE	AMB. TEMP	BTU/HR	SEER	V./PH./CY.	MCA	MOCP	(LBS.)	NUTES
C-A103	95.0	32,100	17.0	208/1/60	21.4	35	265	1,2,3,4,5
JID LINE SOLE ANT LINESETS	ENOID VALVE. . LINESETS AND INS	, ULATION TO BE UV RE		,				
	CK(S) WITH UNISTRUE S		AIL FOR LINESETS/POWE	R TO CU THRU ROOF. PI	ROVIDE & INSTALL MIN	18" HIGH 18X18 HOUF		

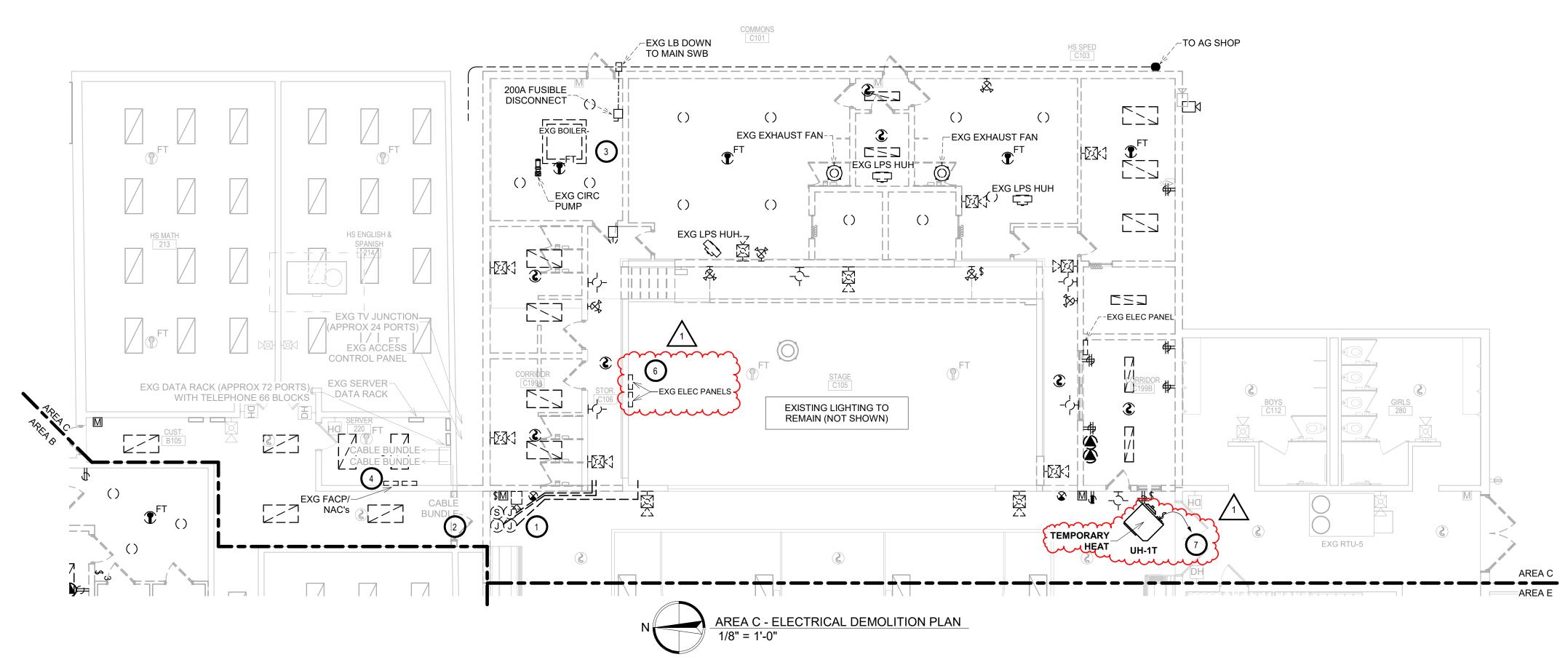
	INT	AKE HO	OD SCHE	DULE					TH
LOCATION	SERVING	CFM	S.P. (IN. H 20)	FACE Velocity (FPM)	THROAT Size	THROAT Velocity (FPM)	UNIT WEIGHT (LBS)	BIRD/ Insect Screen	NOTES
G FLAT ROOF	FC-A103 OUTSIDE AIR INTAKE	1000	0.01	155	21X21	327	130	Y/N	1,2,3
	ACING & OVERHANG FOR STORM PR UM 24" THROAT.	OTECTION.							

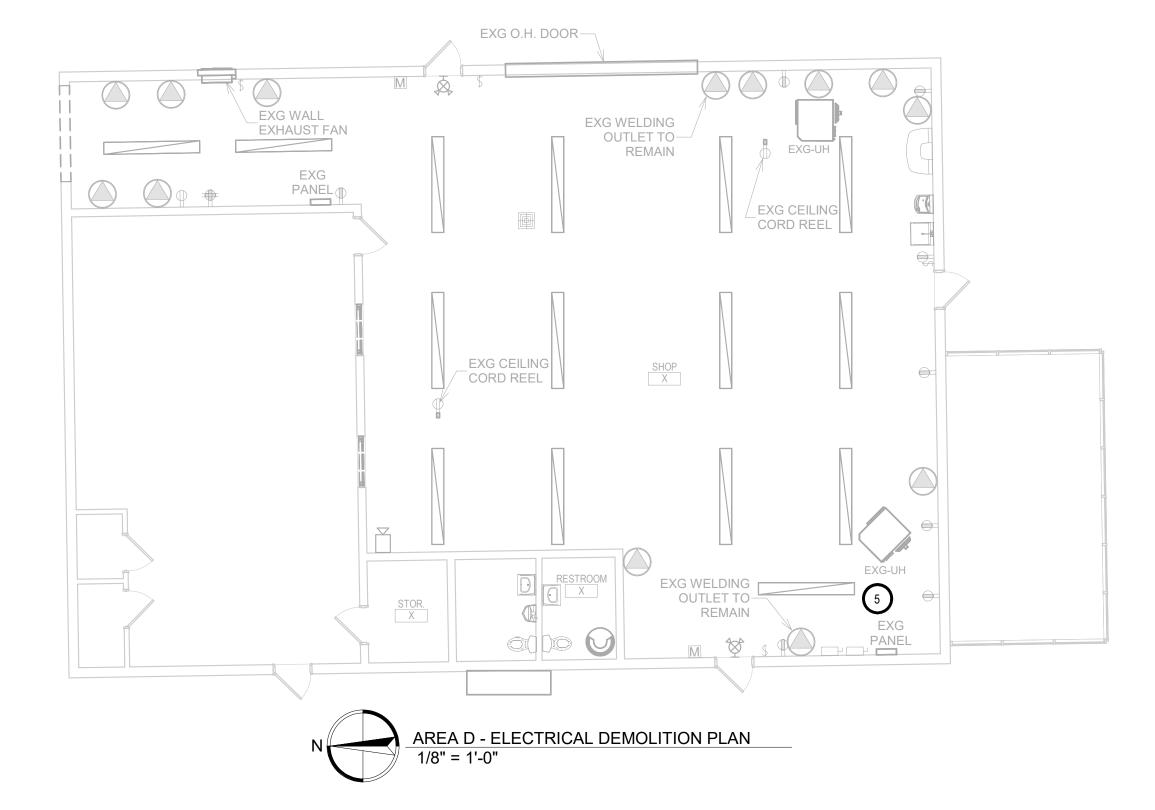
	SLOTTE	D FU	IE EXH	AUST H	100D \$	SCHED	ULE				HD
	LOCATION	EXHAUST AIR (CFM)	STATIC PRESSURE LOSS (IN. W.G.)	EXHAUST AIR Connection (IN. DIAM)	WIDTH (IN)	DEPTH (IN)	HEIGHT (IN)	NO. OF SLOTS	SLOT HEIGHT (IN)	UNIT WEIGHT (LBS)	NOTES
ОN	SHOP D103B	1,000	1.5	8	45"	8"	34"	4	13/32	-	1,2,3
HOOD).			•							

HAUS HOUD. CTED OF 18 GAUGE GALVANIZED STEEL WITH 20 GAUGE GALVANIZED STEEL TRANSITIONS. 9' A.F.F. FOR BALANCING PURPOSES.

CO Arch	ΟΡ
Aberdeen Phone: 60 601 Kansa Rapid City Phone: 60 440 E. 8 Sioux Falls Phone: 60	Main St. 102 , SD 57401 95-725-4852 as City St. 7 9, SD 57701 95-716-3652 8th St 221 s, SD 57103 95-334-9999 arch.com
ENGINE Mechanical & Elec 801 Railroa Aberdeen, Phone: 605	SD 57401
TRAVIS JS.	D: 220900771
REVISION SCHE	DSC. REV. DATE
WILLOW LAKES	SCHOOL ADDITION SCHOOL DISTRICT SOUTH DAKOTA
<u>SHEET TITLE:</u> MECHANICAL S	

M9(



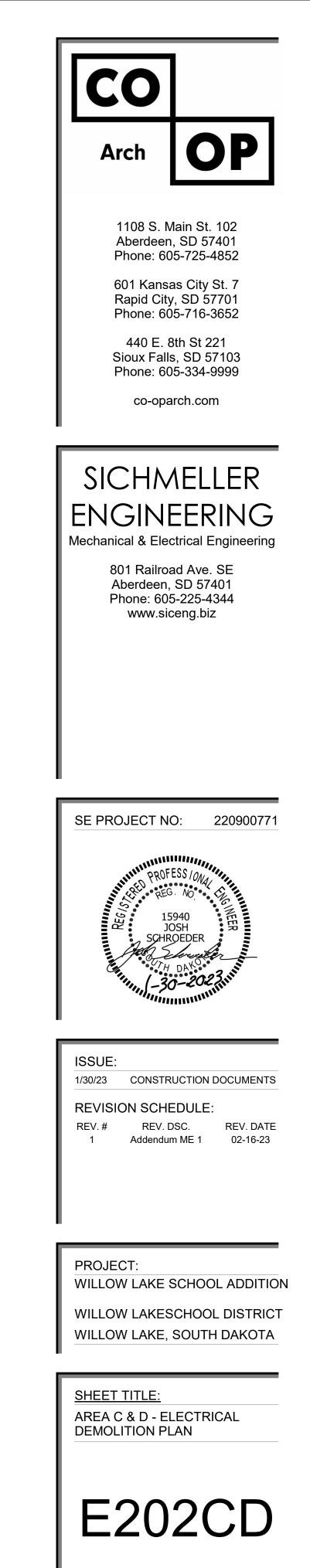


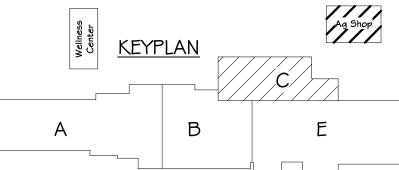


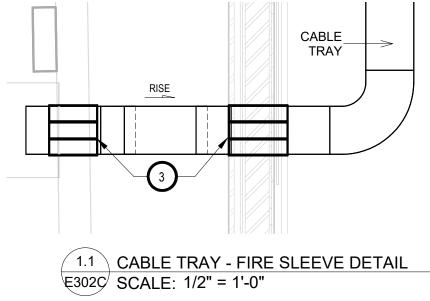
- 1. ELECTRICAL CONTRACTOR SHALL SURVEY EXISTING ELECTRICAL RACEWAYS FOR UTILIZATION. IF DEEMED TO REMAIN BY OWNER PROVIDE RELOCATION OF CONDUITS AROUND CONSTRUCTION AREAS AND PROTECTION OF CIRCUITS DURING CONSTRUCTION PHASES.
- 2. ELECTRICAL CONTRACTOR SHALL PROVIDE REMOVAL AND REINSTALLATION OF SPEAKER AS REQUIRED FOR CONSTRUCTION IN AREA, PROVIDE PROTECTION OF CIRCUIT AND DEVICE DURING CONSTRUCTION PHASES.
- 3. ELECTRICAL CONTRACTOR SHALL PROVIDE REMOVAL OF 200 AMP DISCONNECT AND UNDERGROUND FEEDER BACK TO MAIN DISTRIBUTION PANEL. VERIFY EXISTING BRANCH CIRCUITS ARE BEING DEMOED UNDER CURRENT CONSTRUCTION. PROVIDE EXTENSION OF ANY SMALL BRANCH CIRCUITS TO PANEL IN NEW ADDITION.
- 4. PROVIDE REMOVAL OF EXISTING FACP FOR INSTALLATION OF NEW FACP WITH VOICE NOTIFICATION. VERIFY FINAL REQUIREMENTS WITH SIEMENS FIRE ALARM SUPPLIER AND SYSTEMS PLANS.
- 5. EXISTING AG SHOP ELECTRICAL TO REMAIN IN WORKING ORDER FOR SCHOOL USE DURING CONSTRUCTION. PROVIDE PROTECTION OF EXISTING FEEDER FROM MAIN SWB. SEE SITE PLAN EM101 FOR ADDITIONAL INFORMATION.
- 6. STAGE PANEL: PROVIDE REMOVAL AND REPLACEMENT OF EXISTING STAGE PANELS. SEE PANEL SCHEDULE AND POWER PLAN FOR ADDITIONAL INFORMATION. PROVIDE EXTENSION OF ALL BRANCH CIRCUITING AS REQUIRED FOR CONNECTION TO NEW PANEL.
- . TEMPORARY GYM HEAT: PROVIDE 120 VOLT, 20 AMP CONNECTION FROM EXG PNL 'L3' OR NEAREST DEDICATED 120 VOLT BRANCH CIRCUIT. PROVIDE 20 AMP RATED TOGGLE DISCONNECT AT HEATER.

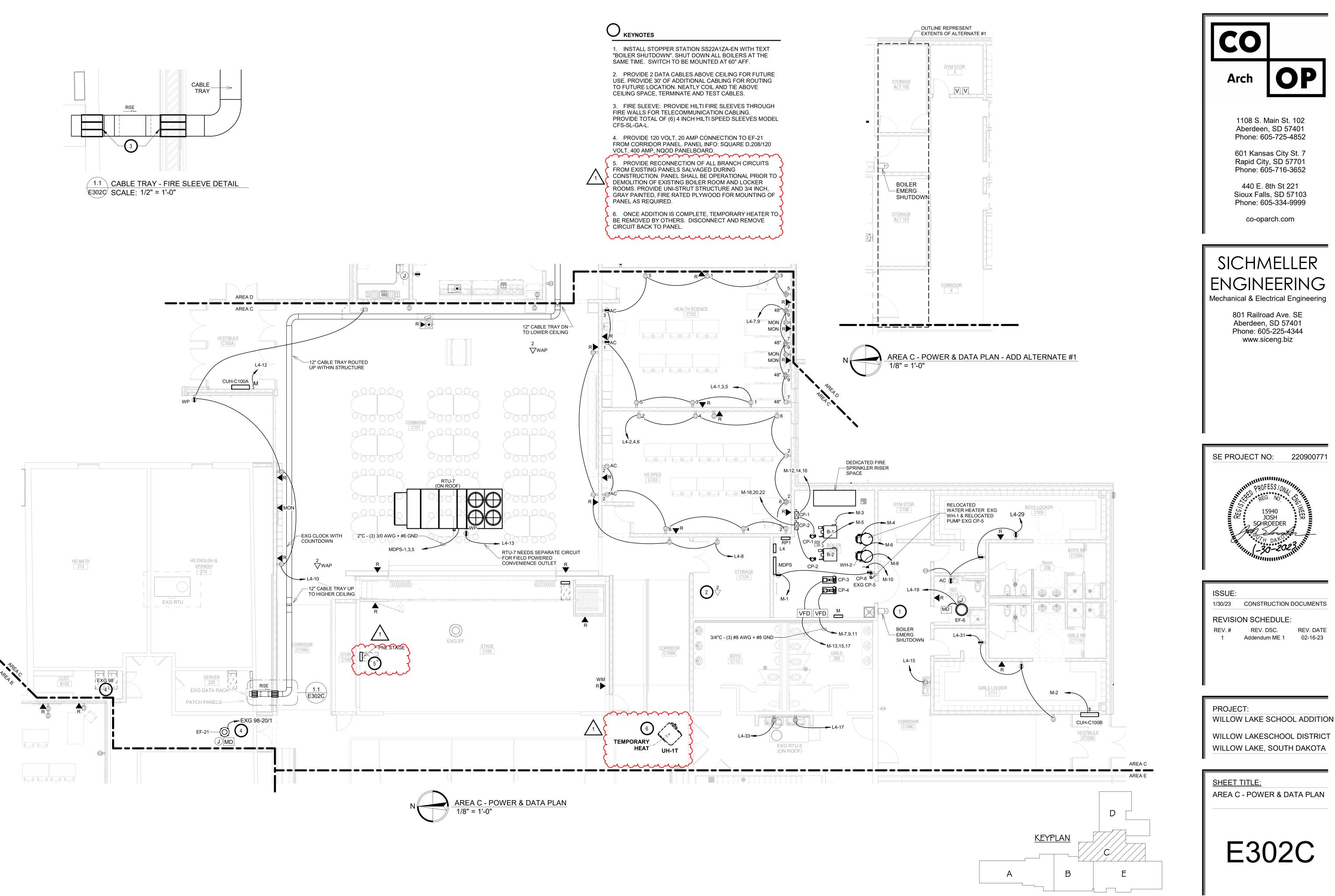
ELECTRICAL GENERAL NOTES

- A. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE A/E IMMEDIATELY OF ANY DISCREPANCIES, INCLUDING ANY NECESSARY DEMOLITION.
- REMOVE ELECTRICAL EQUIPMENT IN THE AREAS SHOWN ON В THE PLAN, DISCONNECT CIRCUITS AND CONDUITS AND REMOVE TO A POINT OUT OF THE WAY OF THE GENERAL DEMOLITION. MARK ON THE PLAN TO CLEARLY SHOW WHERE THESE CIRCUITS ARE STOPPED. DISCONNECT THE POWER AND LIGHTING CIRCUITS IN THE PANELS TO ASSURE THAT THERE IS NO DANGER FROM ELECTRICAL SHOCK HAZARD PRESENT. DEMOLITION WORK SHALL BE COORDINATED WITH THE OWNER. SHOULD QUESTIONS ARISE REGARDING THE REMOVAL OF EQUIPMENT, CONFER WITH THE OWNER BEFORE SUCH EQUIPMENT IS DEMOLISHED. MATERIALS REMOVED BY DEMOLITION SHALL REMAIN THE PROPERTY OF THE OWNER UNLESS OTHERWISE SPECIFICALLY NOTED. MATERIAL THE OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED AND DISPOSED OF PROPERLY BY THE CONTRACTOR.
- C. EQUIPMENT SHOWN ON DRAWINGS AS EXISTING IS BASED ON EXISTING PLANS AND LIMITED FIELD INVESTIGATION. THE FIELD SURVEY WAS CONDUCTED TO VERIFY, AS MUCH AS POSSIBLE, THE ACCURACY OF THE LOCATIONS SHOWN. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF THE "EXISTING CONDITIONS" AS SHOWN ON THE DRAWINGS AS THE DEMOLITION WORK PROGRESSES. PERFORM MODIFICATIONS AND ADDITIONS AS NECESSARY TO CORRECT FOR THESE HIDDEN CONDITIONS AND ALLOW FOR THE COMPLETION OF THE NEW WORK.
- D. THE EXISTING BUILDING WILL BE IN USE DURING THIS CONSTRUCTION. SCHEDULE AND CARRY OUT THE WORK IN SUCH A MANNER AS TO CAUSE THE OWNER A MINIMUM OF INCONVENIENCE DUE TO SERVICE INTERRUPTIONS. TEMPORARY SERVICES SHALL BE INSTALLED IF ONE PHASE OF CONSTRUCTION DISRUPTS SERVICE TO ANOTHER AREA OF THE BUILDING OR IF EQUIPMENT HAS TO BE RELOCATED TO ALLOW CONSTRUCTION TO PROGRESS. SERVICE INTERRUPTIONS SHALL BE CONFINED TO THE SMALLEST AREA POSSIBLE AT ANY ONE TIME AND INTERRUPTIONS SHALL BE SCHEDULED WITH THE OWNER'S SITE REPRESENTATIVE. AFTER SERVICE HAS BEEN RESTORED FOLLOWING AN INTERRUPTION, INSPECT AREAS AFFECTED BY THE INTERRUPTION AND BE RESPONSIBLE FOR RETURNING AUTOMATICALLY CONTROLLED EQUIPMENT TO THE SAME OPERATING CONDITION, WHICH EXISTED PRIOR TO THE INTERRUPTION.
- E. PROVIDE PENETRATIONS TO THE BUILDING STRUCTURE AS REQUIRED FOR INSTALLATION. WHERE EXISTING OR TEMPORARY SYSTEMS ARE BEING DEMOLISHED, WHICH LEAVE OPENINGS IN THE EXISTING BUILDING STRUCTURE, THE BUILDING STRUCTURE SHALL BE PATCHED TO MATCH THE EXISTING CONSTRUCTION AND MAINTAIN THE EXISTING BUILDING FIRE RATINGS.
- F. ALL ELECTRICAL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, NFPA AND NEC CODES, AND THE AUTHORITY HAVING JURISDICTION.

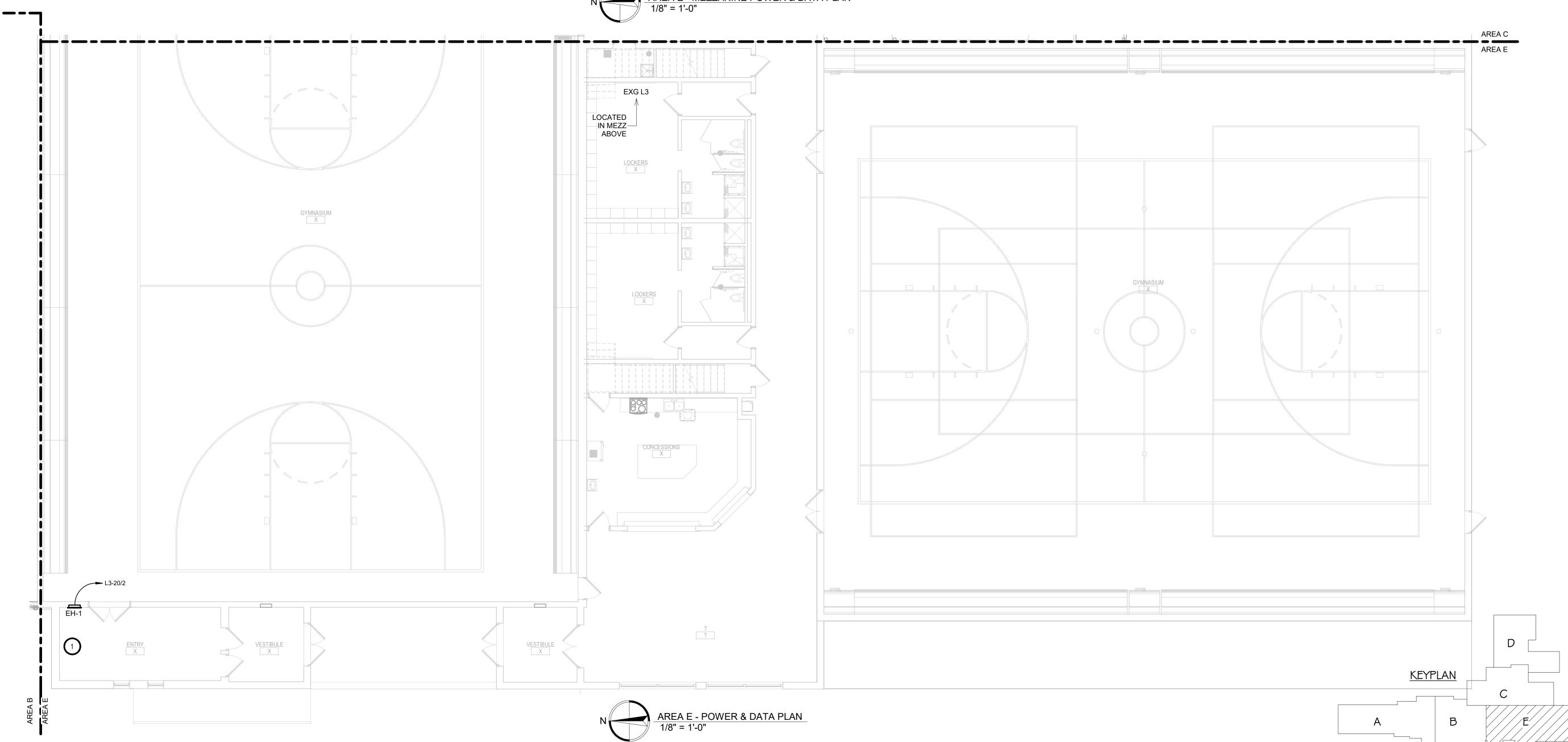








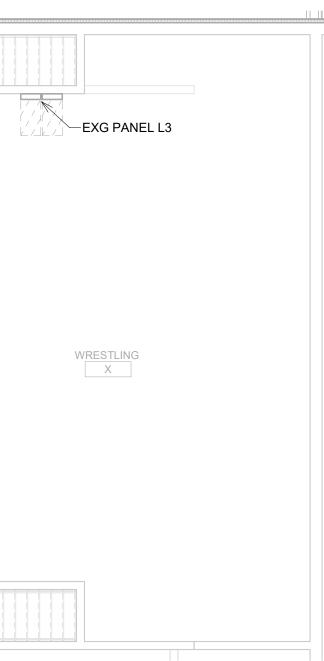






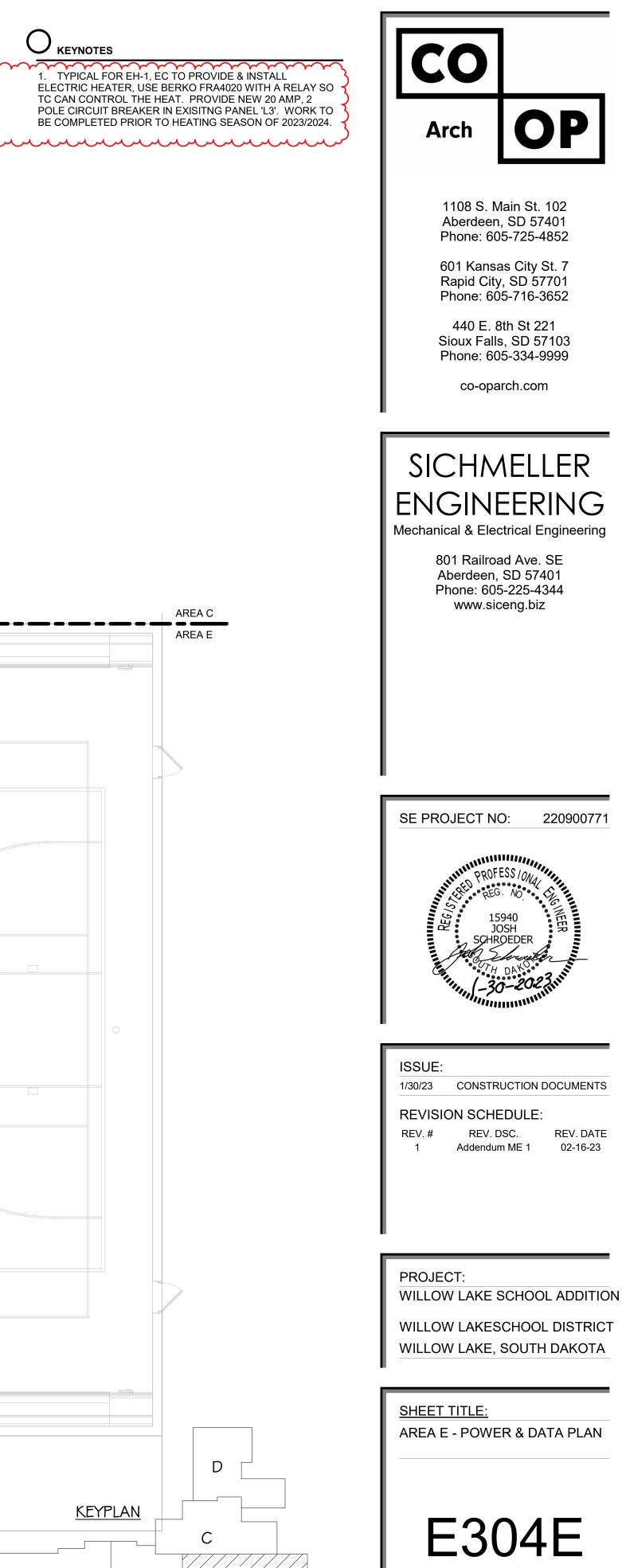


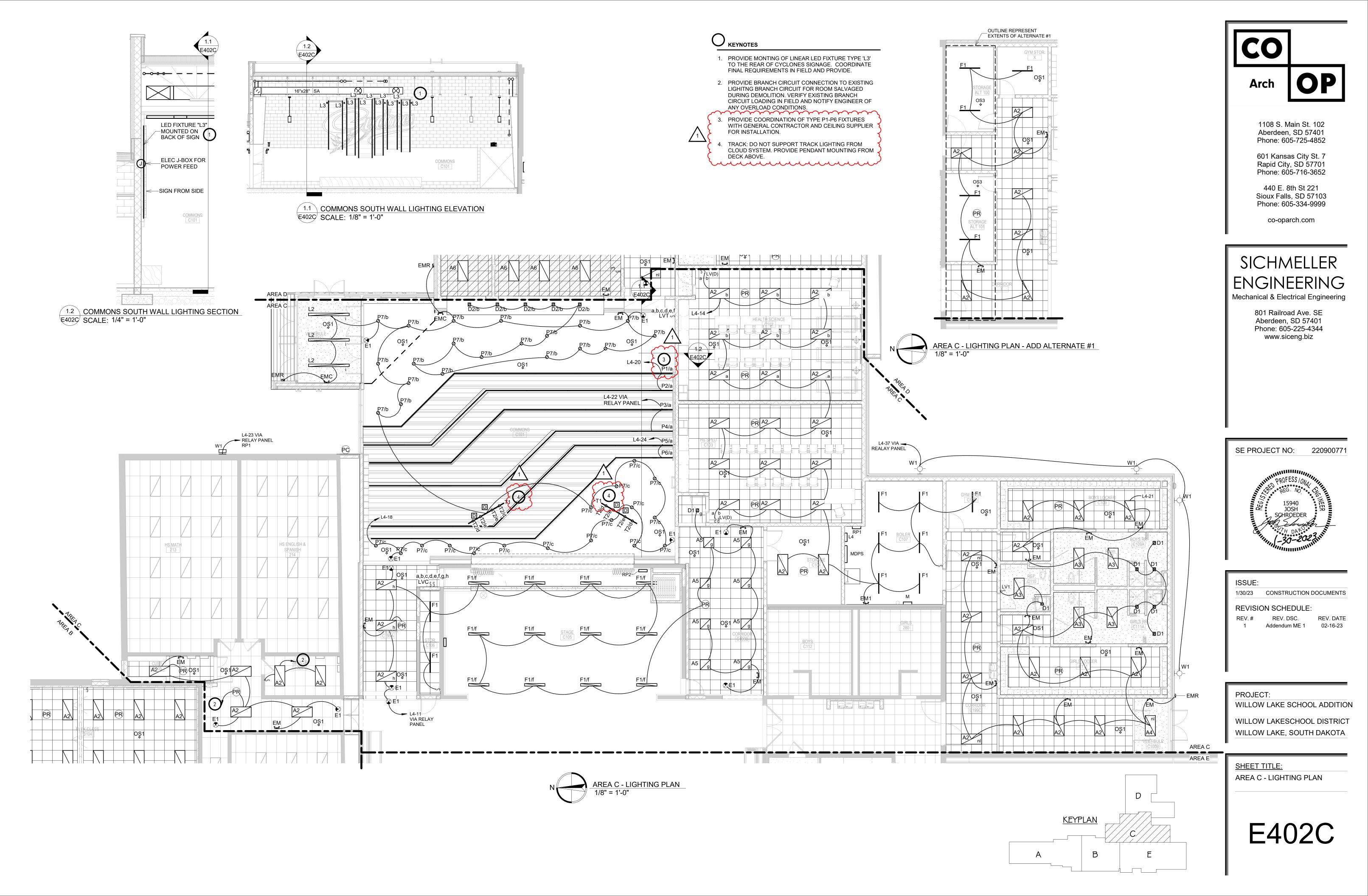
AREA E - MEZZANINE POWER & DATA PLAN

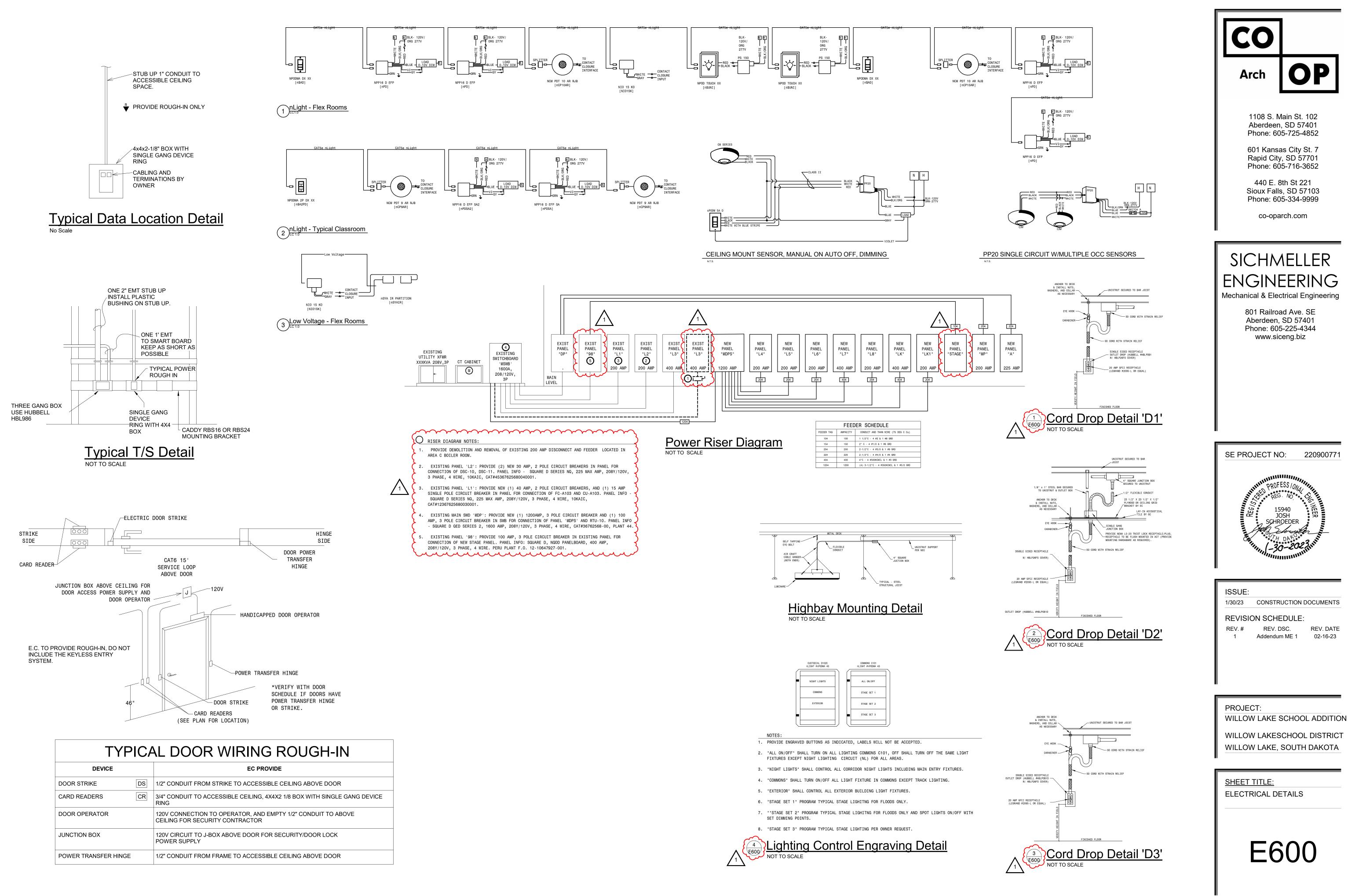


O KEYNOTES

1. TYPICAL FOR EH-1, EC TO PROVIDE & INSTALL ELECTRIC HEATER, USE BERKO FRA4020 WITH A RELAY SO TC CAN CONTROL THE HEAT. PROVIDE NEW 20 AMP, 2 POLE CIRCUIT BREAKER IN EXISITNG PANEL 'L3'. WORK TO BE COMPLETED PRIOR TO HEATING SEASON OF 2023/2024.







TYPICA	AL DOOR WIRING ROUGH-IN
DEVICE	EC PROVIDE
DOOR STRIKE DS	1/2" CONDUIT FROM STRIKE TO ACCESSIBLE CEILING ABOVE DOOR
CARD READERS CR	3/4" CONDUIT TO ACCESSIBLE CEILING, 4X4X2 1/8 BOX WITH SINGLE GANG DEVICE RING
DOOR OPERATOR	120V CONNECTION TO OPERATOR, AND EMPTY 1/2" CONDUIT TO ABOVE CEILING FOR SECURITY CONTRACTOR
JUNCTION BOX	120V CIRCUIT TO J-BOX ABOVE DOOR FOR SECURITY/DOOR LOCK POWER SUPPLY
POWER TRANSFER HINGE	1/2" CONDUIT FROM FRAME TO ACCESSIBLE CEILING ABOVE DOOR

/0L1	FAGE:	2	08/120, 3	P, 4W	BUS	RATING:	2	25 AMP	-	ENCL. TYPE:	NEN	IA 1	LO	CATION:	BOILEF	RM
٦	TYPE:		МСВ	-	AIC	RATING:	2	22,000	-	MOUNTING:	SUR	FACE	FE	D FROM:	MDP	S
	RKT BI		LIGHTING	MOTORS	CONNECT HVAC	ED LOAD	(VA) RECPT	DESCRIPTION	PH	DESCRIPTION	CONN RECPT	ECTED LOA	AD (VA) HVAC	MOTORS	LIGHTING	C
1	20 20	1					800 800	NURSE	AB	HS SPED HS SPED	800 800					20 20
5	20 20 20	1 1					800 800 800	NURSE NURSE S	C A	HS SPED S COMMONS	800 800 800					20 20 20
9	20	1					800 600	NURSE S	В	N COMMONS	800					20
11 13	20 20	1	812				400	STAGE/CORR ROOF RECP	C A	CUH-C100 NURSE/BOILER				200	1213	20 20
15 17	20* 20*	1					1200 1200	WATER CLR WATER CLR	B C	EF-10 COMMON (P)				1200	1289	20 20
19 21	20 20	1	692		1200			EF-6 LOCKER/CORR	A B	Comm (CLOUD) Comm (CLOUD)					1048 1040	20 20
23 25	20 20	1	793 1184					EXTERIOR LTS SCI/FACS LTS		Comm (CLOUD) SMOKE DMPR					1064	20 20+
27 29	20 20	1	852				600	CORR/RR LTS BOY LOCKER		SMOKE DMPR SMOKE DMPR						20+ 20+
31 33	20 20*	1					600 200	GIRLS LOCKER	-	SMOKE DMPR SMOKE DMPR						20+ 20+
35	20*	1	150				200	WC	С	SPARE						20
37 39	20 20*	1	150					EXTERIOR LTS SPARE	В	SPARE SPARE						20 20
41	20*	1		LOAD	CALCULAT	IONS		SPARE	C	SPARE						20
	TYPE		V A	A / PHAS	E C	CONN. LOAD	DEMAND	DIVERSIFIED LOAD		NOTES: 1. BREAKERS	NOTED WT	TH * TO P	E GFCT			_
	IGHTI		3595 0	2584	3958	10137	1.00	10137		2. BREAKERS				EAKER LOO	CKED ON.	
	MOTOR HVAC		1200	1200 0	200 0	1400 1200	0.90	1260 900								
	CEPTA	CLES	4200	0 4400	0 3600	0 12200	0.65	0 7320								
		TOTA	_ AMPS:	5	54	TOTAI	_ VA:	19617	<u> </u>							
0L1	TAGE:	2	08/120, 3	P, 4W	BUS	RATING:	2	25 AMP	L	L6' ENCL. TYPE:	NEN	IA 1	LO	CATION:	SCIEN	ICE
T	TYPE:	_	МСВ		AIC	RATING:		22,000		MOUNTING:	RECE	SSED	FE	D FROM:	MDP	S
CI	rkt bi	RKR		-	CONNECT	ED LOAD	(VA)	1			CONN	IECTED LOA	AD (VA)			С
# 1	AMPS 20	POLE 1	LIGHTING	MOTORS	HVAC	KITCHEN	RECPT 400	DESCRIPTION NW STATION	PH A	DESCRIPTION SPARE	RECPT	KITCHEN	HVAC	MOTORS	LIGHTING	AMP:
3 5	20 20	1					400 600	NE STATION E STATION	B C	SMOKE DMPR						20+
7 9	20 20	1		1200			800	W WALL EF-14	AB	SMOKE DMPR SMOKE DMPR						20+ 20+
11 13	20 20 20	1		750			600	S WALL EF-12,13	C A	GAS VALVE SPARE	250					20 20 20
15	20	1		, 30			400	INSTRC TBL	В	SPARE						20
17 19	20 20	1					400 400	DROP CORD 1 DROP CORD 2		SPARE SPARE						20 20
21 23	20 20	1					400 400	DROP CORD 3 DROP CORD 4	С	SPARE SPARE						20 20
25 27	20 20	1	-				400 400	DROP CORD 5 DROP CORD 6	A B	SPARE SPARE						20 20
29 31	20 20	1		1200 200				EF-15 CUH-D100	C A	SPARE SPARE						20 20
33 35	20 20	1						SPARE SPARE	B C	SPARE SPARE						20 20
37 39	20 20 20	1						SPARE SPARE	A B	SPARE SPARE						20 20
11	20	1						SPARE	C	SPARE						20
	ТҮРЕ		V	LOAD A / PHAS	CALCULAT	CONN.	DEMAND	DIVERSIFIED	-	NOTES:						_
L	IYPE IGHTI		A 0	В 0	C 0	LOAD 0	1.00	LOAD 0		 BREAKERS BREAKERS 					CKED ON.	
	MOTOR HVAC		950 0	1200 0	1200 0	3350 0	0.90	3015 0								
	HEN E	QUIP.	0 2000	0	0 2250	0 5850	0.65	0 3510								
~			AMPS:		8			6525		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~		\sim			$\widehat{}$
ר ו0	TAGE:	2	08/120, 3	P. 4W	BUS	RATING:	1	PANEL 00 AMP	'S	TAGE' ENCL. TYPE:	NFA	IA 1	10	CATION:	STAG	ìE
	TYPE:			100A	-	RATING:		22,000	-	MOUNTING:		FACE		D FROM:		
	RKT BI			-		ED LOAD		,	-			ECTED LOA				
# 1	AMPS 15	POLE 1	LIGHTING	MOTORS	HVAC	KITCHEN	RECPT	DESCRIPTION GYM LIGHTS	PH A	DESCRIPTION STAGE RECP	RECPT	KITCHEN	HVAC	MOTORS	LIGHTING	AMP 20
3 5	15 15	1						GYM LIGHTS GYM LIGHTS	B C	SCOREBOARD VESTIBULE						20 20
7	15 15 20	1						GYM LIGHTS STAGE LIGHTS	Α	EXISTING BC						20 20 20
o	20	1						GYM FANS	С	EXISTING BC						20
11	20 20	1						GYM RECP GYM RECP	A B	EXISTING BC EXISTING BC						20 20
11 13 15		1						GYM RECP GYM RECP	C A	EXISTING BC						20
11 13 15 17	20 20	1						STAGE RECP STAGE RECP	B C	EXISTING BC						20
11 13 15 17 19 21		1						SPARE SPARE	A B	SPARE SPARE						20 20
9 11 13 15 17 19 21 23 25 27	20 20 20 15	1						SPARE	С	SPARE						20
11 13 15 17 19 21 23 25 27 29	20 20 20							SPACE SPACE	A B	SPACE SPACE						
11 13 15 17 19 21 25 27 29 31 33	20 20 20 15 15	1								1		1		1		1
11 13 15 17 19 21 23 25 27 29 31 33 35 37	20 20 20 15 15	1						SPACE SPACE	C A	SPACE SPACE						
11 13 15 17 21 23 25 27 29 31	20 20 20 15 15	1						SPACE								
11 13 15 17 23 25 27 29 31 33 35 37 39	20 20 15 15 20*	1 1 1		LOAD	CALCULAT E	TIONS CONN.		SPACE SPACE SPACE	A B	SPACE SPACE						
11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41	20 20 15 15 20*	1 1					DEMAND	SPACE SPACE SPACE SPACE	A B	SPACE SPACE SPACE NOTES: 1. ALL BRANC						
11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 L	20 20 15 15 20*	1 1 1 NG S	A	A / PHAS B	E C	CONN. LOAD	DEMAND 1.00 0.90 0.75	SPACE SPACE SPACE SPACE DIVERSIFIED LOAD	A B	SPACE SPACE SPACE NOTES:	EW CIRCU NOTED WI	IT BREAKE TH * SHAL	R IN PNI L BE GFO	L '98' FC CI	OR CONNEC	TION

LOC	ATION:	BOILER	RM		
FED	FROM:	MDPS	3		
A)			CRI	KT BRK	(R
٩C	MOTORS	LIGHTING	AMPS	POLE	#
			20	1	2
			20	1	4
			20	1	6
			20	1	8
			20	1	10
	200		20	1	12
		1213	20	1	14
	1200		20	1	16
		1289	20	1	18
		1048	20	1	20
		1040	20	1	22
		1064	20	1	24
			20+	1	26
			20+	1	28
			20+	1	30
			20+	1	32
			20+	1	34
			20	1	36
			20	1	38
			20	1	40
			20	1	42

EAKER LOCKED ON.

LOC	ATION:	SCIEN	CE		
FED	FROM:	MDPS	6		
A)			CRI	KT BRK	(R
AC	MOTORS	LIGHTING	AMPS	POLE	#
			00	0	2
			20	2	4
			20+	1	6
			20+	1	8
			20+	1	10
			20	1	12
			20	1	14
			20	1	16
			20	1	18
			20	1	20
			20	1	22
			20	1	24
			20	1	26
			20	1	28
			20	1	30
			20	1	32
			20	1	34
			20	1	36
			20	1	38
			20	1	40
			20	1	42

FED	FROM:	EXST F	NL S	98.	
()		1	CR	KT BRK	R
C	MOTORS	LIGHTING	AMPS	POLE	#
			20	1	2
			20	1	4
			20	1	6
			20	1	8
			20	1	10
			20	1	12
			20	1	14
			20	1	16
			20	2	18
			20	-	20
			20	2	22
			20	-	24
			20	1	26
			20	1	28
			20	1	30
					32
					34
					36
					38
					40
					42
PNL GFC:	'98' F(D SHALL B DR CONNEC DENTIFICA	TION		ĒD.

OLTAGE	E:_	20	08/120, 3F	P, 4W	BUS	RATING:	2	25 AMP		ENCL. TYPE:	NE	MA 1	L00	CATION:	FACS	S	-	
ТҮРЕ	E:		МСВ		AIC	RATING:	2	2,000		MOUNTING:	REC	ESSED	FEI	D FROM:	MDPS	6		
CRKT						ED LOAD (NECTED LOA				CRI	KT BR	KF
			LIGHTING	MOTORS	HVAC	KITCHEN	RECPT	DESCRIPTION	PH	DESCRIPTION		KITCHEN	HVAC	MOTORS	LIGHTING			_
1 20	0	1					400	N STATION	Α	NE DROP	400					20	1	
3 20	0	1					400	N STATION	В	NW DROP	400					20	1	
5 20	0	1					400	W STATION	С	W DROP	400					20	1	
7 20		1					400	W STATION	Α	SW DROP	400					20	1	
9 20		1					200	W STATION	B	SE DROP	400	(000				20	1	
11 20		1					400	S STATION	C	FRIDGE		1800		500		20	1	_
13 20 15 20		1				1500	400	S STATION N MICRO	A B	N HOODS W HOODS				500 500		20 20	1	
17 20		1				1500		W MICRO	C	S HOODS				500		20	1	+
19 20		1				1500		S MICRO	A			2400		000				
21 20		1						E WALL	В	DRYER		2400				30	2	-
23 20	0	1						FRONT/DESK	С	EF-11				1656		25	1	
25 20	0	1					400	BABY CRG	Α	WASHER		1200				30	1	
27 20	0	1					400	BABY CRG	В	SPARE						20	1	
29 20	0	1						SPARE	С	SPARE						20	1	
31 50	0	2				4000		RANGE	Α	SPARE						20	1	
33		_				4000			В	SPARE						20	1	
35 50	o	2				4000		RANGE	C	RANGE		4000				50	2	╞
37						4000			A			4000						+
39 41 50	o	2				4000		RANGE	B C	RANGE		4000				50	2	$\left \right $
11				LOAD (CALCULAT	4000 IONS			U			4000						
тv	PE		V	A / PHASI	E	CONN.	DEMAND	DIVERSIFIED		NOTES:								
			A	В	С	LOAD	DLIMAND	LOAD		1. BREAKERS	NOTED W	ITH * SHALL	BE GFC	I				
LIGH			0	0	0	0	1.00	0										
MOT		6	500	500	2156	3156	0.90	2840										
			0	0	0	0	0.75	0										
ITCHEN RECEP1			17100	15900	19300	52300	0.65	33995										
RECEPT																		
ILUEI I	- 1		2400 AMPS:	1800 11	1200 11	5400 TOTAL	0.60 VA:	3240 40075										
	-	TOTAL	AMPS:	11	11		VA:			L7' ENCL. TYPE:	NE	MA 1	LO	CATION:	AG SH	OP		
OLTAGI	E:_	TOTAL	AMPS:	11	BUS	TOTAL	VA:	40075 PANE 00 AMP	-	ENCL. TYPE:								
OLTAGE TYPE	E:_ E:_	TOTAL 20	AMPS:	11	BUS	TOTAL RATING: RATING:	VA: 4	40075 PANE	-		SUF	RFACE	FEI		AG SH	3		
OLTAGE TYPE CRKT	E:	TOTAL 20 KR	AMPS: 08/120, 3F MCB	11 2, 4W	BUS AIC CONNECT	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000	-	ENCL. TYPE: MOUNTING:	SUF	RFACE	FEI D (VA)	D FROM:	MDPS	S CRI	KT BR	
OLTAGE TYPE CRKT # AMP	E:	TOTAL 20 KR	AMPS:	11 2, 4W	BUS AIC CONNECT HVAC	TOTAL RATING: RATING:	VA: 4	40075 PANE 00 AMP	PH	ENCL. TYPE: MOUNTING: DESCRIPTION	SUF	RFACE	FEI	MOTORS		S CRI AMPS	POLE	
OLTAGE TYPE CRKT # AMP 1	E:	TOTAL 20 KR	AMPS: 08/120, 3F MCB	11 2, 4W	BUS AIC CONNECT HVAC 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000 DESCRIPTION	PH	ENCL. TYPE: MOUNTING:	SUF	RFACE	FEI D (VA)	MOTORS 4500	MDPS	S CRI		
OLTAGE TYPE CRKT # AMP 1 3 10	E:	TOTAL 20 KR POLE	AMPS: 08/120, 3F MCB	11 2, 4W	BUS AIC CONNECT HVAC	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000	PH	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION	SUF	RFACE	FEI D (VA)	MOTORS	MDPS	CRI AMPS 50*	POLE 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7	E:	TOTAL 20 KR POLE 3	AMPS: 08/120, 3F MCB	11 2, 4W	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000 DESCRIPTION RTU-9	PH A B	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500	MDPS	S CRI AMPS	POLE	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50	E:	TOTAL 20 KR POLE	AMPS: 08/120, 3F MCB	11 P, 4W MOTORS	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000 DESCRIPTION	PH A B C	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500 4500	MDPS	S CRI AMPS 50* 50*	POLE 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 9	E: BR/ PS F 00	20 KR POLE 3 2	AMPS: 08/120, 3F MCB	11 2, 4W MOTORS 4500	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 22,000 DESCRIPTION RTU-9 WELDER	PH A B C A B C	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500 4500 4500	MDPS	CRI AMPS 50*	POLE 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 9 11 50	E: BR/ PS F 00	TOTAL 20 KR POLE 3	AMPS: 08/120, 3F MCB	11 2, 4W MOTORS 4500 4500	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000 DESCRIPTION RTU-9	PH A B C A B	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER	SUF	RFACE	FEI D (VA)	 FROM: MOTORS 4500 4500 4500 4500 4500 4500 4500 4500 	MDPS	CRI AMPS 50* 50* 50*	POLE 2 2 2	
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OLTAGE TYPE CRKT # AMP 1 10 5 7 50 9 11 50 13 50 15 50 17 50	E: BRH PS F 00	20 KR POLE 3 2	AMPS: 08/120, 3F MCB	11 P, 4W MOTORS 4500 4500 4500 4500 4500 4500	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 22,000 DESCRIPTION RTU-9 WELDER	PH A B C A B C A B C C A B C	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	CRI AMPS 50* 50* 50*	POLE 2 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 9 50 11 50 13 50 15 50 17 50	E:	20 KR POLE 3 2 2	AMPS: 08/120, 3F MCB	11 P, 4W MOTORS 4500 4500 4500 4500 4500 4500 4500	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER	PH A B C A B C A B C C A A	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION	SUF	RFACE	FEI D (VA)	FROM: MOTORS 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500	MDPS	S CRI AMPS 50* 50* 50*	POLE 2 2 2 2	
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OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 9 50 11 50 13 50 15 50 15 50 17 50 19 50 21 50 21 50	F BRH BRI 00)*)*)*)*	20 KR POLE 3 2 2 2	AMPS: 08/120, 3F MCB	11 P, 4W MOTORS 4500 4500 4500 4500 4500 4500 4500	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER	PH A B C A B C A B C A B C A B C C	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION	SUF	RFACE	FEI D (VA)	FROM: MOTORS 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500 4500	MDPS	CRI AMPS 50* 50* 50* 50* 50*	POLE 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 11 50 13 50 15 50 17 50 19 50 21 50 23 50	F BRH BRI 00)*)*)*)*	20 KR POLE 3 2 2 2 2 2	AMPS: 08/120, 3F MCB	11 P, 4W MOTORS 4500 4500 4500 4500 4500 4500 4500 450	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER	PH A B C A B C A B C C A B C C A	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	CRI AMPS 50* 50* 50* 50* 50*	POLE 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 9 11 50 13 50 13 50 13 50 13 50 12 50 21 50 21 50 21 50 25 50	F E: BRH PS F 00)*)*)*)*)*	200 KR POLE 3 2 2 2 2 2 2 2 2 2 2	AMPS: 08/120, 3F MCB	11 2, 4W MOTORS 4500 4500 4500 4500 4500 4500 4500 2000	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER WELDER	PH A B C A B C A B C C A B C C A B B C C A B B C C A B B C C A B B C C A B B C C A B B C C A B B C C A A A B B C C A A B B C C A A B B C C A A A B B C C A A B C C A A A A	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 50* 20*	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 9 11 50 13 50 15 50 15 50 12 50 21 50 21 50 23 50 27 29 35	F E: BRH PS F 00)*)*)*)*)*	20 KR POLE 3 2 2 2 2 2	AMPS: 08/120, 3F MCB	2, 4W MOTORS 4500 4500 4500 4500 4500 4500 4500 450	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER	PH A B C A B C A B C C A B C C A B C C A B C C	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 50* 20*	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 11 50 13 50 15 50 17 50 17 50 19 50 23 50 23 50 27 29 35 31	- E: BRH DO)*)*)*)*)*)*)*)*)*)* 5	200 KR POLE 3 2 2 2 2 2 2 2 2 2 2	AMPS: 08/120, 3F MCB	11 2, 4W MOTORS 4500 4500 4500 4500 4500 4500 4500 2000	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER WELDER	PH A B C A B C A B C A B C C A B C C A	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION UBING BENDER SPARE SPARE	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 20* 40* 30*	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 9 11 50 13 50 13 50 13 50 13 50 13 50 13 50 13 50 21 50 23 50 25 31 23 20 33 20	Image: square Image: square E: BRH PS F 00)*)*)*)*)* 0	TOTAL 20 KR POLE 3 2 2 2 2 2 3	AMPS: 08/120, 3F MCB	2, 4W MOTORS 4500 4500 4500 4500 4500 4500 4500 450	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER WELDER	PH A B C A B C A B C C A B C C A B C C A B C C	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION UWELDER STATION TUBING BENDER SPARE	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 20* 40*	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 9 11 50 13 50 14 50 140	Image: square Image: square E: BRH PS F 00)*)*)*)*)* 0	TOTAL 20 KR POLE 3 2 2 2 2 2 3 1	AMPS: 08/120, 3F MCB	2, 4W MOTORS 4500 4500 4500 4500 4500 4500 4500 450	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER WELDER	PH A B C A B C A B C C A B C C A B C C A B B C C A B B C C A B B C C A B B C C A B B C C C A B B C C A B B C C A B B C C A B B C C A B B C C A B B C C A B B C C A A A B B C C A A A B B C C A A B B C C A A A B B C C A A B B C C A A A B B C C A A B B C C A A A B B C C A A B B C C A A B B C C A A B B C C A A B B C C A A B B C C A A B B C C A A B B C C A A B B B C C A A B B C C A A B B B C C A A B B B C C A B B B C C A B B B B	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION UBING BENDER SPARE SPARE	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 20* 40* 30*	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2	
DLTAGE TYPE CRKT # AMP 1 3 10 5 5 7 50 9 50 1 50 5 50 7 50 9 50 2 50 2 50 2 7 50 9 50 2 1 3 50 2 7 50 9 50 2 3 5 50 2 4 5 50 2 50	- BRH PS F 00 -)* -)* -)* -)* - 0 - 0 -	TOTAL 20 KR POLE 3 2 2 2 2 2 3 1	AMPS: 08/120, 3F MCB	11 2, 4W MOTORS 4500 4500 4500 4500 4500 4500 4500 450	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER WELDER	PH A B C A B C A B C A B C A B C C A B C C A C	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION UBING BENDER SPARE SPARE	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 20* 40* 30*	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2	
CRKT # AMP 1 10 5 7 7 50 13 50 13 50 15 50 17 50 19 50 23 50 25 50 27 29 33 20 33 20 35 20 37 39 39 15	- BRH PS F 00 -)* -)* -)* -)* - 0 - 0 -	TOTAL 20 KR POLE 3 2 2 2 2 2 3 1 1 1	AMPS: 08/120, 3F MCB	2, 4W MOTORS MOTORS 4500 4500 4500 4500 4500 4500 4500 2000 20	BUS AIC CONNECT HVAC 10080 10080	TOTAL RATING: RATING: ED LOAD (VA: 41 2 VA)	40075 PANE 00 AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER AIR COMP	PH A B C A B C A B C A B C A B C C A B C C A C A	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMF 1 3 10 5 7 50 11 3 50 13 50 11 13 50 13 50 17 50 11 23 50 27 50 23 50 25 50 27 50 31 50 33 20 35 20 37 39 15	- BRH PS F 00 -)* -)* -)* -)* - 0 - 0 -	TOTAL 20 KR POLE 3 2 2 2 2 2 3 1 1 1	AMPS: 08/120, 3F MCB LIGHTING	2, 4W MOTORS MOTORS 4500 4500 4500 4500 4500 4500 4500 450	BUS AIC CONNECT HVAC 10080 10080 10080	TOTAL RATING: RATING: ED LOAD (KITCHEN	VA: 41 2 VA)	40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER AIR COMP EF-19	PH A B C A B C A B C A B C A B C A B C A B C A B C A B C C A B C C A B C C A B C C A B C C A B C C A A A B C C A A A B C C A A A B C C A A A B C C A A A B C C A A A B C C A A A B C C A A A B C C A A A A	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE SPARE	SUF	RFACE	FEI D (VA)	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 9 50 11 50 15 50 17 50 13 50 15 30 21 50 21 50 21 50 23 50 27 29 35 31 3 33 20 35 20 37 39 15 41	- BRH PS F 00 -)* -)* -)* -)* - 0 - 0 -	TOTAL 20 KR POLE 3 2 2 2 2 2 3 1 1 1	AMPS: 08/120, 3F MCB LIGHTING 	 4500 4500 4500 4500 4500 4500 4500 4500 4500 2000 2000<td>BUS AIC CONNECT HVAC 10080 10080 10080</td><td>TOTAL RATING: RATING: ED LOAD (KITCHEN</td><td>VA: 41 2 VA)</td><td>40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER AIR COMP EF-19 DIVERSIFIED</td><td>PH A B C A B C A B C A B C A B C C A B C C A B C C A B C C A B C C A B C C A C A</td><td>ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE SPARE</td><td>SUF CON RECPT</td><td>RFACE</td><td>FEI</td><td>MOTORS 4500 4500 4500 4500 4500 4500 4500 450</td><td>MDPS</td><td>S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20</td><td>POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2</td><td></td>	BUS AIC CONNECT HVAC 10080 10080 10080	TOTAL RATING: RATING: ED LOAD (KITCHEN	VA: 41 2 VA)	40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER AIR COMP EF-19 DIVERSIFIED	PH A B C A B C A B C A B C A B C C A B C C A B C C A B C C A B C C A B C C A C A	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE SPARE	SUF CON RECPT	RFACE	FEI	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 7 50 9 50 11 50 15 50 17 50 13 50 15 50 17 50 13 50 27 20 23 50 27 29 35 31 3 33 20 35 20 37 39 15 41 5 TY	Image: style	TOTAL 20 KR POLE 3 2 2 2 2 2 3 1 1 3	AMPS: 08/120, 3F MCB LIGHTING 	 4W MOTORS 4500 4500 4500 4500 4500 4500 4500 4500 2000 2000<td>BUS AIC CONNECT HVAC 10080 10080 10080</td><td>TOTAL RATING: RATING: ED LOAD (KITCHEN</td><td>VA: 4 2 VA) RECPT</td><td>40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER AIR COMP EF-19 DIVERSIFIED LOAD</td><td>PH A B C A B C A B C A B C A B C C A B C C A B C C A B C C A B C C A B C C A C A</td><td>ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE SPARE</td><td>SUF CON RECPT</td><td>RFACE</td><td>FEI</td><td>MOTORS 4500 4500 4500 4500 4500 4500 4500 450</td><td>MDPS</td><td>S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20</td><td>POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2</td><td></td>	BUS AIC CONNECT HVAC 10080 10080 10080	TOTAL RATING: RATING: ED LOAD (KITCHEN	VA: 4 2 VA) RECPT	40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER AIR COMP EF-19 DIVERSIFIED LOAD	PH A B C A B C A B C A B C A B C C A B C C A B C C A B C C A B C C A B C C A C A	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE SPARE	SUF CON RECPT	RFACE	FEI	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 9 50 11 50 13 50 13 50 13 50 17 50 19 50 21 50 23 50 27 29 35 31 20 33 20 35 20 37 39 15 41 50 TY LIGH	Image: style="text-align: center;">Image: style="text-align: center;"/>Image: style="text-align: style="text-align: style="text-align: style="text-align: style="text-align: style="	TOTAL 20 KR POLE 3 2 2 2 2 2 3 1 1 3 IG	AMPS: 08/120, 3F MCB LIGHTING 	 4500 4500 4500 4500 4500 4500 4500 4500 4500 2000 2000<td>BUS AIC CONNECT HVAC 10080 10080 10080 10080</td><td>TOTAL RATING: RATING: CONN. LOAD 0</td><td>VA: 4 2 VA) RECPT</td><td>40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER AIR COMP EF-19 DIVERSIFIED LOAD 0</td><td>PH A B C A B C A B C A B C A B C C A B C C A B C C A B C C A B C C A B C C A C A</td><td>ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE SPARE</td><td>SUF CON RECPT</td><td>RFACE</td><td>FEI</td><td>MOTORS 4500 4500 4500 4500 4500 4500 4500 450</td><td>MDPS</td><td>S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20</td><td>POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2</td><td></td>	BUS AIC CONNECT HVAC 10080 10080 10080 10080	TOTAL RATING: RATING: CONN. LOAD 0	VA: 4 2 VA) RECPT	40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER AIR COMP EF-19 DIVERSIFIED LOAD 0	PH A B C A B C A B C A B C A B C C A B C C A B C C A B C C A B C C A B C C A C A	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE SPARE	SUF CON RECPT	RFACE	FEI	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 9 50 11 50 13 50 13 50 13 50 13 50 13 50 23 50 27 29 35 31 3 33 20 33 20 35 20 37 39 15 41 5 TY LIGH MOT	Image: style="text-align: center;">Image: style="text-align: center;"/>Image: style="text-align: style="text-align: style="text-align: style="text-alige: style="text-align: style="	TOTAL 20 KR POLE 3 2 2 2 2 2 3 1 1 3 IG	AMPS: 08/120, 3F MCB LIGHTING 	 4500 4500 4500 4500 4500 4500 4500 4500 4500 2000 2000<td>BUS AIC CONNECT HVAC 10080 10080 10080 10080 0 0 0 0 0 0 0 0</td><td>TOTAL RATING: RATING: ED LOAD (KITCHEN KITCHEN</td><td>VA: 4 4 2 VA) RECPT</td><td>40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER WELDER AIR COMP EF-19 DIVERSIFIED LOAD 0 83430</td><td>PH A B C A B C A B C A B C A B C C A B C C A B C C A B C C A B C C A B C C A C A</td><td>ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE SPARE</td><td>SUF CON RECPT</td><td>RFACE NECTED LOA KITCHEN</td><td>FEI</td><td>MOTORS 4500 4500 4500 4500 4500 4500 4500 450</td><td>MDPS</td><td>S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20</td><td>POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2</td><td></td>	BUS AIC CONNECT HVAC 10080 10080 10080 10080 0 0 0 0 0 0 0 0	TOTAL RATING: RATING: ED LOAD (KITCHEN KITCHEN	VA: 4 4 2 VA) RECPT	40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER WELDER AIR COMP EF-19 DIVERSIFIED LOAD 0 83430	PH A B C A B C A B C A B C A B C C A B C C A B C C A B C C A B C C A B C C A C A	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE SPARE	SUF CON RECPT	RFACE NECTED LOA KITCHEN	FEI	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMP 1 3 10 5 7 50 9 10 13 50 13 50 15 50 13 50 15 50 10 50 13 50 15 50 15 50 10 50 10 50 10 50 11 50 10	Image: style="text-align: center;">Image: style="text-align: center;"/>Image: style="text-align: style="text-align: style="text-align: style="text-align: style="text-align: style="	TOTAL 20 KR POLE 3 2 2 2 2 2 3 1 1 3 IG	AMPS: 08/120, 3F MCB LIGHTING 	MOTORS MOTORS 4500 4500 4500 4500 4500 4500 4500 4500 4500 2000 31400 10080	BUS AIC CONNECT HVAC 10080 10080 10080 0 0 0 0 0 0 0 0 0 0 0	TOTAL RATING: RATING: ED LOAD (KITCHEN KITCHEN	VA: 4 2 VA) RECPT	40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER WELDER AIR COMP EF-19 DIVERSIFIED LOAD 0 83430 22680	PH A B C A B C A B C A B C A B C C A B C C A B C C A B C C A B C C A B C C A C A	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE SPARE	SUF CON RECPT	RFACE NECTED LOA KITCHEN	FEI	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
OLTAGE TYPE CRKT # AMP 1 10 3 10 5 7 9 50 13 50 15 50 15 50 15 50 21 50 22 30 23 50 24 30 25 31 33 20 33 20 35 20 37 39 11 TY LIGH MOT	E:	TOTAL 20 KR POLE 3 2 2 2 2 2 3 1 1 3 IG 3 UIP.	AMPS: 08/120, 3F MCB LIGHTING 	 4500 4500 4500 4500 4500 4500 4500 4500 4500 2000 2000<td>BUS AIC CONNECT HVAC 10080 10080 10080 10080 0 0 0 0 0 0 0 0</td><td>TOTAL RATING: RATING: ED LOAD (KITCHEN KITCHEN</td><td>VA: 4 4 2 VA) RECPT</td><td>40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER WELDER AIR COMP EF-19 DIVERSIFIED LOAD 0 83430</td><td>PH A B C A B C A B C A B C A B C C A B C C A B C C A B C C A B C C A B C C A C A</td><td>ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE SPARE</td><td>SUF CON RECPT</td><td>RFACE NECTED LOA KITCHEN</td><td>FEI</td><td>MOTORS 4500 4500 4500 4500 4500 4500 4500 450</td><td>MDPS</td><td>S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20</td><td>POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2</td><td></td>	BUS AIC CONNECT HVAC 10080 10080 10080 10080 0 0 0 0 0 0 0 0	TOTAL RATING: RATING: ED LOAD (KITCHEN KITCHEN	VA: 4 4 2 VA) RECPT	40075 PANE DO AMP 22,000 DESCRIPTION RTU-9 WELDER WELDER WELDER WELDER WELDER AIR COMP EF-19 DIVERSIFIED LOAD 0 83430	PH A B C A B C A B C A B C A B C C A B C C A B C C A B C C A B C C A B C C A C A	ENCL. TYPE: MOUNTING: DESCRIPTION WELDER STATION WELDER STATION WELDER STATION WELDER STATION WELDER STATION TUBING BENDER SPARE SPARE SPARE	SUF CON RECPT	RFACE NECTED LOA KITCHEN	FEI	MOTORS 4500 4500 4500 4500 4500 4500 4500 450	MDPS	S CRI AMPS 50* 50* 50* 50* 20* 40* 30* 20	POLE 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	

			(OCCUPAN	ICY/VACA	NCY SEN	ISOR SCI	HEDULE					
TYPE	MANUFACTURER	CATALOG NUMBER	LOCATION	MOUN	NTING	VOL	ΓAGE		TYPE		POWER	NOTES	DESCRIPTION
TIPE	MANUFACIURER	CATALOG NUMBER	LUCATION	CEILING	WALL	LINE	LOW	OCCUPANCY	VACANCY	OTHER	SUPPLY	NOTES	DESCRIPTION
OS1	NLIGHT	NCM-PDT-10-AR-RJB	STORAGE/ RESTROOMS	х			х	x			120V	1,2	DUAL TECH OCCUPANCY SENSOR
OS2	NLIGHT	CM 10 R	CORRIDORS	Х			Х	x			120V	1,2	EXTENDED RANGE
OS3	NLIGHT	CM PDT 9 R	SMALL RM	x			x	x			120V	1,2	EXTENDED RANGE
\$°	SENSOR SWITCH	WSXA-PDT	CLASROOM/ RESTROOMS		х	Х		x			120V	1,2	DUAL TECH OCCUPANCY SENSOR
\$ ^{TS}	NLIGHT	NPOD TOUCH	FLEX RMS/COMMONS		х		x			Х	120V	1,2	TOUCHSCREEN
\$ ^{LV1}	NLIGHT	NPODMA DX	CLASSROOMS		х		х			Х	120V	1,2	WALLPOD DIMMER
\$\$ ^{LV(D)}	NLIGHT	NPODMA 2P DX	CLASSROOMS		х		х			Х	120V	1,2	WALLPOD
\$LVC	NLIGHT	NPODMA CUSTOM	SEE DETAIL E600		х		x			Х	120V	1,2	WALLPOD
S	NLIGHT	NSYA IR PARTITION	FLEX ROOMS	х			x			Х	120V	1,2	PARTITION SENSOR
PR	NLIGHT	NPP16 D EFP	FLEX ROOMS		х		x			Х	120V	1,2	POWER PACK
R	NLIGHT	NIO 1S KO	FLEX ROOMS		х		x			Х	120V	1,2	CONTACT INTERFACE
RP1		ARP INTENC08 NLT	COMMONS		х	Х	x			Х	120V	1,2	DIMMING RELAY PNL
RP2	NLIGHT	ARP INTENC16 NLT	COMMONS		х	х	x			х	120V	1,2	DIMMING RELAY PNL
D	NLIGHT	NSP5 PCD	COMMONS	х		х	х			Х	120V	1,2	DIMMING RELAY PNL
PC	NLIGHT	ARPA PC	EXTERIOR		х		x			Х	120V	1,2	PHOTOCELL
NOTES		GE SENSOR OR DIMMER P										"	

2. ALL SENSORS ARE SHOWN FOR CONTROL PURPOSE ONLY; ADDITIONAL DEVICE/POWER PACK MAY BE REQUIRED FOR A COMPLETE SYSTEM. VERIFY REQUIRED DEVICES WITH SYSTEM PROVIDER AND INSTALL COMPLETE SYSTEM. PROVIDE ALL ACCESSORIES FOR DIMMING OF ALL FIXTURES CONNECTED TO CONTROL SYSTEM.

CO
Arch OP
1108 S. Main St. 102 Aberdeen, SD 57401 Phone: 605-725-4852
601 Kansas City St. 7 Rapid City, SD 57701 Phone: 605-716-3652 440 E. 8th St 221 Sioux Falls, SD 57103
Phone: 605-334-9999 co-oparch.com
SICHMELLER ENGINEERING Mechanical & Electrical Engineering
801 Railroad Ave. SE Aberdeen, SD 57401 Phone: 605-225-4344 www.siceng.biz
SE PROJECT NO: 220900771
PROFESS / 0/1/4/ PROFESS / 0/1/4/ PROFESS / 0/1/4/ IS940 JOSH SCHROEDER OTH DAKO
ISSUE: 1/30/23 CONSTRUCTION DOCUMENTS REVISION SCHEDULE: REV. # REV. DSC. 1 Addendum ME 1 02-16-23
PROJECT: WILLOW LAKE SCHOOL ADDITION WILLOW LAKESCHOOL DISTRICT WILLOW LAKE, SOUTH DAKOTA
SHEET TITLE: ELECTRICAL SCHEDULES
E700

								PANE	EL	' A '								
VOLT	AGE:	20	8/120, 31	P, 4W	BUS	RATING:	2	25 AMP	_	ENCL. TYPE:	NE	MA 1	LO	CATION:	WRK	RM		
т	YPE:_		МСВ	200A	AIC	RATING:	2	22,000	_	MOUNTING:	SUF	RFACE	FE	D FROM:	EXST I	PNL 'I	OP '	_
CR	KT BR	KR			CONNECT	ED LOAD (VA)				CON	NECTED LOA	D (VA)			CR	KT BR	KR
#	AMPS I	POLE	LIGHTING	MOTORS	HVAC	KITCHEN	RECPT	DESCRIPTION	PH	DESCRIPTION	RECPT	KITCHEN	HVAC	MOTORS	LIGHTING	AMPS	POLE	#
1	20	1					750	HUB ROOM	Α	KINDER	750					20	1	2
3	20	1					750	THIRD GRD	В	FIRST GRD	750					20	1	4
5	20	1					750	SECOND GRD	С	FOURTH GRD	750					20	1	6
7	20	1					750	FOURTH GRD	Α	FOURTH GRD	750					20	1	8
9	20	1					750	FOURTH GRD	В	ADMIN RM	750					20	1	10
11	20	1					750	FIFTH GRD	C	HOME ECO	750					20	1	12
13	20	1					750	SIXTH GRD	A	WATER						20*	1	14
15	20*	1					750	EXIST BC	В	FC-A101				1200		20	1	16
17	20*	1					750	EXIST BC	С	FC-A103				1200		20	1	18
19	20	1		1200				EF-17	Α	EXIST BC	750			1200		20*	1	20
21	20	1		1200				EF-18	В	EXIST BC	750					20	1	22
23	20	1	1200					1ST GRD LTS	С	1ST GRD LTS					1200	20	1	24
25	20	1	1200					2ND GRD LTS	A	2ND GRD LTS					1200	20	1	26
27	20	1	1200					5TH GRD LTS	В	5TH GRD LTS					1200	20	1	28
29	20	1	1200					RR/ENTRY LTS	С	HALLWAY LTS					1800	20	1	30
31	20	1						B&G RR, TEACH	A	KINDER UH	400			1200		20	1	32
33	20	1		1200			400	KINDER UH	В	5TH GRD UH	400			1200		20	1	34
35	20	1		1200			400	5TH UH	С	OFFICE RECP	1200					20	1	36
37	20	1		1200			400	4TH UH	Α	6TH GRD UH	400			1200		20	1	38
39	20	1					600	PRINC RECP	В	6TH GRD LTS					1200	20	1	40
41	20*	1					1200	TEACH L RECP	С	LTS					1200	20	1	42
43	20	1	1200					6TH GRD LTS	Α	3RD GRD LTS					1200	20	1	44
45	20	1	1200					KINDER LTS	В	4TH GRD LTS					1200	20	1	46
47	20	1	1200					3RD GRD LTS	С	SPCL ED LTS					1200	20	1	48
49	20	1	1200					4TH GRD LTS	Α	N. ENTRY LTS					1200	20	1	50
51	20	1	1200					OFFICE LTS	В	2ND GRD UH	400			1200		20	1	52
53	20	1		1200			400	3RD GRD UH	С	SPCL, ENTRY UH	400			1200		20	1	54
55	20	1		1200				SMALL GROUP	В	HALL RECP						20	1	56
57	20	1		1200			400	SUPER UH	С	INTERCOM RECP	200					20	1	58
59	20	1		1200				WATERCLR	Α	TEACH L RECP	1200					20	1	60
61	20	1					1200	TEACH E RECP	В									62
63	20	1					400	WRK RM	C	EF-20						20	3	64
65	20	1					400	WRK RM	A									66
67	20*	1					400	WRK RM	B	EXIST BC						50	2	68
69	20*	1						EXIST BC	C									70
				LOAD	CALCULAT	IONS		1										
	TYPE		V	A / PHAS	E	CONN.	DEMAND	DIVERSIFIED		NOTES:								
			А	В	С	LOAD		LOAD		1. PROVIDE F	EED THRU	J LUGS						
L	IGHTIN	IG	2400	3600	6600	12600	1.00	12600		2. UTILIZE E	XISTING	CIRCUIT B	REAKER F	OR CONNE	ECTION TO	PNL	' DP '	
I	NOTORS	5	6000	4800	2400	13200	0.90	11880	1	3. BREAKERS	NOTED W	ITH * TO BI	E GFCI					
	HVAC		0	0	0	0	0.75	0	1)FNTTETCA	ττον ()F	
KITO	HEN EQ		0	0	0	0	0.65	0	4. PROVIDE 1/2 HOUR OF CIRCUIT TRACING FOR IDENTIFICATION OF EXIST BRANCH CIRCUITS NOTED.									
REC	EPTACL		5700	5900	6550	18150	0.60	10890	-									
	-	TOTAL	AMPS:	TBD I	BY EC	TOTAL	VA:	TBD BY EC										

								PANE	Ľ	'MP'								
VOL	VOLTAGE:		208/120, 3P, 4W		BUS RATING:		225 AMP			ENCL. TYPE:	NEMA 1		LOCATION:		MUSI	С	-	
	TYPE:		MCB 200A		AIC	RATING:	22,000			MOUNTING:	RECI	ESSED	FED FROM:		EXST F	PNL 'I	DP '	_
C	CRKT BRKR				CONNECT	TED LOAD (VA)				CONNECTED LOAD		D (VA)	D (VA)		CR	CRKT BRKR	
#	AMPS	POLE	LIGHTING	MOTORS	HVAC	KITCHEN	RECPT	DESCRIPTION	PH	DESCRIPTION	RECPT	KITCHEN	HVAC	MOTORS	LIGHTING	AMPS	POLE	#
1	15	1						SPARE	Α	CLASSROOM	600					20	1	2
3	15	1						SPARE	В	CLASSROOM	600					20	1	4
5	15	1						EXIST	С	CLASSROOM	600					20	1	6
7	15	1						EXIST	Α	CLASSROOM	600					20	1	8
9	20	1						EXIST	В	CLASSROOM	600					20	1	10
11	20	1						EXIST	С	CLASSROOM	600					20	1	12
13	20	1						EXIST	Α	CLASSROOM	600					20	1	14
15	20*	1						EXIST	В	PRACTICE	800					20	1	16
17	20*	1						EXIST	С	MUSIC	1000					20	1	18
19	20*	1						EXIST	Α	MUSIC	1000					20	1	20
21	20	1						EXIST	В	MUSIC	1000					20	1	22
23	20	1						EXIST	С	ROOF	200					20	1	24
25	20	1						EXIST	Α	MUSIC OFF	400					20	1	26
27	20	1						EXIST	В	1 ON 1	400					20	1	28
29	20	1						EXIST	С	FLEX ART/SPAN	1000					20	1	30
31	20	1						EXIST	Α	FLEX ART/SPAN	1000		3000			20	1	32
33	20	1						EXIST	В	FLEX ART/SPAN	1000		3000			20	1	34
35	20	1						EXIST	С	SPARE						20	1	36
37	20+	1						SMOKE DMPR	А	FLEX RM	1200					20	1	38
39	20+	1						SMOKE DMPR	В	FLEX RM	1200					20	1	40
41	20+	1						SMOKE DMPR	С	FLEX RM	1200					20	1	42
				LOAD	CALCULAT	TIONS												
	TYPE		V	A / PHAS	E	CONN.	DEMAND	DIVERSIFIED		NOTES:								
	1156		A	В	С	LOAD		LOAD		1. PROVIDE C	ONNECTIC	N TO PNL	'DP' VIA	EXIST 2	200/3 CIR	CUIT I	BREAKE	ER.
	IGHTI	NG	0	0	0	0	1.00	0		2. PROVIDE N	EW CIRCL	IT BREAKE	R IN PNL	. 'DP' FC	R CONNEC	TION		
	MOTOR	S	0	0	0	0	0.90	0		3. BREAKERS	NOTED WI	TH * SHAL	L BE GFC	I				
	HVAC		3000	3000	0	6000	0.75	4500		4. PROVIDE 1	,		T TRACIN	IG FOR ID	ENTIFICA	TION	ΟF	
KIT	CHEN E	QUIP.	0	0	0	0	0.65	0		EXIST BRANCH	CIRCUITS	NOTED.						
RE	CEPTAC	CLES	5400	5600	3400	14400	0.60	8640		5. BREAKERS	NOTED WI	TH + SHAL	L BE BRE	AKER LOC	KED ON.			
		TOTAL	AMPS:	TBD I	BY EC	TOTAL	VA:	TBD BY EC										

								PANE		141								
VOLI	TAGE:	20	08/120, 3F	P, 4W	BUS	RATING:	2:	25 AMP	-	ENCL. TYPE:	NEM	IA 1	LOC	CATION:	BOILER	RM		
1	TYPE:		МСВ		AIC RATING:		22,000		-	MOUNTING:	SUR	FACE	FED FROM:		MDPS	3		
CI	CRKT BRKR				CONNECTED LOAD (VA)				CONNECTED LO		 AD (VA)			CRKT BR		٢R
#	AMPS	POLE	LIGHTING	MOTORS	HVAC	KITCHEN	RECPT	DESCRIPTION	PH	DESCRIPTION	RECPT	KITCHEN	HVAC	MOTORS	LIGHTING	AMPS	POLE	#
1	20	1					400	BLR RM RECP	А	CUH-C100B			200			20	1	2
3	20	1			1200			BOILER B-1	В	WH - 1			250			20	1	4
5	20	1			1200			BOILER B-2	С	WH-2			250			20	1	6
7				2904					А	CP-5			250			20	1	8
9	50	3		2904				CP-3	В	CP-6			250			20	1	10
11				2904					С					792				12
13				2904					А	CP - 1				792		20	3	14
15	50	3		2904				CP-4	В					792				16
17				2904					С					792				18
19									Α	CP-2				792		20	3	20
21	35	3						SPARE	В					792				22
23									С									24
25									Α	SPARE						15	3	26
27	35	3						SPARE	В									28
29									С									30
31	20+	1						SMOKE DMPR	Α	SPARE						15	3	32
33	20+	1						SMOKE DMPR	В									34
35	20+	1						SMOKE DMPR	C									36
37	20+	1						SMOKE DMPR	A									38
39	20*	1						SPARE	В									40
41	20*	1						SPARE	С									42
				LOAD (CALCULAT	IONS												
	TYPE		V	A / PHAS	E	CONN.	DEMAND	DIVERSIFIED		NOTES:								
			Α	В	С	LOAD		LOAD		1. PROVIDE F	EED THRU	LUGS						
L	IGHTI	NG	0	0	0	0	1.00	0		2. PROVIDE S	UB FEED	BREAKER						
	MOTOR	S	7392	7392	7392	22176	0.90	19958		3. BREAKERS	NOTED WI	TH * SHAL	L BE GFC	I				
	HVAC		450	1700	1450	3600	0.75	2700		4. BREAKERS	NOTED WI	TH + SHAL	L BE BRE	AKER LO	CKED ON.			
КІТС	HEN E	QUIP.	0	0	0	0	0.65	0										
RE	CEPTAC	LES	400	0	0	400	0.60	240										

22898

		1	LUMINAIRE	SCHEDULE					
TYPE	MANUFACTURERS	CATALOG SERIES	FIXTURE DESCRIPTION	MOUNTING	VOLTAGE		ED DATA		
A1	LITHONIA	STAK	2X4 RECESSED LED TROFFER, WHITE FINISH, ACRYLIC LENS.	RECESSED	MVOLT	LUMENS 3000	CCT 4000K	CRI 90	DI
A2	LITHONIA	STAK	2X4 RECESSED LED TROFFER, WHITE FINISH, ACRYLIC LENS.	RECESSED	MVOLT	4000	4000K	90	
A3	LITHONIA	STAK	2X4 RECESSED LED TROFFER, WHITE FINISH, ACRYLIC LENS, DRYWALL GRID ADAPTER.	RECESSED	MVOLT	3000	4000K	90	
A4	LITHONIA	STAK	2X4 RECESSED LED TROFFER, WHITE FINISH, ACRYLIC LENS, DRYWALL GRID ADAPTER.	RECESSED	MVOLT	4000	4000K	90	
A5	LITHONIA	STAK	2X2 RECESSED LED TROFFER, WHITE FINISH.	RECESSED	MVOLT	3000	4000K	90	
A6	LITHONIA	2GTL	2X4 RECESSED LED TROFFER, WHITE FINISH, .125 ACRYLIC LENS, GASKETED ALUMINUM DOOR.	RECESSED	MVOLT	4000	4000K	90	
C1	SSL	MINI COVE	48" LOW PROFILE LINEAR COVE FIXTURE, 60 DEGREE BEAM,	SURFACE	MVOLT	2250	4000K	80	
D1	GOTHAM	EVO	6 INCH ROUND LED RECESSED FIXTURE, FLUSH SMOOTH LENS WITH ANTI-MICROBIAL FINISH.	RECESSED	MVOLT	1000	4000K	80	
D2	LITHONIA	LDN6	6 INCH ROUND LED RECESSED FIXTURE, SWITCHABLE LUMENS 1000/1500/2000, CLEAR SEMI SPECULAR LENS, BLACK TRIM	RECESSED	MVOLT	1000	4000K	90	
E1	LITHONIA	LQM	LED EXIT LIGHT, RED LETTERS, BATTERY BACK-UP 90 MINUTES, SELF DIAGNOSTICS, WHITE FINISH THERMOPLASTIC HOUSING	UNIVERSAL	MVOLT	RED			
E2	LITHONIA	LQM	LED EXIT LIGHT, DUAL FACE, RED LETTERS, BATTERY BACK-UP 90 MINUTES, WHITE FINISH THERMOPLASTIC HOUSING, SELF DAIGNOSTICS.	UNIVERSAL	MVOLT	RED			
ЕМ	LITHONIA	ELM2L	LED EMERGENCY BATTERY PACK, WHITE FINISH, 90 MINUTE BATTERY LIFE, SELF DIAGNOASTICS.	WALL	MVOLT	220			
EMC	LITHONIA	ELM2L	LED EMERGENCY BATTERY PACK, WHITE FINISH, 90 MINUTE BATTERY LIFE, SELF DIAG., WITH ADDITIOANAL REMOTE CAPACITY FOR REMOTE HEAD.	WALL	MVOLT	220			
EMR	LITHONIA	ELMRW	REMOTE EMERGENCY LED, TWIN HEAD, DARK BRONZE FINISH,	WALL	MVOLT	220			
EM1	LITHONIA	ELM4L	LED EMERGENCY BATTERY PACK, BLACK FINISH, 90 MINUTE BATTERY LIFE, SELF DIAGNOASTICS.	WALL	MVOLT	640			
F1	LITHONIA	CSS	LED STRIP LIGHT, WHITE FINISH, ACRYLIC LENS.	AIRCRAFT CABLE	MVOLT	4200	4000K	80	
L1	PRUDENTIAL	BIONICPR02	2 INCH LINEAR LED WALLWASH, CONTINUOUS DESIGN, FLAT WALLWASH, PREMIUM COLOR SELECTED BY ARCHITECT, HARD CEILING FLANGE W/OPTIONAL OMB BRACKETS FOR INSTALLATION.	RECESSED	MVOLT	875/FT	4000K	80	
L2	PRUDENTIAL	BIONICPRO2	4 INCH LINEAR LED, CONTINUOUS DESIGN, FLAT WALLWASH, PREMIUM COLOR SELECTED BY ARCHITECT, HARD CEILING FLANGE.	AIRCRAFT CABLE	MVOLT	875/FT	4000K	80	
L3	WAC LIGHTING	INVISILED PRO24	LED TAPE LIGHT WITH SURFACE MOUNTED ALUMINUM CHANNEL MOUNT WITH LENS COVER,	SURFACE	MVOLT	200/FT	4500K	80	
S1	LITHONIA	СРНВ	LED COMPACT PRO HIGHBAY LIGHT, WHITE FINISH, ACRYLIC LENS.	AIRCRAFT CABLE	MVOLT	12000	4000K	80	
P1	BARBICAN ARCHITECTURAL	AVENUE	CONTINUOUS FULL LUMINUOS LED FIXTURE, 3W X 4W, CONTIUNOUS LENGTH(SEE PLANS)	PENDANT	MVOLT	760/FT	4000K	90	
P2	BARBICAN ARCHITECTURAL	AVENUE	CONTINUOUS FULL LUMINUOS LED FIXTURE, 6W X 4W, CONTIUNOUS LENGTH(SEE PLANS)	PENDANT	MVOLT	760/FT	4000K	90	
P3	BARBICAN ARCHITECTURAL	AVENUE	CONTINUOUS FULL LUMINUOS LED FIXTURE, 3W X 4W, CONTIUNOUS LENGTH(SEE PLANS)	PENDANT	MVOLT	760/FT	4000K	90	
Ρ4	BARBICAN ARCHITECTURAL	AVENUE	CONTINUOUS FULL LUMINUOS LED FIXTURE, 6W X 4W, CONTIUNOUS LENGTH(SEE PLANS)	PENDANT	MVOLT	760/FT	4000K	90	
P5	BARBICAN ARCHITECTURAL	AVENUE	CONTINUOUS FULL LUMINUOS LED FIXTURE, 3W X 4W, CONTIUNOUS LENGTH(SEE PLANS)	PENDANT	MVOLT	760/FT	4000K	90	
P6	BARBICAN ARCHITECTURAL	AVENUE	CONTINUOUS FULL LUMINUOS LED FIXTURE, 3W X 4W, CONTIUNOUS LENGTH(SEE PLANS)	PENDANT	MVOLT	760/FT	4000K	90	
P7	SSL	SSC4D - 13	4 INCH ROUND PENDANT, WIDE FLOOD, ARCHITECT TO SELECT STANDARD FINISH, DROP DIFFUSER FROSTED	AIRCRAFT CABLE	MVOLT	1500	4000K	90	
T1	WAC LIGHTING	J2 TRACK	8 FOOT, 2 CIRCUIT ALUMINUM TRACK. WHITE FINISH, PENDANT MOUNT.	PENDANT	120	220			
T2	WAC LIGHTING	SILO X42	ADJUSTABLE LED TRACK HEAD 15-50 DEGREES, WHITE FINISH,	UNIVERSAL	120	640	4000K	90	
W1	LITHONIA	WSQ	QUARTER SPHERE EXTERIOR LED WALL PACK, TYPE IV DISTRIBUTION, DARK BRONZE FINISH,	WALL	MVOLT	6400	4000K	90	
	I Contraction of the second seco		QUARTER SPHERE EXTERIOR LED WALL PACK, TYPE II DISTRIBUTION,					80	

<u>NOTES:</u>

TOTAL AMPS:

64

TOTAL VA:

1. PROVIDE FIXTURE AS SPECIFIED, ALL OTHER FIXTURES SHALL BE APPROVED AS EQUAL

2. PROVIDE FIXTURE EQUAL TO SPECIFICATION. VARIATONS FROM SPECIFICATON SHALL BE APPROVED.

3.PROVIDE #14 AWG CONDUCTORS FOR ALL 0-10V DIMMING

4. PROVIDE COLOR CHIP SAMPLE TO ARCHITECT/OWNER FOR FINAL FINISH TO BE DETERMINED.

5. PROVIDE CONNECTION FROM OUTDOOR UNIT TO II 6. PROVIDE COORDINATION WITH ARCHITECTURAL DRA 7. PROVIDE FIXTURE MOUNTING BASED ON ARCHITECTURAL DETAILS AND MODEL, SEE ARCHITECTURAL FOR DETAILS.

			СО
			Arch OP
			1108 S. Main St. 102 Aberdeen, SD 57401 Phone: 605-725-4852 601 Kansas City St. 7 Rapid City, SD 57701 Phone: 605-716-3652 440 E. 8th St 221 Sioux Falls, SD 57103 Phone: 605-334-9999 co-oparch.com
			SICHMELLER ENGINEERING Mechanical & Electrical Engineeri 801 Railroad Ave. SE Aberdeen, SD 57401 Phone: 605-225-4344 www.siceng.biz
DRIVER	DATA	NOTES	
MMING/CNTRL STANDARD	INPUT WATTS	2,3	1
STANDARD	32	2,3	1
STANDARD	25	2,3	
STANDARD	32	2,3	
STANDARD	25	2,3	
STANDARD	32	2	
0-10V STANDARD	20	2,3	SE PROJECT NO: 2209007
0-10V	25	2,3	PROFESS / ON A PROFES
LINE	2	2	REG NO
LINE	2	2	
LINE	2	2	JOSH SCHROEDER SCHROEDER
			TH DAKO
LINE	2	2	-30-202 Run
LINE	2	2,5	
LINE	3	2	
			ISSUE:
0-10V	156	2,3,7	1/30/23 CONSTRUCTION DOCUMEN
0-10V	156	2,3,7	REVISION SCHEDULE:
0-10V	3/FT	2,3,7	REV. # REV. DSC. REV. DA 1 Addendum ME 1 02-16-2
0-10V	133	2,3	1
	8W/FT	1,3,6,7	1
0-10V	8W/FT	1,3,6,7	1
0 - 10V 0 - 10V			
	8W/FT	1,3,6,7	PROJECT:
0-10V	8W/FT 8W/FT	1,3,6,7	WILLOW LAKE SCHOOL ADDI
0-10V 0-10V			II
0-10V 0-10V 0-10V	8W/FT	1,3,6,7	WILLOW LAKESCHOOL DISTR
0-10V 0-10V 0-10V 0-10V	8W/FT 8W/FT	1,3,6,7	WILLOW LAKESCHOOL DISTR WILLOW LAKE, SOUTH DAKO
0-10V 0-10V 0-10V 0-10V 0-10V	8W/FT 8W/FT 8W/FT	1,3,6,7 1,3,6,7 1,3,6,7	
0-10V 0-10V 0-10V 0-10V 0-10V 0-10V	8W/FT 8W/FT 8W/FT 10	1,3,6,7 1,3,6,7 1,3,6,7 1,3,6,7	WILLOW LAKE, SOUTH DAKO
0-10V 0-10V 0-10V 0-10V 0-10V 0-10V LINE	8W/FT 8W/FT 8W/FT 10 13	1,3,6,7 1,3,6,7 1,3,6,7 1,3,6,7 2	



16/ FEB / 2023

ADDENDUM NO. 2 Feb 16, 2023

Project: Willow Lake School Addition

Section 114000 Food Service Equipment

The following modifications shall become a part of the Contract Documents. Bidders are to acknowledge this addendum on the bid form.

APPROVED SUBSTITUTIONS:

SECTION 3.05 ITEMIZED EQUIPMENT

ITEM 28.1 - Dispoer Salvajor Model 200-SA-3-ARSSLD 208 volts 3 phase

ITEM 45 – Disposer Salvajor Model 200-CA-18-ARSSLD 208 volts 3 phase

REVISIONS TO SPECIFICATIONS:

SECTION 3.05 ITEMIZED EQUIPMENT ITEM 54 – Mop Sink Replace with Model 9-OP-48 Splash shield – replace with model K-290R, 16" splash on right & back. Furnished with service faucet, model K-240

END OF ADDENDUM