312 Plum Street, Suite 700
Cincinnati, OH 45202
(513) 381-2112

June 3, 2022

ADDENDUM 2

TO THE DRAWINGS, SPECIFICATIONS AND CONTRACT DOCUMENTS FOR:

EARLY CHILDHOOD ESSER

FOR

Winton Woods City Schools
825 Waycross Road, Suite A,
Cincinnati, OH 45240

Comm. No. 2021091.01

TO ALL BIDDERS:

This Addendum supplements, amends and takes precedence over the original Drawings and Specifications, and shall be taken into account when preparing proposals, and shall become part of the Contract Documents. Receipt of this Addendum must be entered on the bidder's Bid Form. Bidder is cautioned to read the entire addendum and to check that all pages of the Addendum have been included in the Bidder's copy of the Addendum.

GENERAL ITEMS

ITEM 1 – Prevailing Wage Determination

The prevailing wage determination is included with this addendum as an attachment.

QUESTIONS & ANSWERS

1. **QUESTION 1** *Note EE7/A201.E, calls to inspect the existing lintel and replace if deteriorated. For the base bid, should we figure the lintel is to remain?*

   A. For existing window lintels, assume lintels do not need to be replaced for base bid.

2. **QUESTION 2** *Sheet A202.E has keynotes A1 and A2, but there's no legend with a description for A1 and A2.*

   B. Sheet A202.E is reissued with legend updated.

3. **QUESTION 3** *Can the asbestos pipe fittings be wrapped and cut out?*

   A. If you don't need the pipe, wrap and cut is perfectly fine.

SPECIFICATION ITEM

ITEM 1 – Specification Section 23 73 13.6– Indoor, Semi-Custom Air-Handling Units:

Removed paragraph 2.1.I.1, "Pay for all expenses, for one representative designated by Owner, to travel to the factory to witness cabinet air-leakage testing on the specific assembled unit(s) prior to release for delivery to Project site".

DRAWING ITEMS

ITEM 1 – Drawing Sheet G00.E:

Revision. Shows list of sheets revised in Addendum 3.

ITEM 2 – Drawing Sheet D101.E:

Revision. Location of windows along West wall changed. Quantity and size of windows remains the same. Added keynote, where applicable, for demolition of sinks and other plumbing items to be demolished.

ITEM 3 – Drawing Sheet D101.E:

Revision. Added keynote, where applicable, for demolition of sinks and other plumbing items to be demolished.

ITEM 4 – Drawing Sheet A010.E:

Revision. Nanawall schedule added.

ITEM 5 – Drawing Sheet A031.E:

Revision. Includes head, jamb, and sill details for Nanawall Alternates #2,3,&4. Nanawall to be floor supported and surface mounted.

ITEM 6 – Drawing Sheet A101.E:

Revision. Location of windows and storefront changed. Quantity and size of windows remains the same.

ITEM 7 – Drawing Sheet A202.E:

Revision. Shows keynote legend.

ITEM 8 – Drawing Sheet M000:

A. Revision. New sheets M701, M702 & M703 added to mechanical sheet list.

ITEM 9 – Drawing Sheet M001:

A. Clarification. Updated boiler schedule.

ITEM 10 – Drawing Sheet M100:

A. Revision. Added balancing dampers to FCU return ducts.

ITEM 11 – Drawing Sheet M101:

A. Revision. Added balancing dampers to FCU return ducts.

ITEM 12 – Drawing Sheet M102:

A. Revision. Added balancing dampers to FCU return ducts.

ITEM 13 – Drawing Sheet M201:

A. Revision. Added thermostat/humidistat for 194 Gymnasium.

ITEM 14 – Drawing Sheet M202:

A. Revision. Added keynotes for alternates #3 and #4.

ITEM 15 – Drawing Sheet M701:

A. Revision. New sheet to show VRF piping diagrams.

ITEM 16 – Drawing Sheet M702:

B. Revision. New sheet to show VRF piping diagrams.

ITEM 17 – Drawing Sheet M703:

C. Revision. New sheet to show VRF piping diagrams.

End of Addendum 3 items – See attached.

"General Decision Number: OH20220082 05/06/2022

Superseded General Decision Number: OH20210082

State: Ohio

Construction Type: Building

County: Hamilton County in Ohio.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at https://www.dol.gov/agencies/whd/government-contracts.

Modification Number	Publication Date
0	01/07/2022
1	01/14/2022

2	02/18/2022
3	02/25/2022
4	03/11/2022
5	05/06/2022

* ASBE0008-010 03/01/2022

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR	$ 32.33	20.19

BROH0018-008 09/01/2021

	Rates	Fringes
BRICKLAYER	$ 30.87	15.87
TILE FINISHER	$ 24.20	14.01
TILE SETTER	$ 30.87	15.87

CARP0002-008 05/01/2017

	Rates	Fringes
CARPENTER (Accoustical Ceiling Installation Only)	$ 24.04	15.29

CARP0002-014 05/01/2017

	Rates	Fringes
CARPENTER (Including Drywall Hanging, Metal Stud Installation and Form Work; Excludes Acoustical Ceiling Installation)	$ 30.42	16.99

ELEC0212-010 11/29/2021

	Rates	Fringes
ELECTRICIAN (Excludes Low Voltage Wiring)	$ 37.04	20.64

ELEV0011-002 01/01/2022

	Rates	Fringes
ELEVATOR MECHANIC	$ 50.49	36.885+a+b

PAID HOLIDAYS:

a. New Year's Day, Memorial Day, Independence Day, Labor Day, Vetern's Day, Thanksgiving Day, the Friday after Thanksgiving, and Christmas Day.

b. Employer contributes 8% of regular hourly rate to vacation pay credit for employee who has worked in business more than 5 years; 6% for less than 5 years' service.

ENGI0018-036 05/01/2019

	Rates	Fringes

POWER EQUIPMENT OPERATOR
     Backhoe/Excavator/Trackhoe;
     Bulldozer; Crane.....$ 37.14 15.20

ENGI0018-037 05/01/2018

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Bobcat/Skid Steer/Skid Loader	$ 35.89	15.09

ENGI0066-045 06/01/2017

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Forklift	$ 28.87	19.66
Grader/Blade	$ 32.42	19.66
Mechanic	$ 32.92	19.66

IRON0044-003 06/01/2021

	Rates	Fringes
IRONWORKER, REINFORCING	$ 31.32	21.00

IRON0044-019 06/01/2021

	Rates	Fringes
IRONWORKER (Ornamental and Structural)	$ 31.32	21.00

LABO0265-017 05/01/2021

	Rates	Fringes
LABORER		
Common or General	$ 23.05	17.10

LABO0265-019 05/01/2021

	Rates	Fringes
LABORER		
Mason Tender - Brick	$ 23.05	17.10

PAIN0123-001 05/01/2019

	Rates	Fringes
PAINTER (Brush and Roller)	$ 25.30	10.20

PAIN0387-002 06/01/2020

	Rates	Fringes
GLAZIER	$ 27.03	15.67

PLAS0132-018 06/01/2021

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 28.00	14.40

PLAS0132-019 06/01/2021

	Rates	Fringes
PLASTERER	$ 28.00	14.40

PLUM0392-005 06/01/2021

	Rates	Fringes
PIPEFITTER (Includes HVAC Pipe Installation)	$ 35.21	22.99
PLUMBER (Excludes HVAC Pipe Installation)	$ 35.21	22.99

ROOF0042-007 08/01/2020

	Rates	Fringes
ROOFER	$ 28.45	17.05

SFOH0669-009 04/01/2021

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers)	$ 39.25	25.81

SHEE0024-029 06/01/2021

	Rates	Fringes
SHEET METAL WORKER (Including HVAC Duct Installation Only)	$ 31.51	22.58

---

* UAVG-OH-0021 01/01/2019

	Rates	Fringes
OPERATOR: Oiler	$ 27.56	16.37

SUOH2012-084 08/29/2014

	Rates	Fringes
ELECTRICIAN (Low Voltage Wiring Only)	$ 22.28	8.63
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 26.19	8.99
LABORER: Landscape & Irrigation	$ 23.60	0.87
LABORER: Mason Tender - Cement/Concrete	$ 23.87	9.80
LABORER: Pipelayer	$ 23.18	8.95
OPERATOR: Loader	$ 29.66	12.61
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 30.28	13.29

OPERATOR: Roller.....$ 29.85 12.00

PAINTER: Spray.....$ 22.78 12.40

TRUCK DRIVER: Dump (All Types)...$ 24.32 11.73

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal

process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

==========

END OF GENERAL DECISIO"

SECTION 237313.16 - INDOOR, SEMI-CUSTOM AIR-HANDLING UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes insulated, double-wall-casing, indoor, semi-custom air-handling units that are factory assembled using multiple section components, including the following:

1. Casings.
2. Fans, drives, and motors.
3. Coils.
4. Air filtration.

1.3 ACTION SUBMITTALS

A. Product Data: For each air-handling unit.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
3. Include unit dimensions and weight.
4. Include cabinet material, metal thickness, finishes, insulation, and accessories.
5. Fans:

    a. Include certified fan-performance curves with system operating conditions indicated.
    b. Include certified fan-sound power ratings.
    c. Include fan construction and accessories.
    d. Include motor ratings, electrical characteristics, and motor accessories.

6. Include certified coil-performance ratings with system operating conditions indicated.
7. Include filters with performance characteristics.
8. Include dampers, including housings, linkages, and operators.

B. Shop Drawings: For each type and configuration of indoor, semi-custom air handling unit.

1. Include plans, elevations, sections, and mountingdetails.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Detail fabrication and assembly of indoor, semi-custom air-handling units, as well as procedures and diagrams.
4. Include diagrams for power, signal, and control wiring.

C. Delegated Design Submittal: For vibration isolation and supports indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1. Design Calculations: Calculate requirements for selecting vibration isolators and supports and for designing vibration isolation bases.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Floor plans and other details, or BIM model, drawn to scale, showing the items described in this Section, and coordinated with all building trades.

B. Source quality-control reports.

C. Startup service reports.

D. Field quality-control reports.

E. Sample Warranty: For manufacturer's warranty.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For air-handling units to include in emergency, operation, and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Filters: One set(s) for each air-handling unit.
2. Gaskets: One set(s) for each access door.
3. Fan Belts: Oneset(s) for each air-handling unit fan that uses a belt.

1.7 WARRANTY

A. Warranty: Manufacturer agrees to repair or replace components of indoor, semi-custom air-handling units that fail in materials or workmanship within specified warranty period.

1. Warranty Period: One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. NFPA Compliance: Comply with NFPA 90A for design, fabrication, and installation of air-handling units and components.

C. ASHRAE 62.1 Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."

D. ASHRAE/IES 90.1 Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6 - "Heating, Ventilating, and Air-Conditioning."

E. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design vibration isolation, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

F. Structural Performance: Casing panels shall be self-supporting and capable of withstanding positive/negative 8-inch wg (2000 Pa) of internal static pressure, without exceeding a midpoint deflection of 0.0042 inch/inch (0.0042 mm/mm) of panel span.

G. Casing Leakage Performance: ASHRAE 111, One percent or better at plus or minus 8 inch wg (2000 Pa).

2.2 CAPACITIES AND CHARACTERISTICS – See Schedules on Drawings

A. Supply Fan:

1. Type: Plenum Fan Array
2. Motor: ECM.

2.3 MANUFACTURERS

A. Available Manufacturers include:

1. Carrier Corporation– Basis of Design
2. Trane
3. Daikin

2.4 UNIT CASINGS

A. Frame: Modular and providing overall structural integrity without reliance on casing panels for structural support.

B. Base Rail:

1. Material: [Galvanized steel .
2. Height: 6 inches (150 mm).

C. Casing Joints: Hermetically sealed at each corner and around entire perimeter.

D. Double-Wall Construction:

1. Outside Casing Wall:

a. Material, Galvanized Steel: Minimum 14 gauge (2.0 mm)thick.
b. Factory Finish: Provide manufacturer's standard finish.

2. Inside Casing Wall:

a. Material, Galvanized Steel: minimum 18 gauge (1.3 mm) thick.
b. Antimicrobial Coating: Applied during the manufacturing process. EPA approved.

E. Floor Plate:

1. Material, Galvanized Steel: 14 gauge (2.0 mm)
2. Antimicrobial Coating: Applied during the manufacturing process. EPA approved.

F. Casing Insulation:

1. Materials: Injected polyurethane foam insulation.
2. Casing Panel R-Value: Minimum R-13.
3. Insulation Thickness: 2 inches (50 mm).
4. Thermal Break: Provide continuity of insulation with no through-casing metal in casing walls, floors, or roofs of air-handling unit.

G. Airstream Surfaces: Surfaces in contact with airstream shall comply with requirements in ASHRAE 62.1.

H. Static-Pressure Classifications:

1. For Unit Sections Upstream of Fans: Minus 4-inch wg (1000 Pa).
2. For Unit Sections Downstream and Including Fans: 4-inch wg (1000 Pa).

I. Panels, Doors, and Windows:

1. Panels:

a. Fabrication: Formed and reinforced, double-wall and insulated panels of same materials and thicknesses as casing.
b. Fasteners: Two or more camlock type for panel lift-out operation. Arrangement shall allow panels to be opened against airflow
c. Gasket: Neoprene, applied around entire perimeters of panel frames.
d. Size: Large enough to allow unobstructed access for inspection and maintenance of air-handling unit's internal components. At least 18 inches (450 mm)wide by full height of unit casing up to a maximum height of 60 inches (1500 mm).

2. Doors:

a. Fabrication: Formed and reinforced, double-wall and insulated panels of same materials and thicknesses as casing.
b. Hinges: A minimum of two ball-bearing hinges or stainless-steel piano hinge and two wedge-lever latches, operable from inside and outside. Arrange doors to be opened against airflow. Provide safety latch retainers on doors so that doors do not open uncontrollably.
c. Gasket: Neoprene, applied around entire perimeters of panel frames.
d. Size: Large enough to allow for unobstructed access for inspection and maintenance of air-handling unit's internal components. At least 18 inches (450 mm) wide by full height of unit casing up to a maximum height of 60 inches (1500 mm).

3. Locations and Applications:

    a. Fan Section: Doors.
    b. Coil Section: Panels.
    c. Access Section: Panels.
    d. Access Sections Immediately Upstream and Downstream of Coil Sections: Doors
    e. Damper Section: Doors.
    f. Filter Section: Doors large enough to allow periodic removal and installation of filters.

J. Condensate Drain Pans:

1. Construction:
    a. Double-wall, stainless-steel sheet with space between walls filled with foam insulation and moisture-tight seal.

2. Drain Connection:

    a. Located at lowest point of pan and sized to prevent overflow. Terminate with threaded nipple on one end of pan.
    b. Minimum Connection Size: NPS 1 (DN 25).

3. Slope: Minimum 0.125-in./ft. (10-mm/mm) slope, to comply with ASHRAE 62.1, in at least two planes to collect condensate from cooling coils (including coil piping connections, coil headers, and return bends) and from humidifiers and to direct water toward drain connection.
4. Length: Extend drain pan downstream from leaving face for distance to comply with ASHRAE 62.1.
5. Width: Entire width of water producing device.
6. Depth: A minimum of 2 inches (50 mm) deep.
7. Units with stacked coils shall have an intermediate drain pan to collect condensate from top coil.

2.5 FAN, DRIVE, AND MOTOR SECTION

A. Fan and Drive Assemblies: Statically and dynamically balanced and designed for continuous operation at maximum-rated fan speed and motor horsepower.

B. Fans: Centrifugal, galvanized steel; mounted on solid-steel shaft.

1. Shafts: With field-adjustable alignment.

    a. Turned, ground, and polished hot-rolled steel with keyway.

2. Shaft Bearings:

    a. Prelubricated and Sealed, Ball Bearings: Self-aligning, pillow-block type with an L-50 rated life of 200,000 hours according to ABMA 9.

3. Housings: Formed- and reinforced-steel panels to form curved scroll housings with shaped cutoff and spun-metal inlet bell.

    a. Bracing: Steel angle or channel supports for mounting and supporting fan scroll, wheel, motor, and accessories.

4. Housings, Plenum Fans: Steel frame and panel; fabricated without fan scroll and volute housing. Provide inlet screens for Type SWSI fans.
5. Plenum Fan Arrays: Contained or Uncontained as defined in AHRI 430. Steel or aluminum frame with inlet cone and structural framing around each fan built into an array of multiple fans. Provide backdraft dampers at each fan to prevent short circuiting of flow if one fan is not operating.
6. Airfoil, Centrifugal Fan Wheels (Plenum Fan Wheels): Smooth-curved inlet flange, backplate, and hollow die-formed airfoil-shaped blades continuously welded at tip flange and backplate; steel hub riveted to backplate and fastened to shaft with setscrews.
7. Mounting: For internal vibration isolation. Factory-mount fans with manufacturer's standard vibration isolation mounting devices having a minimum static deflection of 1 inch (25 mm).
8. Shaft Lubrication Lines: Extended to a location outside the casing.

C. Drive, Direct: Factory-mounted, direct drive.

D. Motors:

1. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Section 230513 "Common Motor Requirements for HVAC Equipment."
   a. .

2.6 COIL SECTION

A. General Requirements for Coil Section:

1. Comply with AHRI 410.
2. Fabricate coil section to allow removal and replacement of coil for maintenance and to allow in-place access for service and maintenance of coil(s).
3. For multizone units, provide air deflectors and air baffles to balance airflow across coils.
4. Coils shall not act as structural component of unit.

B. Heating Coils:

1. Hot-Water Coils:.

   a. Piping Connections: same end of coil.
   b. Tube Material: Copper.
   c. Fin Type: Plate.
   d. Fin Material: Aluminum.
   e. Fin Spacing: Maximum 10 fins per inch (mm).
   f. Headers:

      1) Cast iron with cleaning plugs and drain and air vent tappings extended to exterior of unit.
      2) Seamless copper tube with brazed joints, prime coated.
      3) Fabricated steel, with brazed joints, prime coated.
      4) Provide insulated cover to conceal exposed outside casings of headers.
   g. Coil Working-Pressure Ratings: 300 psig (2070 kPa), 200 deg F (93 deg C).

C. Cooling Coils:

1. Refrigerant Coil:

a. Tubes: Copper.
b. Fins:

1) Material: Aluminum.

c. Fin and Tube Joints: Mechanical bond.
d. Headers: Seamless-copper headers with brazed connections .
e. Ratings: Designed, tested, and rated according to ASHRAE 33 and AHRI 410.

1) Working Pressure: Minimum 300 psig (2070 kPa).

2.7 AIR FILTRATION SECTION

A. Panel Filters:

1. Description: Pleated factory-fabricated, self-supported, disposable air filters with holding frames.
2. Filter Unit Class: UL 900.
3. Media: Interlaced glass, synthetic or cotton fibers coated with nonflammable adhesive.
4. Filter-Media Frame: Beverage board with perforated metal retainer, or metal grid, on outlet side.

B. Side-Access Filter Mounting Frames:

1. Particulate Air Filter Frames: Match inner casing and outer casing material, and insulation thickness. Galvanized steel track.
   a. Sealing: Incorporate positive-sealing device to ensure seal between gasketed material on channels to seal top and bottom of filter cartridge frames to prevent bypass of unfiltered air.

2.8 DAMPERS

A. Dampers: Comply with requirements in Section 250000 "Building Automation Systems."

2.9 MATERIALS

A. Steel:

1. ASTM A36/A36M for carbon structural steel.
2. ASTM A568/A568M for steel sheet.

B. Stainless Steel:

1. Manufacturer's standard grade for casing.
2. Manufacturer's standard type, ASTM A240/A240M for bare steel exposed to airstream or moisture.

C. Galvanized Steel: ASTM A653/A653M.

D. Aluminum: ASTM B 09 (ASTM B209M).

2.10 SOURCE QUALITY CONTROL

A. AHRI 430 Certification: Test, rate, and label air-handling units and their components in accordance with AHRI 430.

B. AHRI 1060 Certification: Test, rate, and label air-handling units that include air-to-air energy recovery devices in accordance with AHRI 1060.

C. AHRI 260 or AMCA 311 Sound Performance Rating Certification: Test, rate, and label in accordance with AHRI 260 or AMCA 311.

D. Fan Aerodynamic Performance Rating: Factory test and rate fan performance for airflow, pressure, power, air density, rotation speed, and efficiency in accordance with AMCA 210.

E. Fan Energy Index (FEI): Test in accordance with AMCA 210 and rate in accordance with AMCA 99, AMCA 207, and AMCA 208.

F. Fan Operating Limits: Classify fans in accordance with AMCA 99, Section 14.

G. Water Coils: Factory tested to 300 psig (2070 kPa) according to AHRI 410 and ASHRAE 33.

H. Refrigerant Coils: Factory tested to minimum 450-psig (3105-kPa) internal pressure and to minimum 300-psig (2070-kPa) internal pressure while underwater, according to AHRI 410 and ASHRAE 33.

I. Witnessed Casing Leakage Tests:

1. If the unit(s) does not meet specified leakage requirements, perform factory modifications and retest. Do not release unit for shipment until tested leakage is measured to be within specified leakage and leakage testing report has been accepted by Owner's designated representative.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine casing insulation materials and filter media before air-handling unit installation. Reject insulation materials and filter media that are wet, moisture damaged, or mold damaged.

C. Examine roughing-in for hydronic, and condensate drainage piping systems and electrical services to verify actual locations of connections before installation.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Equipment Mounting:

B. Suspended Units: Suspend units from structural-steel support frame using threaded steel rods and spring hangers. Comply with requirements for vibration isolation devices specified in Section 230548.13 "Vibration Controls for HVAC Piping and Equipment."

C. Arrange installation of units to provide access space around air-handling units for service and maintenance.

D. Do not operate fan system until filters (temporary or permanent) are in place. Replace temporary filters used during construction and testing, with new, clean filters.

E. Install filter-gauge, static-pressure taps upstream and downstream of filters. Mount filter gauges on outside of filter housing or filter plenum in accessible position. Provide filter gauges on filter banks, installed with separate static-pressure taps upstream and downstream of filters.

F. Connect duct to air-handling units with flexible connections. Comply with requirements in Section 233300 "Air Duct Accessories."

3.3 PIPING CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where installing piping adjacent to air-handling unit, allow for service and maintenance.

C. Connect piping to air-handling units mounted on vibration isolators with flexible connectors.

D. Connect condensate drain pans using ASTM B88, Type M (ASTM B88M, Type C) copper tubing. Extend to nearest equipment or floor drain. Construct deep trap at connection to drain pan and install cleanouts at changes in direction.

E. Hot-Water Piping: Comply with applicable requirements in Section 232113 "Hydronic Piping" Install shutoff valve and union or flange at each coil supply connection. Install balancing valve and union or flange at each coil return connection.

F. Refrigerant Piping: Comply with applicable requirements. Install shutoff valve and union or flange at each supply and return connection.

3.4 ELECTRICAL CONNECTIONS

A. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

B. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

C. Install electrical devices furnished by manufacturer, but not factory mounted, according to NFPA 70 and NECA 1.

D. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs, as specified in Section 260553 "Identification for Electrical Systems."

2. Nameplate shall be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least 1/2 inch (13 mm) high.

3.5 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

B. Connect control wiring according to Section 260523 "Control-Voltage Electrical Power Cables."

3.6 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. Verify that shipping, blocking, and bracing are removed.
3. Verify that unit is secure on mountings and supporting devices and that connections to piping, ducts, and electrical systems are complete. Verify that proper thermal-overload protection is installed in motors, controllers, and switches.
4. Verify proper motor rotation direction, free fan wheel rotation, and smooth bearing operations. Reconnect fan drive system, align belts, and install belt guards.
5. Verify that bearings, pulleys, belts, and other moving parts are lubricated with factory-recommended lubricants.
6. Verify that zone dampers fully open and close for each zone.
7. Verify that face-and-bypass dampers provide full face flow.
8. Verify that outdoor- and return-air mixing dampers open and close, and maintain minimum outdoor-air setting.
9. Comb coil fins for parallel orientation.
10. Verify that proper thermal-overload protection is installed for electric coils.
11. Install new, clean filters.
12. Verify that manual and automatic volume control and fire and smoke dampers in connected duct systems are in fully open position.

B. Starting procedures for air-handling units include the following:

1. Energize motor; verify proper operation of motor, drive system, and fan wheel. Adjust fan to indicated rpm.
2. Measure and record motor electrical values for voltage and amperage.
3. Manually operate dampers from fully closed to fully open position and record fan performance.

3.7 ADJUSTING

A. Adjust damper linkages for proper damper operation.

B. Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC" for air-handling system testing, adjusting, and balancing.

C. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

3.8 CLEANING

A. After completing system installation and testing, adjusting, and balancing air-handling unit and air-distribution systems and after completing startup service, clean air-handling units internally to remove foreign material and construction dirt and dust. Clean fan wheels, cabinets, dampers, coils, and filter housings, and install new, clean filters.

3.9 FIELD QUALITY CONTROL

A. Testing Agency: Contractor will engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

C. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Leak Test: After installation, fill water and steam coils with water, and test coils and connections for leaks.
2. Charge refrigerant coils with refrigerant and test for leaks.
3. Fan Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Air-handling unit or components will be considered defective if unit or components do not pass tests and inspections.

E. Prepare test and inspection reports.

3.10 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain air-handling units.

END OF SECTION 237313.16

MODEL

EARLY CHILDOOD RENOVATION

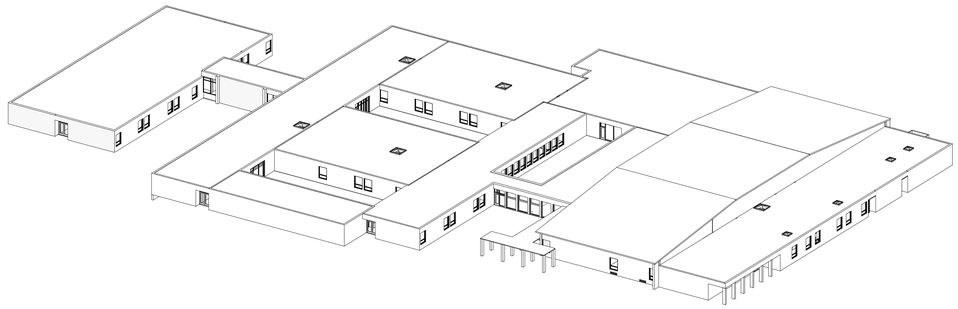
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

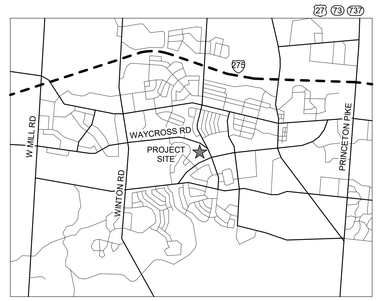
SHP

SHP - ARCHITECT
312 Plum Street, Suite 700, Cincinnati, OH 45202
PHONE: (513) 381-2112 FAX: (513) 381-5121

GOP LIMITED - STRUCTURAL ENGINEER
644 Linn Street, Suite 936, Cincinnati, OH 45203-1738
PHONE: (513) 621-7073 FAX: (513) 621-0434

SHP - PME ENGINEER
312 Plum Street, Suite 700, Cincinnati, OH 45202
PHONE: (513) 381-2112 FAX: (513) 381-5121





VICINITY MAP
NTS

SHEET INDEX

GENERAL - ESSER

G000.E	TITLE SHEET
G001.E	CODE DATA SHEETS

DEMO - ESSER

D101.E	FIRST FLOOR DEMO PLAN - AREA A
D102.E	FIRST FLOOR DEMO PLAN - AREA B
D103.E	FIRST FLOOR DEMO PLAN - AREA C
D201.E	DEMO EXTERIOR ELEVATIONS
D202.E	DEMO EXTERIOR ELEVATIONS
D401.E	FIRST FLOOR DEMO REFLECTED CEILING PLAN - AREA A
D402.E	FIRST FLOOR DEMO REFLECTED CEILING PLAN - AREA B
D403.E	FIRST FLOOR DEMO REFLECTED CEILING PLAN - AREA C

ARCHITECTURAL - ESSER

A010.E	OPENING TYPES AND STOREFRONT
A011.E	ACCESS CONTROL
A031.E	E-FRAME DETAILS, HEAD, JAMB, AND SILL DETAILS
A100.E	OVERALL FIRST FLOOR PLAN
A101.E	FIRST FLOOR PLAN - AREA A
A102.E	FIRST FLOOR PLAN - AREA B
A103.E	FIRST FLOOR PLAN - AREA C
A201.E	EXTERIOR ELEVATIONS
A202.E	EXTERIOR ELEVATIONS

MECHANICAL - ESSER

M000	MECHANICAL SCHEDULES AND LEGENDS
M001	MECHANICAL SCHEDULES
M002	MECHANICAL DETAILS
M003	MECHANICAL DETAILS
M004	VENTILATION SCHEDULES
M010	MECHANICAL DEMOLITION PLAN AREA A
M011	MECHANICAL DEMOLITION PLAN AREA B
M012	MECHANICAL DEMOLITION PLAN AREA C
M020	MECHANICAL ROOF DEMOLITION PLAN
M100	FIRST FLOOR DUCTWORK PLAN AREA A
M101	FIRST FLOOR DUCTWORK PLAN AREA B
M102	FIRST FLOOR DUCTWORK PLAN AREA C
M200	FIRST FLOOR PIPING PLAN AREA A
M201	FIRST FLOOR PIPING PLAN AREA B
M202	FIRST FLOOR PIPING PLAN AREA C
M300	MECHANICAL ROOF PLAN
M400	ENLARGED MECHANICAL PLANS
M500	MECHANICAL SECTIONS
M600	CONTROL SCHEMATICS - HVAC
M601	CONTROL SCHEMATICS - HVAC

MECHANICAL - ESSER

M701	VRF PIPING SCHEMATICS
M702	VRF PIPING SCHEMATICS
M703	VRF PIPING SCHEMATICS

ELECTRICAL - ESSER

E000	ELECTRICAL LEGENDS
E001	ELECTRICAL LEGENDS
E010	FIRST FLOOR DEMO PLAN AREA A
E011	FIRST FLOOR DEMO PLAN AREA B
E012	FIRST FLOOR DEMO PLAN AREA C
E013	ROOF DEMOLITION PLAN
E200	FIRST FLOOR POWER PLAN AREA A
E201	FIRST FLOOR POWER PLAN AREA B
E202	FIRST FLOOR POWER PLAN AREA C
E203	ROOF POWER PLAN AREA A
E204	ROOF POWER PLAN AREA B
E205	ROOF POWER PLAN AREA C
E400	PANEL SCHEDULES
E401	PANEL SCHEDULES
E500	ELECTRICAL DETAILS
E600	ELECTRICAL SINGLE LINE DIAGRAM
E700	ELECTRICAL SITE PLAN

COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
EMMA K. PEVOAR
2118434
REGISTERED ARCHITECT

EMMA K. PEVOAR, Lic# 2118434
Expiration Date 12/31/2023

SHP
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112

1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.223.2124

223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234

WINTON WOODS CITY SCHOOLS
EARLY CHILDOOD RENOVATION
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

ISSUANCES

	03-31-22	BID / PERMIT
1	05-18-22	ADDENDUM 1
2	06-03-22	ADDENDUM 3

TITLE SHEET

COMM NO. 2021091.02

G000.E

0"x1" REFERENCE LINE

6/2/2022 3:52:27 PM C:\Users\epevoar\Documents_LFile22\2021091.02 Winton Woods Early Childhood Reno_epevoar.rvt

DEMOLITION PLAN LEGEND

- NO WORK THIS AREA
- EXISTING WALL/PARTITION TO REMAIN
- REMOVE EXISTING WALL/PARTITION
- EXISTING DOOR AND FRAME TO REMAIN
- REMOVE EXISTING DOOR (REMOVE EXISTING FRAME ONLY WHERE NOTED)

GENERAL NOTES - DEMOLITION PLAN - ESSER

A. REPAIR EXISTING SURFACES WHERE DEMOLITION HAS OCCURED FOR NEW CONSTRUCTION. CONTRACTOR SHALL PATCH/REPAIR WALL, FLOOR AND CEILING SURFACES AFFECTED BY DEMOLITION WORK. ALL REPAIRS SHALL MATCH EXISTING ADJACENT SURFACES IN MATERIAL, FINISH, TEXTURE, ETC. THIS WORK IS TO BE INCLUDED IN BASE BID AND IS NOT TO BE INCLUDED IN THE QUANTITY ALLOWANCE."

B. UNLESS DIRECTED BY OWNER, ALL MISCELLANEOUS ITEMS ATTACHED TO FLOORS, WALLS, OR CEILINGS ARE TO BE REMOVED THAT INTERFERE WITH INSTALLATION OR ALIGNMENT OF NEW WORK. THIS INCLUDES BUT NOT LIMITED TO: SHELVES, BRACKETS, POSTERS, PAINTINGS, ART OR OTHER DISPLAYS, PROJECTION SCREENS, AND VISUAL DISPLAY BOARDS.

C. OWNER WILL REMOVE ALL LOOSE FURNITURE/APPLIANCES IN ROOMS PRIOR TO THE COMMENCEMENT OF DEMOLITION.

D. AT ALL EXISTING SURFACES SCHEDULED TO RECEIVE A NEW PAINT FINISH REMOVE ANY EXISTING FASTENERS, BRACKETS, ETC. IN WALLS THAT ARE NOT BEING USED AND PATCH TO MATCH EXISTING ADJACENT SURFACES IN MATERIALS, FINISH, TEXTURE, ETC. PATCH CHIPPED PAINT SURFACES ON PLASTER WALLS TO MATCH ADJACENT SURFACE TEXTURE. SAND CHIPPED EDGES ON WOOD AND METAL SURFACES SMOOTH.

E. NOT ALL ROOM MATERIAL/FINISH DEMOLITION INDICATED. WHERE NEW MATERIAL/FINISH IS INDICATED IN ROOM FINISH SCHEDULE, REMOVE EXISTING MATERIALS/FINISH INCLUDING FLOOR AND BASE, ADHESIVES/MASTICS, FLOOR SEALERS AND CURING COMPOUNDS, AND FLOOR PAINT WHETHER OR NOT SHOWN TO BE REMOVED ON DEMOLITION FLOOR PLANS.

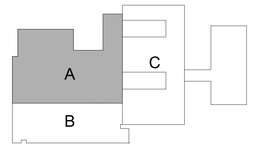
F. REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL ITEMS TO BE DEMOLISHED.

KEY NOTES - DEMOLITION PLANS

D3	REMOVE EXISTING STOREFRONT
D5	REMOVE EXISTING WINDOW
D6	REMOVE EXISTING UNIT VENTILATOR AND CASEWORK IN ROOM
D7	REMOVE EXISTING PLUMBING FIXTURES
D8	REMOVE ALL EXISTING TOILET ACCESSORIES, INCLUDING MIRRORS, SOAP DISPENSERS, PAPER TOWEL DISPENSERS, AND TOILET PAPER HOLDERS AND RETURN TO OWNER
D20	REMOVE EXISTING PORTION OF WALL TO ALLOW FOR NEW WINDOW. PROVIDE LINTEL AS NECESSARY FOR WINDOW.
D21	REMOVE PORTION OF WALL FOR NEW STOREFRONT
D24	REMOVE EXISTING CASEWORK IN ROOM
D38	FIXTURE(S) IN THIS AREA TO BE DEMOLISHED. CAP OPEN ENDS OF SUPPLY AND WASTE PIPING WITHIN WALL/BELOW THE FLOOR. PATCH WALL/FLOOR TO MATCH THE EXISTING CONDITIONS.



1 D101.E FIRST FLOOR DEMO PLAN - AREA A
1/8" = 1'-0"



KEY PLAN
NTS

COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
EMMA K. PEVOAR 2118434
REGISTERED ARCHITECT
EMMA K. PEVOAR, Lic# 2118434
Expiration Date 12/31/2023

SHP
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.7264
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD RENOVATION
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

ISSUANCES

	03-31-22	BID / PERMIT
2	06-03-22	ADDENDUM 3

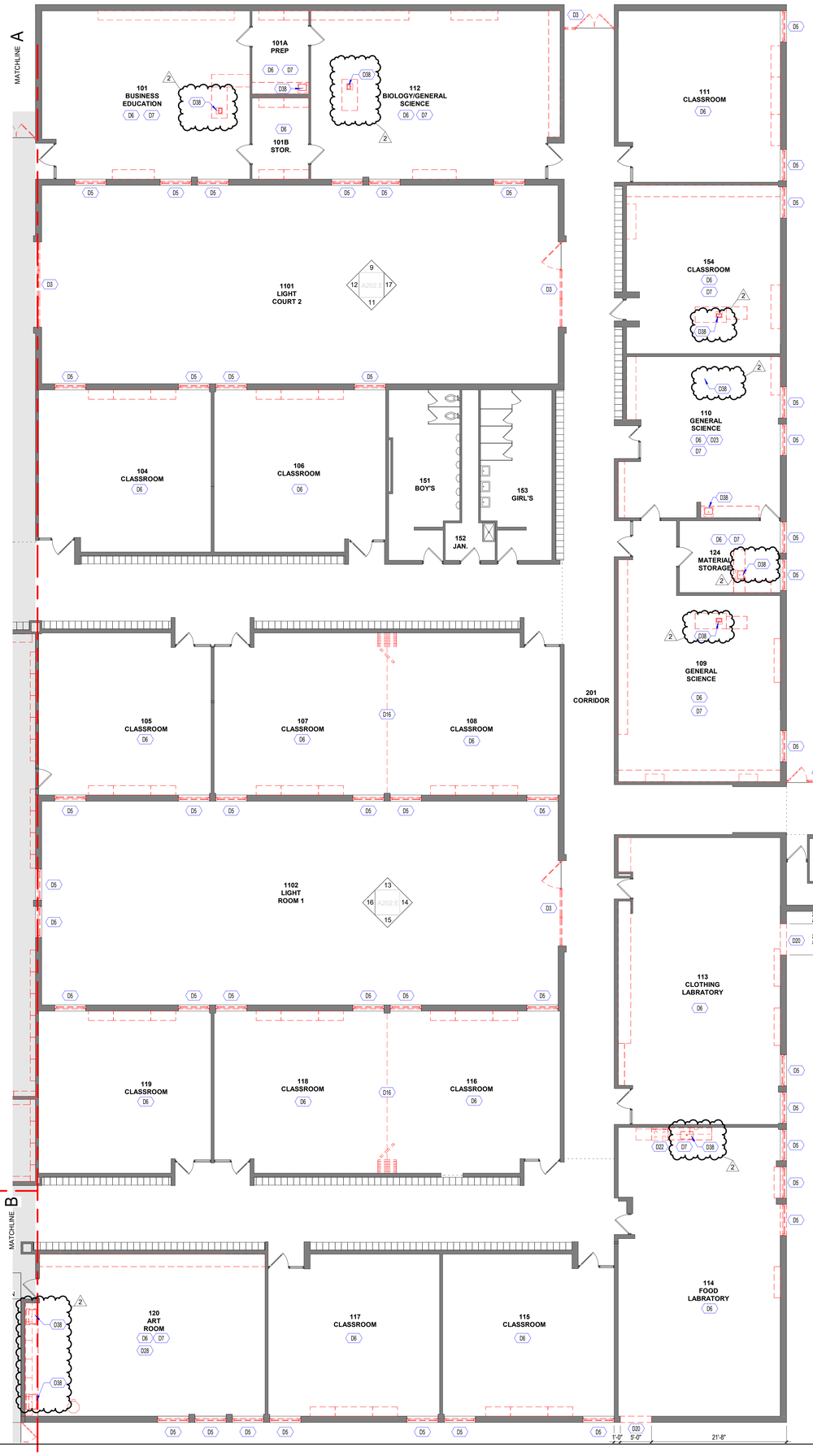
FIRST FLOOR DEMO PLAN - AREA A

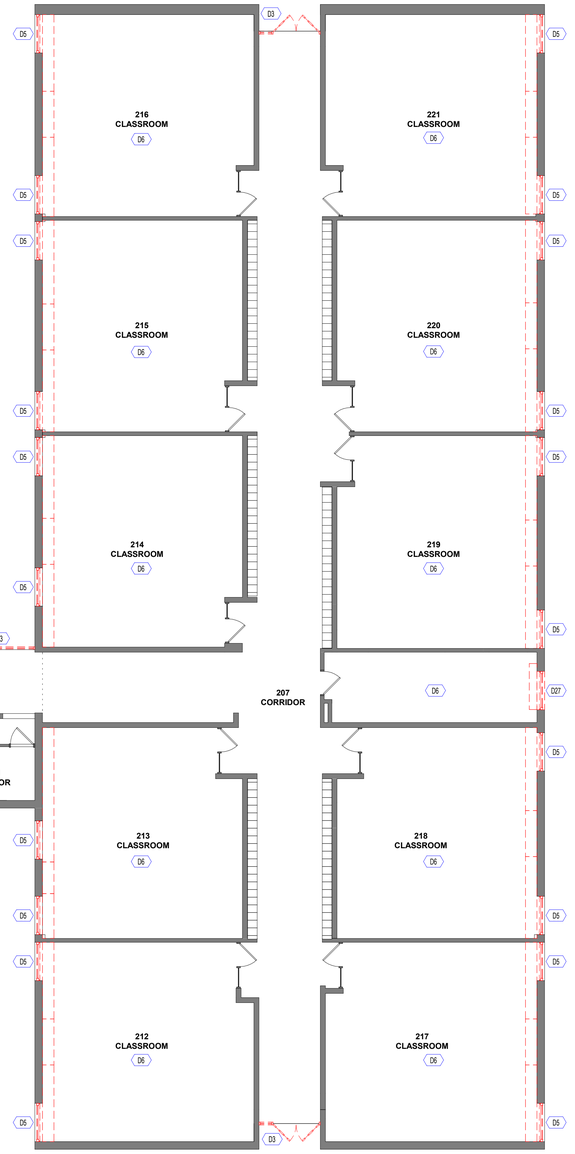
COMM NO. 2021091.02

D101.E

0"x1" REFERENCE LINE

6/2/2022 3:52:21 PM C:\Users\epevoar\Documents_LFile22\2021091.02 Winton Woods Early Childhood Reno_epevoar.rvt





DEMOLITION PLAN LEGEND

- NO WORK THIS AREA
- EXISTING WALL/PARTITION TO REMAIN
- REMOVE EXISTING WALL/PARTITION
- EXISTING DOOR AND FRAME TO REMAIN
- REMOVE EXISTING DOOR (REMOVE EXISTING FRAME ONLY WHERE NOTED)

GENERAL NOTES - DEMOLITION PLAN - ESSER

A. REPAIR EXISTING SURFACES WHERE DEMOLITION HAS OCCURED FOR NEW CONSTRUCTION. CONTRACTOR SHALL PATCH/REPAIR WALL, FLOOR AND CEILING SURFACES AFFECTED BY DEMOLITION WORK. ALL REPAIRS SHALL MATCH EXISTING ADJACENT SURFACES IN MATERIAL, FINISH, TEXTURE, ETC. THIS WORK IS TO BE INCLUDED IN BASE BID AND IS NOT TO BE INCLUDED IN THE QUANTITY ALLOWANCE.*

B. UNLESS DIRECTED BY OWNER, ALL MISCELLANEOUS ITEMS ATTACHED TO FLOORS, WALLS, OR CEILINGS ARE TO BE REMOVED THAT INTERFERE WITH INSTALLATION OR ALIGNMENT OF NEW WORK. THIS INCLUDES BUT NOT LIMITED TO: SHELVES, BRACKETS, POSTERS, PAINTINGS, ART OR OTHER DISPLAYS, PROJECTION SCREENS, AND VISUAL DISPLAY BOARDS.

C. OWNER WILL REMOVE ALL LOOSE FURNITURE/APPLIANCES IN ROOMS PRIOR TO THE COMMENCEMENT OF DEMOLITION.

D. AT ALL EXISTING SURFACES SCHEDULED TO RECEIVE A NEW PAINT FINISH REMOVE ANY EXISTING FASTENERS, BRACKETS, ETC. IN WALLS THAT ARE NOT BEING USED AND PATCH TO MATCH EXISTING ADJACENT SURFACES IN MATERIALS, FINISH, TEXTURE, ETC. PATCH CHIPPED PAINT SURFACES ON PLASTER WALLS TO MATCH ADJACENT SURFACE TEXTURE. SAND CHIPPED EDGES ON WOOD AND METAL SURFACES SMOOTH.

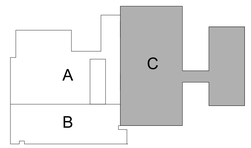
E. NOT ALL ROOM MATERIAL/FINISH DEMOLITION INDICATED. WHERE NEW MATERIAL/FINISH IS INDICATED IN ROOM FINISH SCHEDULE, REMOVE EXISTING MATERIALS/FINISH INCLUDING FLOOR AND BASE, ADHESIVES/MASTICS, FLOOR SEALERS AND CURING COMPOUNDS, AND FLOOR PAINT WHETHER OR NOT SHOWN TO BE REMOVED ON DEMOLITION FLOOR PLANS.

F. REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL ITEMS TO BE DEMOLISHED.

KEY NOTES - DEMOLITION PLANS

D3	REMOVE EXISTING STOREFRONT
D5	REMOVE EXISTING WINDOW
D6	REMOVE EXISTING UNIT VENTILATOR AND CASEWORK IN ROOM
D7	REMOVE EXISTING PLUMBING FIXTURES
D16	REMOVE EXISTING OPERABLE PARTITION
D20	REMOVE EXISTING PORTION OF WALL TO ALLOW FOR NEW WINDOW. PROVIDE LINTEL AS NECESSARY FOR WINDOW.
D22	REMOVE EXISTING OVEN
D23	REMOVE EXISTING WALL MOUNTED TELEVISION, ASSOCIATED HARDWARE, AND WIRING
D27	REMOVE EXISTING WINDOW AND PORTION OF WALL TO ALLOW FOR NEW DOOR. PROVIDE LINTEL AS REQUIRED FOR NEW DOOR.
D28	REMOVE EXISTING [illegible]
D38	FIXTURE(S) IN THIS AREA TO BE DEMOLISHED. CAP OPEN ENDS OF SUPPLY AND WASTE PIPING WITHIN WALL/BELOW THE FLOOR. PATCH WALL/FLOOR TO MATCH THE EXISTING CONDITIONS.

1 D103.E FIRST FLOOR DEMO PLAN - AREA C
1/8" = 1'-0"



KEY PLAN
NTS

COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
EMMA K. PEVOAR
2118434
REGISTERED ARCHITECT
EMMA K. PEVOAR, Lic# 2118434
Expiration Date 12/31/2023

SHP
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.7264
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112

WINTON WOODS CITY SCHOOLS
EARLY CHILDOOD RENOVATION
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

ISSUANCES

	03-31-22	BID / PERMIT
2	06-03-22	ADDENDUM 3

FIRST FLOOR DEMO PLAN - AREA C

COMM NO. 2021091.02

D103.E

C:\Users\epevoar\Documents_LFile2\2021091.02 Winton Woods Early Childhood Reno_epevoar.rvt
6/2/2022 3:52:23 PM

DOOR AND FRAME SCHEDULE ESSER

#	DOOR # OF LEAFS	DOOR WIDTH	DOOR HEIGHT	DOOR THK	DOOR TYPE	DOOR MATL	DOOR FINISH	DOOR GLASS	FRAME DEPTH	FRAME TYPE	FRAME E-FRAME	FRAME MATL	FRAME FINISH	FRAME HEAD	FRAME JAMB	FRAME SILL	SIDELITE WIDTH	RATING (MINUTES)	ACCESS CONTROL	HDWR SET	NOTES	DOOR #
156	1	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S18	-	AL	PF	-	-	-			-	04		156
188	1	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S9	-	AL	PF	-	-	-			●	02		188
188C	2	3'-0"	7'-0"	1 3/4"	F	HM	PT	-	5 3/4"	3	-	HM	PT-1	-	-	-			-	05		188C
188D	1	4'-0"	7'-0"	1 3/4"	F	HM	PT	-	5 3/4"	2	-	HM	PT-1	H-4	J-4	-			-	06		188D
191	1	3'-0"	7'-0"	1 3/4"	F	HM	PT	-	5 3/4"	2	-	HM	PT-1	-	-	-			-	06		191
195	2	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S10	-	AL	PF	-	-	-			●	01		195
197	2	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S24	-	AL	PF	-	-	-			●	01		197
198A	2	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S11	-	AL	PF	-	-	-			●	01		198A
199A	1	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S23	-	AL	PF	-	-	-			-	04		199A
199B	1	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S14	-	AL	PF	-	-	-			-	04		199B
199C	2	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S17	-	AL	PF	H-2	J-2	S-2			-	03		199C
199D	1	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S7	-	AL	PF	-	-	-			-	04		199D
201A	2	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S2	-	AL	PF	-	-	-			-	03		201A
201B	1	3'-0 5/64"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S6	-	AL	PF	-	-	-			-	04		201B
201D	2	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S3	-	AL	PF	-	-	-			-	03		201D
201E	1	2'-11"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S8	-	AL	PF	-	-	-			-	04		201E
203A	1	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S15	-	AL	PF	-	-	-			-	04		203A
203B	2	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S16	-	AL	PF	-	-	-			-	03		203B
203C	1	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S19	-	AL	PF	-	-	-			-	04		203C
205	2	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S22	-	AL	PF	-	-	-			-	03		205
207A	2	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S4	-	AL	PF	-	-	-			●	01		207A
207B	1	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S20	-	AL	PF	-	-	-			●	02		207B
207C	2	3'-0"	7'-0"	1 3/4"	FG	ALUM	PF	IG-1	4 1/2"	S5	-	AL	PF	-	-	-			●	01		207C

GENERAL NOTES - LINTELS

SEE LINTEL SCHEDULE SHEET FOR LINTEL SHAPE CONFIGURATIONS

HOT-DIP GALVANIZE ALL EXTERIOR WALL LINTELS AFTER FABRICATION (ALL BRICK ANGLES AND BEAMS WITH PLATES)

GROUT SOLID UNDER ALL LINTEL BEARINGS. GROUT TO EXTEND FULL LENGTH OF BEARING & A MINIMUM OF (3) COURSES (24") VERTICALLY BELOW EACH BEARING POINT.

FIELD PAINT ALL EXPOSED LINTELS. COLOR AS SELECTED BY ARCHITECT

PROVIDE CONTINUOUS PAINTABLE SEALANT BEAD BETWEEN EDGE OF STEEL AND SUPPORTED MASONRY

L-1 2L'S 5 X 3 1/2 X 3/8 AND L5 X 3 1/2 X 3/8 8" BRG

L-2 2L'S 4 X 3 1/2 X 5/16 AND L4 X 3 1/2" X 5/16 6" BRG

REVIEWED BY:
DOUG CRAWFORD
GOP LIMITED
APRIL 14, 2022

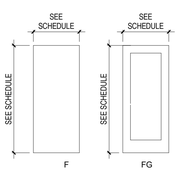
OPENING SCHEDULE ABBREVIATIONS

AL	ALUMINUM
HM	HOLLOW METAL
PF	PREFINISHED
PT	PAINT
SS	STAINLESS STEEL
STL	STEEL
WD	WOOD

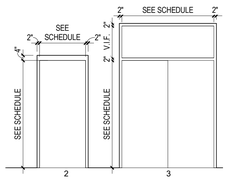
COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
EMMA K. PEVOAR 2118434
REGISTERED ARCHITECT
EMMA K. PEVOAR, Lic# 2118434
Expiration Date 12/31/2023

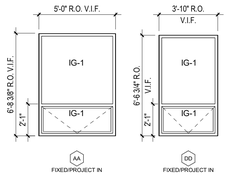
SHP
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.2264
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112



DOOR TYPES



FRAME TYPES



WINDOW TYPES

LOUVER SCHEDULE

TYPE	WIDTH	HEIGHT	COMMENTS
L13	4'-0"	1'-0"	
L14	3'-0"	1'-0"	

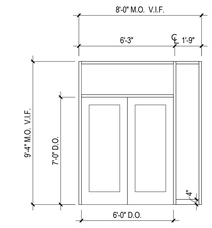


LOUVER TYPES

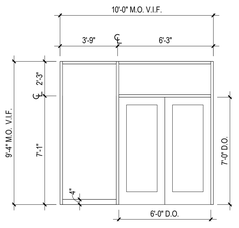
2

NANAWALL SCHEDULE ESSER

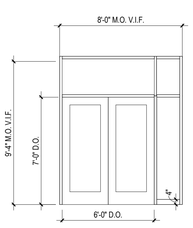
#	WIDTH	HEIGHT	HEAD	JAMB	SILL	NOTES
N191B	19'-6"	9'-4"	H5	J5	S4	ALTERNATE #2
N201B	10'-3"	9'-4"	H6	J6	S4	ALTERNATE #3
N201E	10'-3"	9'-4"	H6	J6	S4	ALTERNATE #4



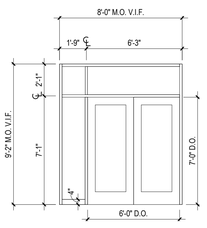
S1
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



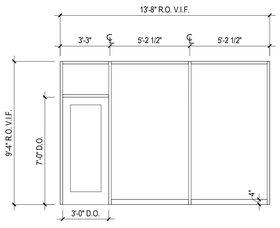
S2
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



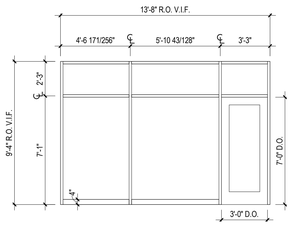
S3
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



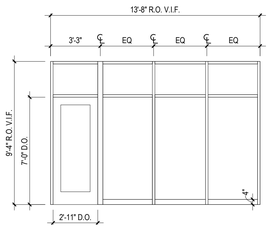
S4
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



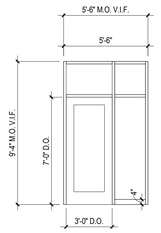
S5
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



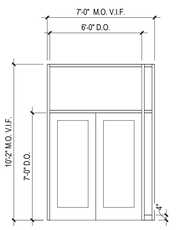
S6
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



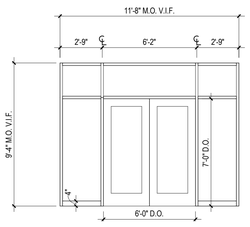
S7
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



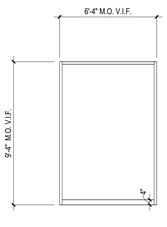
S8
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



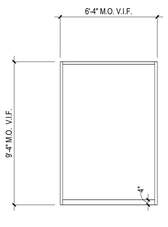
S9
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



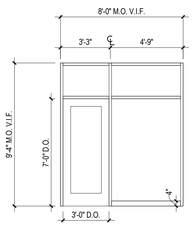
S10
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



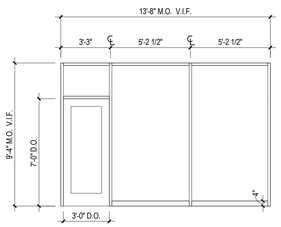
S11
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



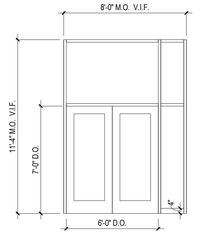
S12
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



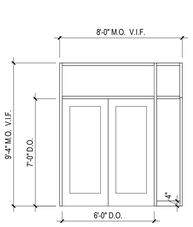
S13
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



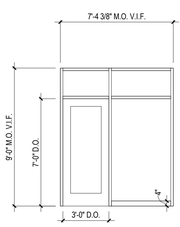
S14
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



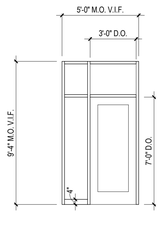
S15
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



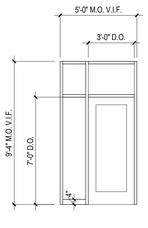
S16
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



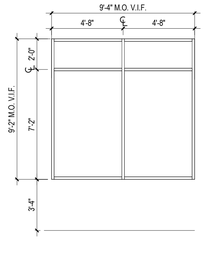
S17
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



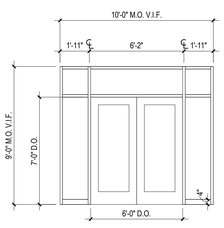
S18
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



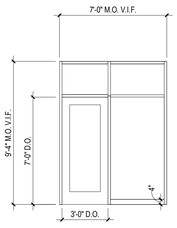
S19
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



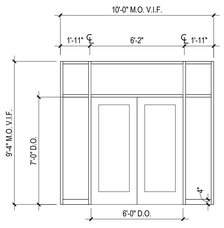
S20
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



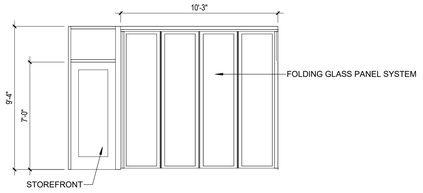
S21
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



S22
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



S23
FRAMING MEMBERS:
2" x 4 1/2"
GLAZING TYPE UNO:
IG-1



STOREFRONT TYPES

ISSUANCES

	03-31-22	BID / PERMIT
1	05-18-22	ADDENDUM 1
2	06-03-22	ADDENDUM 3

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD RENOVATION
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

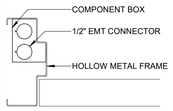
OPENING TYPES AND STOREFRONT

COMM NO. 2021091.02

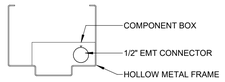
2
A010.E

"0-1" REFERENCE LINE"

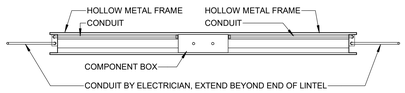
C:\Users\epevoar\Documents_LFile2\2021091.02 Winton Woods Early Childhood Reno_epevoar.rvt
6/2/2022 3:52:16 PM



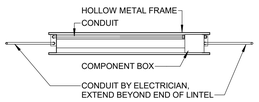
COMPONENT BOX SECTION @ JAMB



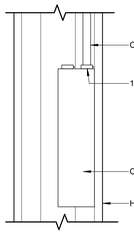
COMPONENT BOX SECTION @ HEAD



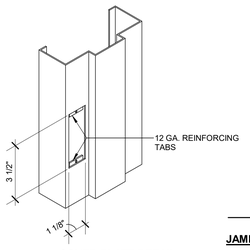
DOUBLE DOOR PLAN



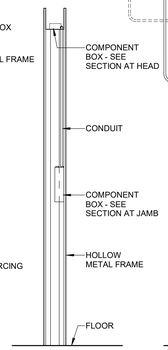
SINGLE DOOR PLAN



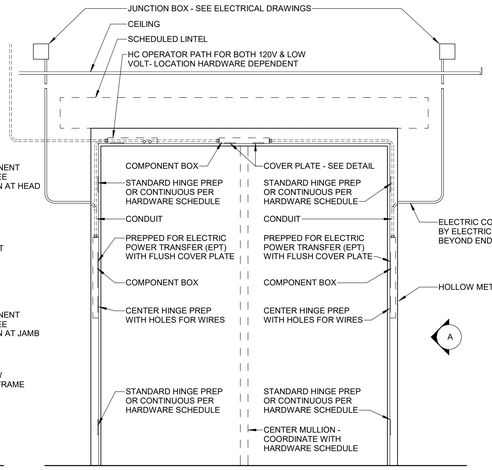
COMPONENT BOX ELEVATION



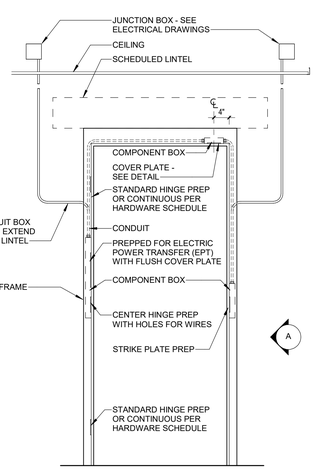
COVER PLATE DETAIL



JAMB ELEVATION A



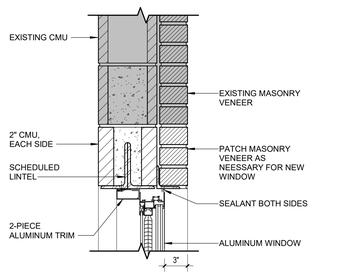
DOUBLE DOOR ELEVATION



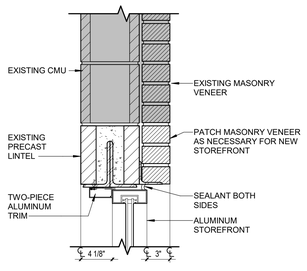
SINGLE DOOR ELEVATION

E-FRAME DETAILS

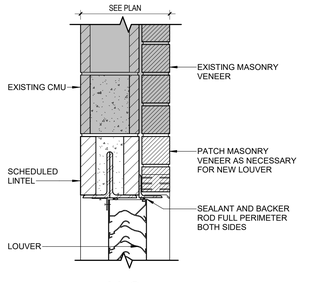
NTS



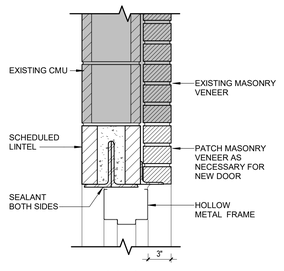
H-1



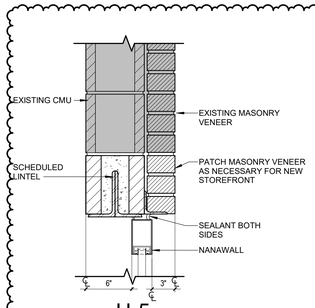
H-2



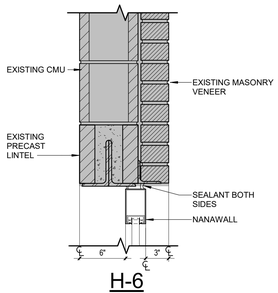
H-3



H-4

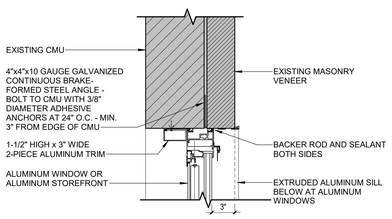


H-5

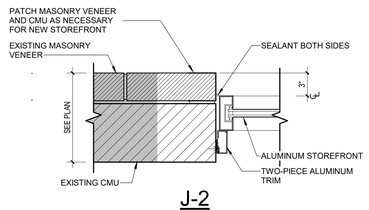


H-6

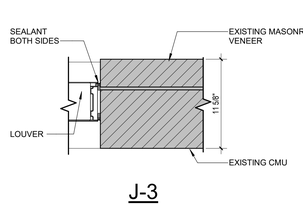
HEAD DETAILS



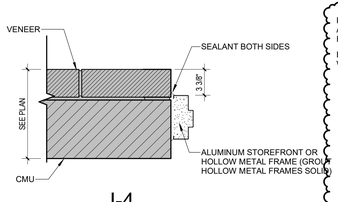
J-1



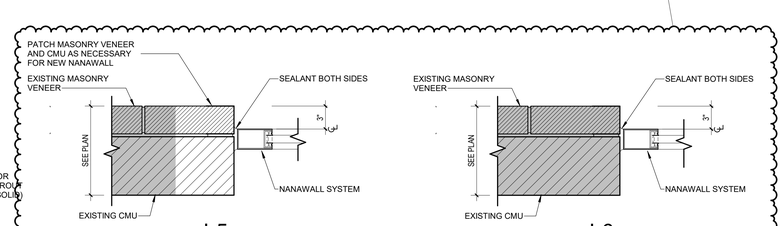
J-2



J-3

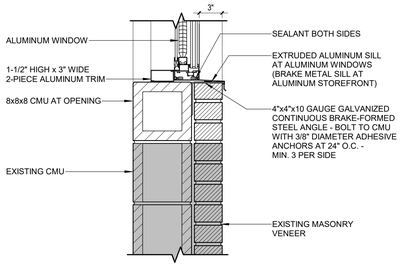


J-4

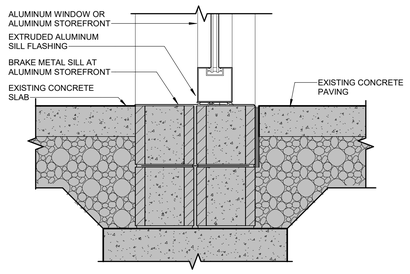


J-5 **J-6**

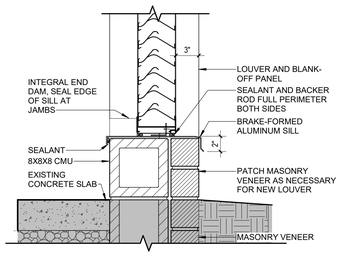
JAMB DETAILS



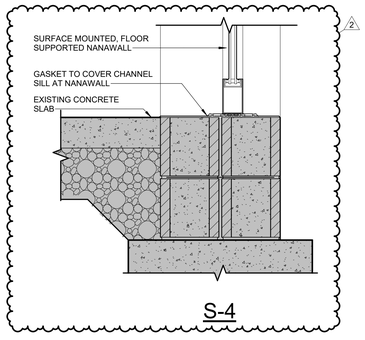
S-1



S-2



S-3



S-4

SILL DETAILS

COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
EMMA K. PEVOAR
2118434
REGISTERED ARCHITECT

EMMA K. PEVOAR, Lic# 2118434
Expiration Date 12/31/2023

SHP
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.2264
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD RENOVATION
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

ISSUANCES

	03-31-22	BID / PERMIT
2	06-03-22	ADDENDUM 3

E-FRAME DETAILS, HEAD, JAMB, AND SILL DETAILS

COMM NO. 2021091.02

A031.E

C:\Users\epevoar\Documents_LFile\22021091.02 Winton Woods Early Childhood Reno_epevoar.rvt
6/2/2022 3:52:17 PM

0"-1" REFERENCE LINE

GENERAL NOTES - FLOOR PLAN

A. ALL DIMENSIONS ARE TO FACE OF MASONRY, FACE OF STUD, OR FACE OF EXISTING FINISH UNLESS NOTED OTHERWISE.

B. ALL PARTITIONS TYPE M1 UNLESS NOTED OTHERWISE.

KEY NOTES - FLOOR PLANS

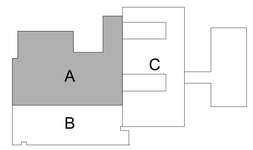
A1 LINTEL L-1. 2L'S 5 X 3 1/2 X 3/8 AND L5 X 3 1/2 X 3/8 WITH 8" BRG. SEE SHEET A010.E AND EXTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION.

A2 LINTEL L-2. 2L'S 4 X 3 1/2 X 5/16 AND L4 X 3 1/2" X 5/16 WITH 6" BRG. SEE SHEET A010.E AND EXTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION.

A3 UNIT VENTILATOR. SEE MECHANICAL DRAWINGS FOR FURTHER DETAILS



1 A101.E FIRST FLOOR PLAN - AREA A
1/8" = 1'-0"



KEY PLAN
NTS

COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
EMMA K. PEVOAR
2118434
REGISTERED ARCHITECT
EMMA K. PEVOAR, Lic# 2118434
Expiration Date 12/31/2023

SHP
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.2124
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD RENOVATION
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

ISSUANCES

	03-31-22	BID / PERMIT
2	06-03-22	ADDENDUM 3

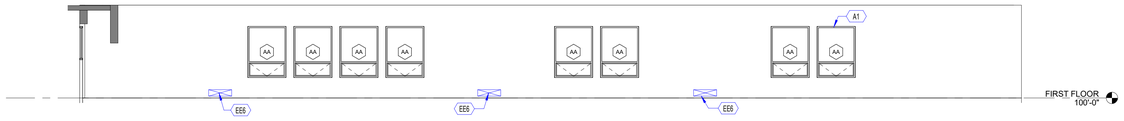
FIRST FLOOR PLAN - AREA A

COMM NO. 2021091.02

A101.E

0'-1" REFERENCE LINE

6/2/2022 3:52:19 PM C:\Users\epevoar\Documents_LFile22\2021091.02 Winton Woods Early Childhood Reno_epevoar.rvt



1 A202.E SOUTH ELEVATION C - ESSER
1/8" = 1'-0"



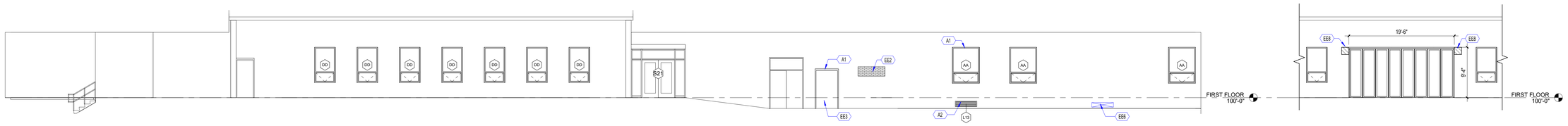
2 A202.E EAST ELEVATION D - ESSER
1/8" = 1'-0"

KEY NOTES - EXTERIOR ELEVATIONS

EE2	INFILL OPENING IN WALL TO MATCH EXISTING ADJACENT MATERIALS
EE3	NEW HOLLOW METAL DOOR
EE6	EXISTING LOUVER TO REMAIN
EE8	TWO COURSES OF CMU GROUTED SOLID AT BEATING, 16" LONG

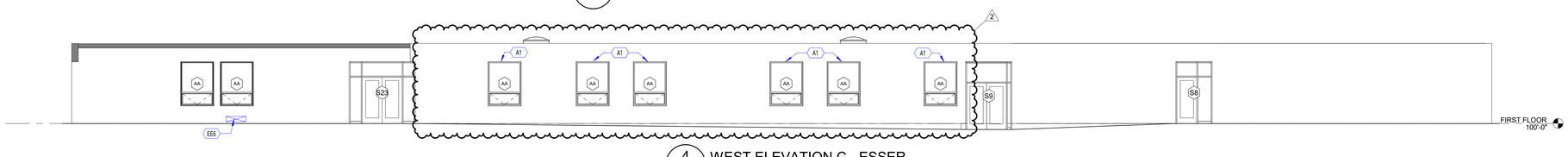
KEY NOTES - FLOOR PLANS

A1	LINTEL L-1, 2L'S 5 X 3 1/2 X 3/8 AND L5 X 3 1/2 X 3/8 WITH 8" BRG. SEE SHEET A010.E AND EXTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION.
A2	LINTEL L-2, 2L'S 4 X 3 1/2 X 5/16 AND L4 X 3 1/2" X 5/16 WITH 6" BRG. SEE SHEET A010.E AND EXTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION.



3 A202.E SOUTH ELEVATION D - ESSER
1/8" = 1'-0"

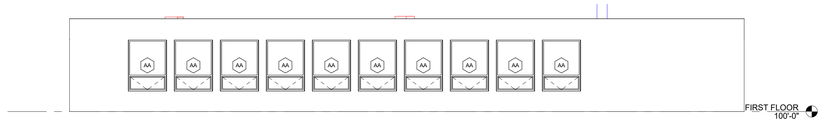
18 A202.E ALTERNATE #2 ELEVATION
1/8" = 1'-0"



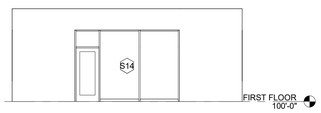
4 A202.E WEST ELEVATION C - ESSER
1/8" = 1'-0"



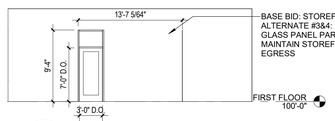
5 A202.E SOUTH ELEVATION - LIGHT COURT 3
1/8" = 1'-0"



6 A202.E WEST ELEVATION - LIGHT COURT 3
1/8" = 1'-0"



7 A202.E NORTH ELEVATION - LIGHT COURT 3
1/8" = 1'-0"



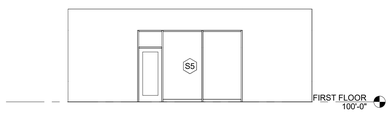
17 A202.E ALTERNATES #3&4 ELEVATION
1/8" = 1'-0"



8 A202.E EAST ELEVATION - LIGHT COURT 3
1/8" = 1'-0"



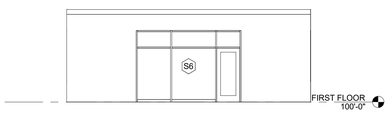
9 A202.E SOUTH ELEVATION - LIGHT COURT 2
1/8" = 1'-0"



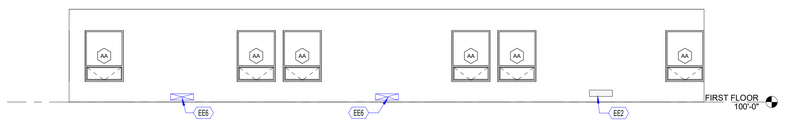
10 A202.E WEST ELEVATION - LIGHT COURT 2
1/8" = 1'-0"



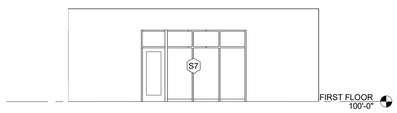
11 A202.E NORTH ELEVATION - LIGHT COURT 2
1/8" = 1'-0"



12 A202.E EAST ELEVATION - LIGHT COURT 2
1/8" = 1'-0"



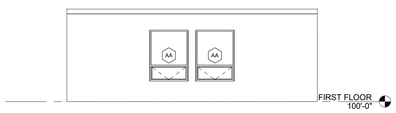
13 A202.E SOUTH ELEVATION - LIGHT COURT 1
1/8" = 1'-0"



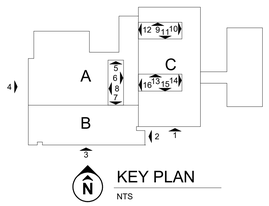
14 A202.E WEST ELEVATION - LIGHT COURT 1
1/8" = 1'-0"



15 A202.E NORTH ELEVATION - LIGHT COURT 1
1/8" = 1'-0"



16 A202.E EAST ELEVATION - LIGHT COURT 1
1/8" = 1'-0"



KEY PLAN
NTS

COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
EMMA K. PEVOAR
2118434
REGISTERED ARCHITECT
EMMA K. PEVOAR, Lic# 2118434
Expiration Date 12/31/2023

SHP
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.2264
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD RENOVATION
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OH 45240

ISSUANCES

	03-31-22	BID / PERMIT
1	05-18-22	ADDENDUM 1
2	06-03-22	ADDENDUM 3

EXTERIOR ELEVATIONS

COMM NO. 2021091.02

A202.E

C:\Users\epevoar\Documents_LFile222021091.02 Winton Woods Early Childhood Reno_epevoar.rvt
6/2/2022 3:52:20 PM

0"x1" REFERENCE LINE

23-AIR HANDLING UNIT SCHEDULE

MARK	MANUFACTURER	MODEL	SUPPLY FAN: FAN QUANTITY	AIRFLOW	FAN TYPE	TOTAL STATIC PRESSURE	EXTERNAL STATIC PRESSURE	RPM	ELECTRICAL CHARACTERISTICS: FAN TOTAL BHP	MCA	MOCP	VOLTAGE	Ø	FILTER: TYPE	FILTER DEPTH	NOTES
AHU-1A	CARRIER	39MN 08W	2	3500 CFM	ECM DIRECT DRIVE PLENUM	2.33 in-wg	1.0 in-wg	1856	1.9	10.8 A	15.0 A	480 V	3	MERV 13	0' - 2"	1
AHU-1B	CARRIER	39MN 08W	2	3500 CFM	ECM DIRECT DRIVE PLENUM	2.33 in-wg	1.0 in-wg	1856	1.9	10.8 A	15.0 A	480 V	3	MERV 13	0' - 2"	1
AHU-1C	CARRIER	39MN 08W	2	3500 CFM	ECM DIRECT DRIVE PLENUM	2.33 in-wg	1.0 in-wg	1856	1.9	10.8 A	15.0 A	480 V	3	MERV 13	0' - 2"	1
AHU-1D	CARRIER	39MN 08W	2	3500 CFM	ECM DIRECT DRIVE PLENUM	2.33 in-wg	1.0 in-wg	1856	1.9	10.8 A	15.0 A	480 V	3	MERV 13	0' - 2"	1
AHU-2A	CARRIER	39MN 03W	2	1500 CFM	ECM DIRECT DRIVE PLENUM	2.78 in-wg	1.0 in-wg	2264	1.7	4.8 A	15.0 A	480 V	3	MERV 13	0' - 2"	1
AHU-2B	CARRIER	39MN 03W	2	1500 CFM	ECM DIRECT DRIVE PLENUM	2.78 in-wg	1.0 in-wg	2264	1.7	4.8 A	15.0 A	480 V	3	MERV 13	0' - 2"	1

NOTES:
1. DISCHARGE DUCT(S) MUST BE GASKETED AND SCREWED DIRECTLY TO THE DISCHARGE PANEL OF THE UNIT.

23-AIR HANDLING UNIT COOLING COIL / HEATING COIL CHARACTERISTICS

MARK	DX COIL: COOLING CAPACITY (MBH) TOTAL	SENSIBLE	DRY BULB TEMPERATURE ENTERING AIR	LEAVING AIR	WET BULB TEMPERATURE ENTERING AIR	LEAVING AIR	FACE AREA	AIR PRESSURE DROP (IN W.G.)	HEATING COIL: TOTAL HEATING CAPACITY	DRY BULB TEMPERATURE ENTERING AIR	LEAVING AIR	FLUID TEMPERATURE ENTERING	LEAVING	FACE AREA	FLUID TYPE	FLOW RATE	AIR PRESSURE DROP (IN W.G.)	FLUID PRESSURE DROP(FT)	NOTES
AHU-1A	114	86	80 °F	57 °F	67 °F	57 °F	8 SF	0.77	147,370 Btu/h	55 °F	93 °F	140 °F	120 °F	8 SF	WATER	15 GPM	0.21	2.30	1
AHU-1B	114	86	80 °F	57 °F	67 °F	57 °F	8 SF	0.77	147,370 Btu/h	55 °F	93 °F	140 °F	120 °F	8 SF	WATER	15 GPM	0.21	2.30	1
AHU-1C	114	86	80 °F	57 °F	67 °F	57 °F	8 SF	0.77	147,370 Btu/h	55 °F	93 °F	140 °F	120 °F	8 SF	WATER	15 GPM	0.21	2.30	1
AHU-1D	114	86	80 °F	57 °F	67 °F	57 °F	8 SF	0.77	147,370 Btu/h	55 °F	93 °F	140 °F	120 °F	8 SF	WATER	15 GPM	0.21	2.30	1
AHU-2A	71	52	80 °F	56 °F	67 °F	55 °F	6 SF	0.68	92,190 Btu/h	55 °F	95 °F	140 °F	120 °F	6 SF	WATER	9 GPM	0.12	1.00	1
AHU-2B	71	52	80 °F	56 °F	67 °F	55 °F	6 SF	0.68	92,190 Btu/h	55 °F	95 °F	140 °F	120 °F	6 SF	WATER	9 GPM	0.12	1.00	1

23-VARIABLE REFRIGERANT HEAT RECOVERY UNITS

MARK	MANUFACTURER	MODEL	MODULES	ELECTRICAL CHARACTERISTICS: MCA	MOCP	Ø	VOLTAGE	TOTAL COOLING CAPACITY	COOLING DESIGN AMBIENT TEMPERATURE	TOTAL HEATING CAPACITY	HEATING DESIGN AMBIENT TEMPERATURE	UNIT WEIGHT	NOTES
HRCU-1	CARRIER	MMY-AP312S6ST6P-UL	168 + 144	29.7 + 23.4	35 +30	3	460	312,000.0 Btu/h	95 °F	351,000.0 Btu/h	0 °F	1,676 lb	
HRCU-2	CARRIER	MMY-AP2646FT9P-UL	144 + 120	52.1 + 45.4	60 + 50	3	460	264,000.0 Btu/h	95 °F	297,000.0 Btu/h	0 °F	1,522 lb	
HRCU-3	CARRIER	MMY-AP2886FT9P-UL	144 + 144	52.1 + 45.4	60 + 60	3	460	288,000.0 Btu/h	95 °F	324,000.0 Btu/h	0 °F	1,676 lb	
HRCU-4	CARRIER	MMY-A4086FT9P-UL	144 + 144 + 120	52.1 + 52.1 + 45.4	60 + 60 + 50	3	460	408,000.0 Btu/h	95 °F	459,000.0 Btu/h	0 °F	2,360 lb	
HRCU-5	CARRIER	MMY-MAP0726FT6P-UL	72	11.8	15	3	460	72,000.0 Btu/h	95 °F	81,000.0 Btu/h	0 °F	574 lb	
HRCU-6	CARRIER	MMY-MAP1446FT9P-UL	144	52.1	60	3	460	144,000.0 Btu/h	95 °F	162,000.0 Btu/h	0 °F	838 lb	
HRCU-7	CARRIER	MMY-P312S6FT9P-UL	168 + 144	66.2 + 52.1	70 + 60	3	460	312,000.0 Btu/h	95 °F	351,000.0 Btu/h	0 °F	1,676 lb	
HRCU-8	CARRIER	MMY-AP2166FT9P-UL	120 + 96	45.4 + 34.2	50 + 40	3	460	216,000.0 Btu/h	95 °F	243,000.0 Btu/h	0 °F	1,368 lb	

23-VARIABLE REFRIGERANT UNIT VENT SCHEDULE

MARK	SYSTEM NAME	MANUFACTURER	MODEL	UNIT TYPE	NOMINAL COOLING CAPACITY (BTU/HR)	NOMINAL HEATING CAPACITY (BTU/HR)	SUPPLY FAN AIRFLOW	ELECTRICAL CHARACTERISTICS: MCA	MOCP	Ø	VOLTAGE	NOTES
FC-1A	HRCU-1	CARRIER	MMU-AP0121YHPUL	1-WAY CASSETTE	12,000	13,500	318 CFM	0.4 A	15 A	1	208	
FC-1B	HRCU-1	CARRIER	MMU-AP0121YHPUL	1-WAY CASSETTE	12,000	13,500	318 CFM	0.4 A	15 A	1	208	
FC-1C	HRCU-1	CARRIER	MMU-AP0121YHPUL	1-WAY CASSETTE	12,000	13,500	318 CFM	0.4 A	15 A	1	208	
FC-212	HRCU-1	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-212A	HRCU-1	CARRIER	MMU-AP0181MH2UL	COMPACT 4-WAY CASSETTE	18,000	20,000	450 CFM	0.7 A	15 A	1	208	
FC-213	HRCU-1	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-213A	HRCU-1	CARRIER	MMU-AP0091MH2UL	COMPACT 4-WAY CASSETTE	9,500	10,500	330 CFM	0.5 A	15 A	1	208	
FC-214	HRCU-1	CARRIER	MMD-AP0304H2UL	4-WAY CASSETTE	30,000	34,000	730 CFM	1.1 A	15 A	1	208	
FC-215	HRCU-1	CARRIER	MMD-AP0304H2UL	4-WAY CASSETTE	30,000	34,000	730 CFM	1.1 A	15 A	1	208	
FC-216	HRCU-1	CARRIER	MMD-AP0304H2UL	4-WAY CASSETTE	30,000	34,000	730 CFM	1.1 A	15 A	1	208	
FC-217	HRCU-1	CARRIER	MMU-AP0121MH2UL	COMPACT 4-WAY CASSETTE	12,000	13,500	318 CFM	0.5 A	15 A	1	208	
FC-217A	HRCU-1	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-217B	HRCU-1	CARRIER	MMU-AP0091MH2UL	COMPACT 4-WAY CASSETTE	9,500	10,500	330 CFM	0.5 A	15 A	1	208	
FC-218	HRCU-1	CARRIER	MMD-AP0304H2UL	4-WAY CASSETTE	30,000	34,000	730 CFM	1.1 A	15 A	1	208	
FC-218B	HRCU-1	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.7 A	15 A	1	208	
FC-219B	HRCU-1	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-220	HRCU-1	CARRIER	MMU-AP0181MH2UL	COMPACT 4-WAY CASSETTE	18,000	20,000	450 CFM	0.7 A	15 A	1	208	
FC-222	HRCU-1	CARRIER	MMU-AP0091MH2UL	COMPACT 4-WAY CASSETTE	9,500	10,500	330 CFM	0.7 A	15 A	1	208	
FC-1221-1	HRCU-1	CARRIER	MMU-AP0181MH2UL	COMPACT 4-WAY CASSETTE	18,000	20,000	450 CFM	0.7 A	15 A	1	208	
FC-1221-2	HRCU-1	CARRIER	MMU-AP0181MH2UL	COMPACT 4-WAY CASSETTE	18,000	20,000	450 CFM	0.5 A	15 A	1	208	
FC-1221A	HRCU-1	CARRIER	MMU-AP0181MH2UL	COMPACT 4-WAY CASSETTE	18,000	20,000	450 CFM	0.5 A	15 A	1	208	
FC-151	HRCU-2	CARRIER	MMU-AP0091MH2UL	COMPACT 4-WAY CASSETTE	9,500	10,500	330 CFM	0.5 A	15 A	1	208	
FC-153	HRCU-2	CARRIER	MMU-AP0091MH2UL	COMPACT 4-WAY CASSETTE	9,500	10,500	330 CFM	0.5 A	15 A	1	208	
FC-1264	HRCU-2	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-1265	HRCU-2	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-1268	HRCU-2	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1269	HRCU-2	CARRIER	MMD-AP0546BHPUL	HORIZONTAL DUCTED	54,000	60,000	1177 CFM	3.6 A	15 A	1	208	
FC-1271	HRCU-2	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1272	HRCU-2	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1273	HRCU-2	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-1274	HRCU-2	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-1275	HRCU-2	CARRIER	MMD-AP0366BHPUL	HORIZONTAL DUCTED	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	
FC-1296	HRCU-2	CARRIER	MMD-AP0216BHPUL	FLOOR STANDING	21,000	24,000	706 CFM	2.2 A	15 A	1	208	1, 2
FC-1113	HRCU-3	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1118	HRCU-3	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1262	HRCU-3	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1263	HRCU-3	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1266	HRCU-3	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1267	HRCU-3	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1284	HRCU-3	CARRIER	MMD-AP0366BHPUL	HORIZONTAL DUCTED	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	
FC-1285	HRCU-3	CARRIER	MMD-AP0366BHPUL	HORIZONTAL DUCTED	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	
FC-1289	HRCU-3	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1290	HRCU-3	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1294	HRCU-3	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-1124	HRCU-4	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1125	HRCU-4	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1237	HRCU-4	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1238	HRCU-4	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1239	HRCU-4	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1253	HRCU-4	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1254	HRCU-4	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1255	HRCU-4	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1260	HRCU-4	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-1261	HRCU-4	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-1281	HRCU-4	CARRIER	MMD-AP0426BHPUL	HORIZONTAL DUCTED	42,000	47,500	1130 CFM	3.4 A	15 A	1	208	
FC-1282	HRCU-4	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-1286	HRCU-4	CARRIER	MMD-AP0366BHPUL	HORIZONTAL DUCTED	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	
FC-1287	HRCU-4	CARRIER	MMD-AP0426BHPUL	HORIZONTAL DUCTED	42,000	47,500	1130 CFM	3.4 A	15 A	1	208	
FC-145	HRCU-5	CARRIER	MMU-AP0091MH2UL	COMPACT 4-WAY CASSETTE	9,500	10,500	330 CFM	0.5 A	15 A	1	208	3
FC-205	HRCU-5	CARRIER	MMU-AP0121MH2UL	COMPACT 4-WAY CASSETTE	12,500	13,500	330 CFM	0.5 A	15 A	1	208	
FC-128	HRCU-6	CARRIER	MMU-AP0121MH2UL	COMPACT 4-WAY CASSETTE	12,000	13,500	330 CFM	0.5 A	15 A	1	208	
FC-133	HRCU-6	CARRIER	MMD-AP0426BHPUL	HORIZONTAL DUCTED	42,000	47,500	1130 CFM	3.4 A	15 A	1	208	
FC-1251	HRCU-6	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1256	HRCU-6	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1257	HRCU-6	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1258	HRCU-6	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-197	HRCU-7	CARRIER	MMU-AP0121YHPUL	1-WAY CASSETTE	12,000	13,500	330 CFM	0.4 A	15 A	1	208	
FC-1240	HRCU-7	CARRIER	MMD-AP0426BHPUL	HORIZONTAL DUCTED	42,000	47,500	1130 CFM	3.4 A	15 A	1	208	
FC-1241	HRCU-7	CARRIER	MMD-AP0366BHPUL	HORIZONTAL DUCTED	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	
FC-1242	HRCU-7	CARRIER	MMD-AP0426BHPUL	HORIZONTAL DUCTED	42,000	47,500	1130 CFM	3.4 A	15 A	1	208	
FC-1243	HRCU-7	CARRIER	MMD-AP0366BHPUL	HORIZONTAL DUCTED	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	
FC-1245	HRCU-7	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1246	HRCU-7	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1247	HRCU-7	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-1248	HRCU-7	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-1250	HRCU-7	CARRIER	MMD-AP0366BHPUL	FLOOR STANDING	36,000	40,000	1130 CFM	3.4 A	15 A	1	208	1, 2
FC-178	HRCU-8	CARRIER	MMU-AP0181MH2UL	COMPACT 4-WAY CASSETTE	18,000	20,000	450 CFM	0.5 A	15 A	1	208	
FC-187	HRCU-8	CARRIER	MMU-AP0071MH2UL	COMPACT 4-WAY CASSETTE	7,500	8,500	320 CFM	0.5 A	15 A	1	208	
FC-188A	HRCU-8	CARRIER	MMU-AP0244HPUL	4-WAY CASSETTE	24,000	27,500	670 CFM	1.1 A	15 A	1	208	
FC-188B	HRCU-8	CARRIER	MMU-AP0244HPUL	4-WAY CASSETTE	24,000	27,500	670 CFM	1.1 A	15 A	1	208	
FC-188C	HRCU-8	CARRIER	MMU-AP0244HPUL	4-WAY CASSETTE	24,000	27,500	670 CFM	1.1 A	15 A	1	208	
FC-188D	HRCU-8	CARRIER	MMU-AP0244HPUL	4-WAY CASSETTE	24,000	27,500	670 CFM	1.1 A	15 A	1	208	
FC-193	HRCU-8	CARRIER	MMD-AP0426BHPUL	HORIZONTAL DUCTED	42,000	47,500	1130 CFM	3.4 A	15 A	1	208	

83

NOTES:

1. ALL FLOOR MOUNTED UNITS SHALL BE REVOLUTIONAIRE UNIT VENTILATORS MODEL H104 D25 CO CARRIER 21-54K BTU, WITH THE LISTED CARRIER VRF UNITS, THE ASSOCIATED ERV, CABINET, HOT WATER COIL, AND CONTROLS AS REQUIRED BY REVOLUTIONAIRE, OR AN APPROVED EQUAL AS ACCEPTED BY THE ENGINEER. THE OUTDOOR AIR CONNECTION ON THE REAR OF THE UNIT SHALL BE PROVIDED TO FIT THROUGH THE EXISTING WALL OPENING, APPROXIMATELY 47" X 11", WITHOUT MODIFICATION TO THE WALL.
2. DRAIN UNIT VENTILATOR CONDENSATE THROUGH WALL TO FRENCH DRAIN.
3. PURCHASE AND TURNOVER TO OWNER.

23-CONDENSING UNIT SCHEDULE

MARK	MANUFACTURER	MODEL	SIZE	TOTAL COOLING CAPACITY (MBH)	COMPRESSOR TYPE	EER	REFRIGERANT TYPE	ELECTRICAL CHARACTERISTICS: MCA	MOCP	Ø	VOLTAGE	NOTES
CU-1A	CARRIER	38AUD	10 TONS	111.8	SCROLL	12.4	PURON	19 A	25 A	3	460 V	
CU-1B	CARRIER	38AUD	10 TONS	111.8	SCROLL	12.4	PURON	19 A	25 A	3	460 V	
CU-1C	CARRIER	38AUD	10 TONS	111.8	SCROLL	12.4	PURON	19 A	25 A	3	460 V	
CU-1D	CARRIER	38AUD	10 TONS	111.8	SCROLL	12.4	PURON	19 A	25 A	3	460 V	
CU-2A	CARRIER	38AUD	6 TONS	72.0	SCROLL	13.4	PURON	13 A	20 A	3	460 V	
CU-2B	CARRIER	38AUD	6 TONS	72.0	SCROLL	13.4	PURON	13 A	20 A	3	460 V	

23-VARIABLE REFRIGERANT BRANCH SELECTOR SCHEDULE

MARK	MANUFACTURER	MODEL	NUMBER OF PORTS	ELECTRICAL CHARACTERISTICS: AMPS	MOCP	Ø	VOLTAGE	NOTES
BS-1A	CARRIER	RBM-Y0611F6PUL	6	1.0	15.0	1	208	
BS-1B	CARRIER	RBM-Y0611F6PUL	6	1.0	15.0	1	208	
BS-1C	CARRIER	RBM-Y0611F6PUL	6	1.0	15.0	1	208	
BS-1D	CARRIER	RBM-Y0611F6PUL	6	1.0	15.0	1	208	
BS-2A	CARRIER	RBM-Y0611F4PUL	4	1.0	15.0	1	208	
BS-2B	CARRIER	RBM-Y0611F6PUL	6	1.0	15.0	1	208	
BS-3A	CARRIER	RBM-Y0611F4PUL	4	1.0	15.0	1	208	
BS-3B	CARRIER	RBM-Y0611F4PUL	4	1.0	15.0	1	208	
BS-4A	CARRIER	RBM-Y0611F4PUL	4	1.0	15.0	1	208	
BS-4B	CARRIER	RBM-Y0611F4PUL	4	1.0	15.0	1	208	
BS-4C	CARRIER	RBM-Y0611F6PUL	6	1.0	15.0	1	208	
BS-5A	CARRIER	RBM-Y0611F4PUL	4	1.0	15.0	1	208	
BS-5B	CARRIER	RBM-Y0611F4PUL	4	1.0	15.0	1	208	
BS-6	CARRIER	RBM-Y0611F6PUL	6	1.0	15.0	1	208	
BS-7A	CARRIER	RBM-Y0611F6PUL	6	1.0	15.0	1	208	
BS-7B	CARRIER	RBM-Y0611F6PUL	6	1.0	15.0	1	208	
BS-8A	CARRIER	RBM-Y0611F6PUL	6	1.0	15.0	1	208	
BS-8B	CARRIER	RBM-Y0964FUL	1	1.0	15.0	1	208	

23-EXPANSION TANK SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	TANK TYPE	FLUID TYPE	PRECHARGE PRESSURE	RELIEF VALVE PRESSURE(FT)	REQUIRED TANK VOLUME	REQUIRED ACCEPTANCE VOLUME	NOTES
ET-1	BELL&GOSSETT	B300	HOT WATER	BLADDER	WATER	12.0 psi	65	78.00 gal	28.5 gal	

23-AIR AND DIRT SEPARATOR SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	FLOW RATE (GPM)	PRESSURE DROP@DESIGN	CONNECTION SIZE	NOTES
ADS-1	BELL&GOSSETT	SRS 5F	HOT WATER	310 GPM	0.65 Feet	5"	

23-HVAC GRAVITY VENTILATOR SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	HOOD TYPE	THROAT AREA	MAXIMUM AIRFLOW	MAXIMUM FREE AREA VELOCITY	ROOF CURB HEIGHT	NOTES
GV-1	GREENHECK	GRSI	INTAKE	SPUN ALUMINUM	2.25 SF	2650 CFM	600	1' - 0"	
GV-2	GREENHECK	GRSR	RELIEF	SPUN ALUMINUM	2.25 SF	2650 CFM	600	1' - 0"	
GV-3	GREENHECK	GRSI	INTAKE	SPUN ALUMINUM	0.37 SF	780 CFM	600	1' - 0"	

23-MECHANICAL SHEET LIST

SHEET NUMBER	SHEET NAME
M000	MECHANICAL SCHEDULES AND LEGENDS
M001	MECHANICAL SCHEDULES
M002	MECHANICAL DETAILS
M003	MECHANICAL DETAILS
M004	VENTILATION SCHEDULES
M010	MECHANICAL DEMOLITION PLAN AREA A
M011	MECHANICAL DEMOLITION PLAN AREA B
M012	MECHANICAL DEMOLITION PLAN AREA C
M020	MECHANICAL ROOF DEMOLITION PLAN
M100	FIRST FLOOR DUCTWORK PLAN AREA A
M101	FIRST FLOOR DUCTWORK PLAN AREA B
M102	FIRST FLOOR DUCTWORK PLAN AREA C
M200	FIRST FLOOR PIPING PLAN AREA A
M201	FIRST FLOOR PIPING PLAN AREA B
M202	FIRST FLOOR PIPING PLAN AREA C
M300	MECHANICAL ROOF PLAN
M400	ENLARGED MECHANICAL PLANS
M500	MECHANICAL SECTIONS
M600	CONTROL SCHEMATICS - HVAC
M601	CONTROL SCHEMATICS - HVAC
M700	CONTROL SCHEMATICS - PIPING
M701	VRF PIPING SCHEMATICS
M702	VRF PIPING SCHEMATICS
M703	VRF PIPING SCHEMATICS

2

GENERAL NOTES

A. DRAWINGS ARE SCHEMATIC IN NATURE AND SHOW DESIGN INTENT. IF CHANGES ARE MADE DUE TO DIFFERING FIELD CONDITIONS, SUGGESTED CHANGES ARE TO BE SUBMITTED TO ARCHITECT FOR APPROVAL PRIOR TO CHANGES BEING MADE.
B. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE-RATED WALLS.
C. REPAIR ANY WORK DAMAGED AS A RESULT OF WORK BY THIS CONTRACT.
D. CONTRACTOR SHALL BE RESPONSIBLE TO SECURE AND PAY FOR FOR ALL MATERIALS, LABOR, LICENSES, PERMITS, INSPECTIONS, FEES, FINAL CLEANUP, AND QUALITY OF WORKMANSHIP AND MATERIALS REQUIRED TO PERFORM WORK DESCRIBED IN CONTRACT.
E. CONTRACTOR SHALL VERIFY AND SATISFY THAT ALL EQUIPMENT FURNISHED WILL PROPERLY FIT IN THE SPACE PROVIDED, THAT IT WILL FUNCTION PROPERLY, AND THAT ALL PARTS OF EQUIPMENT REQUIRING SERVICE ARE READILY ACCESSIBLE IN COMPLIANCE WITH THE MECHANICAL CODE.
F. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CUTTING AND PATCHING OF WALLS, FLOORS, AND ROOFS REQUIRED FOR INSTALLATION OF THE WORK. ALL OPENINGS IN WALLS, FLOORS OR CEILINGS SHALL BE PROPERLY SEALED
G. LOCATE WALL OPENINGS FOR DUCTS, GRILLES, AIR TRANSFER OPENINGS, PIPING, ETC. CENTERED BETWEEN FRAMING MEMBERS WHEN POSSIBLE.
H. FOR ALL ROOF-MOUNTED MECHANICAL EQUIPMENT, THE CONTRACTOR SHALL PROVIDE THE CURB, CUT THE ROOF OPENING, AND PROVIDE ROOFING AND ROOF FLASHING AROUND CURB SO THAT ROOF WARRANTY IS MAINTAINED. ALL ROOF PENETRATIONS SHALL BE COORDINATED WITH ALL TRADES. TOPS OF ROOF CURBS SHALL BE 12" ABOVE TOP LAYER OF ROOF INSULATION OR MEMBRANE AND SUPPORTED ON STRUCTURE UNLESS NOTED OTHERWISE.
I. ALL TRANSFER AIR DUCTS SHALL HAVE INTERIOR DUCT LINING. REFER TO THE SPECIFICATIONS FOR DUCT LINING REQUIREMENTS.
J. ALL DUCT FITTINGS SHALL BE LO-LOSS FITTINGS. ROUND TAPS INTO SQUARE DUCT SHALL BE CONICAL OR BELLMOUTH. SQUARE EL

23-CABINET HEATER / UNIT HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	AIRFLOW	HEATING COIL			ELECTRICAL CHARACTERISTICS				NOTES
					TOTAL HEATING CAPACITY	FLUID TYPE	DESIGN FLOW RATE	MCA	MOCP	VOLTAGE	Ø	
CUH-1	DAIKIN	FHHHC202	HORIZONTAL CONCEALED	250 CFM	16,994.0 Btu/h	WATER	1.7 GPM	1.2 A	15.0 A	120	1	1, 2
CUH-2	DAIKIN	FHHHC202	HORIZONTAL CONCEALED	250 CFM	16,994.0 Btu/h	WATER	1.7 GPM	1.2 A	15.0 A	120	1	1, 2
CUH-3	DAIKIN	FHHHC202	HORIZONTAL CONCEALED	250 CFM	16,994.0 Btu/h	WATER	1.7 GPM	1.2 A	15.0 A	120	1	1, 2
CUH-4	DAIKIN	FHHHC202	HORIZONTAL CONCEALED	250 CFM	16,994.0 Btu/h	WATER	1.7 GPM	1.2 A	15.0 A	120	1	1, 2
CUH-5	DAIKIN	FHHHC202	HORIZONTAL CONCEALED	250 CFM	16,994.0 Btu/h	WATER	1.7 GPM	1.2 A	15.0 A	120	1	1, 2
CUH-6	DAIKIN	FHHHC202	HORIZONTAL CONCEALED	250 CFM	16,994.0 Btu/h	WATER	1.7 GPM	1.2 A	15.0 A	120	1	1, 2
CUH-7	DAIKIN	FHHHC202	HORIZONTAL CONCEALED	250 CFM	16,994.0 Btu/h	WATER	1.7 GPM	1.2 A	15.0 A	120	1	1, 2
CUH-8	DAIKIN	FHHHC202	HORIZONTAL CONCEALED	250 CFM	16,994.0 Btu/h	WATER	1.7 GPM	1.2 A	15.0 A	120	1	1, 2
CUH-9	DAIKIN	FHHHC202	HORIZONTAL CONCEALED	250 CFM	16,994.0 Btu/h	WATER	1.7 GPM	1.2 A	15.0 A	120	1	1, 2
CUH-10	DAIKIN	FHHHC202	HORIZONTAL CONCEALED	250 CFM	16,994.0 Btu/h	WATER	1.7 GPM	1.2 A	15.0 A	120	1	1, 2

NOTES:

1. BOTTOM INLET, BOTTOM RETURN
2. MANUFACTURER TO PROVIDE INTEGRAL UNIT THERMOSTAT

23-AIR DEVICE SCHEDULE

MARK	BASIS OF DESIGN		DIFFUSER TYPE	MAXIMUM AIRFLOW	MAXIMUM PRESSURE DROP	MAXIMUM SOUND	BLADE SPACING	CONNECTION SIZE	FACE SIZE	NOTES
	MANUFACTURER	MODEL								
ECG-1	PRICE	80	EGG CRATE CRILLE	720 CFM	0.085 in-wg	20	1/2" X 1/2"	12" X 12"	12" X 12"	1
ECG-3	PRICE	80	EGG CRATE GRILLE	2880 CFM	0.085 in-wg	26	1/2" X 1/2"	24" X 24"	24" X 24"	1
SD-3	PRICE	SPD	SQUARE PLAQUE DIFFUSER	490 CFM	0.146 in-wg	26	N/A	10" Ø	24" X 24"	<varies>

NOTES:

1. CONFIRM COLOR WITH ARCHITECT.
2. MANUFACTURER TO PROVIDE INTEGRAL BALANCING DAMPER WITH GRILLE.

23-EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL	EXHAUST FAN			ELECTRICAL CHARACTERISTICS			NOTES
			AIRFLOW	EXTERNAL STATIC PRESSURE	RPM	HP	Ø	VOLTAGE	
EF-2	GREENHECK	G-099-VG	600 CFM	0.300 in-wg	1590	0.1	1	115 V	2, 5, 6
EF-3	GREENHECK	G-095-VG	200 CFM	0.300 in-wg	687	0.167	1	115 V	2, 5, 6
EF-4	GREENHECK	G-140-VG	1,600 CFM	0.300 in-wg	972	0.5	1	115 V	2, 5, 6
EF-8	GREENHECK	G-120-VG	850 CFM	0.300 in-wg	1009	0.25	1	115 V	2, 5, 6
EF-9	GREENHECK	G-099-VG	320 CFM	0.300 in-wg	701	0.25	1	115 V	2, 5, 6
EF-10	GREENHECK	G-099-VG	380 CFM	0.300 in-wg	762	0.25	1	115 V	4, 5, 6
EF-13	GREENHECK	G-140-VG	1,340 CFM	0.300 in-wg	847	0.25	1	115 V	2, 5, 6
EF-16	GREENHECK	CUE-160-VG	2,000 CFM	0.300 in-wg	866	0.5	1	115 V	2, 5, 6
EF-18	GREENHECK	G-095-VG	200 CFM	0.300 in-wg	687	0.167	1	115 V	3, 5, 6

GENERAL NOTES:
1. EF-1,5,6,7,11,12,14,15,17 EXISTING FANS TO REMAIN TO BE CONNECTED TO NEW BAS AND CONTROLLED PER PROJECT SEQUENCES.

NOTES:

1. ELECTRICAL CONTRACTOR TO PROVIDE WALL TOGGLE SWITCH FOR FAN CONTROL.
2. FAN IS CONTROLLED BY BAS. SEE CONTROL SCHEMATICS AND SEQUENCES. (GENERAL ROOM EXHAUST)
3. ELECTRICAL CONTRACTOR TO INTEGRATE WITH OCCUPANCY SENSOR FOR FAN CONTROL. (SINGLE PERSON RESTROOMS)
4. MANUFACTURER TO PROVIDE LINE VOLTAGE THERMOSTAT. CYCLE FAN TO MAINTAIN 80 DEG F. (MECH/ELEC ROOMS)
5. ALL EXHAUST FANS AND ASSOCIATED DUCTWORK, WIRING AND SUPPORTS NOT LISTED TO REMAIN OR BE REPLACED TO BE DEMOLISHED. REMOVE WIRING BACK TO ELECTRICAL PANEL.
6. MANUFACTURER TO PROVIDE BACKDRAFT DAMPER.

23-ENERGY RECOVERY UNIT SCHEDULE

MARK	MANUFACTURER	MODEL	SUPPLY FAN			EXHAUST FAN			SUMMER AIR TEMPERATURES					WINTER AIR TEMPERATURES					HHW FLOW RATE(GPM)	HEATING COIL CAPACITY	FLUID TYPE	ENTERING FLUID TEMP	LEAVING FLUID TEMP	ELECTRICAL CHARACTERISTICS				NOTES
									SUPPLY AIR		EXHAUST AIR			SUPPLY AIR		EXHAUST AIR												
			AIRFLOW	EXTERNAL STATIC PRESSURE	SUPPLY FAN HP	AIRFLOW	HP	EXTERNAL STATIC PRESSURE	DRY BULB ENTERING	WET BULB ENTERING	DRY BULB ENTERING	WET BULB ENTERING	SUMMER ENERGY RECOVERY EFFECTIVENESS	DRY BULB ENTERING	WET BULB ENTERING	DRY BULB ENTERING	WET BULB ENTERING	WINTER ENERGY RECOVERY EFFECTIVENESS						MCA	MOCP	Ø	VOLTAGE	
ERV-1	RENEWAIRE	DN-2-JRTAV135-H-EN4-L	1500 CFM	1.00 in-wg	2.7	1500 CFM	2.7	1.00 in-wg	93 °F	75 °F	75 °F	63 °F	42.3	8 °F	6 °F	70 °F	51 °F	73.9	5.45	54.34	YES	140 °F	120	19.4 A	25.0 A	3	208 V	2,3,4,5
ERV-2	RENEWAIRE	EV450IN	330 CFM	0.50 in-wg	0.4	336 CFM	0	0.50 in-wg	93 °F	75 °F	75 °F	63 °F	58.5	8 °F	6 °F	70 °F	51 °F	73.9	1.2	12.00	NO	140 °F	120	6.0 A	15.0 A	1	208 V	1,2,3,4
ERV-3	RENEWAIRE	DN-2-JRTAV135-H-EN4-L	1500 CFM	1.00 in-wg	2.7	1500 CFM	2.7	1.00 in-wg	93 °F	75 °F	75 °F	63 °F	42.3	8 °F	6 °F	70 °F	51 °F	73.9	5.45	54.34	YES	140 °F	120	19.4 A	25.0 A	3	208 V	2,3,4,5
ERV-4	RENEWAIRE	DN-2-JRTAV135-H-EN4-L	1500 CFM	1.00 in-wg	2.7	1500 CFM	2.7	1.00 in-wg	93 °F	75 °F	75 °F	63 °F	42.3	8 °F	6 °F	70 °F	51 °F	73.9	5.45	54.34	YES	140 °F	120	19.4 A	25.0 A	3	208 V	2,3,4,5
ERV-5	RENEWAIRE	EV450IN	330 CFM	0.50 in-wg	0.4	336 CFM	0	0.50 in-wg	93 °F	75 °F	75 °F	63 °F	58.5	8 °F	6 °F	70 °F	51 °F	73.9	1.2	12.00	NO	140 °F	120	6.0 A	15.0 A	1	208 V	2,3,4
ERV-6	RENEWAIRE	EV450IN	330 CFM	0.50 in-wg	0.4	336 CFM	0	0.50 in-wg	93 °F	75 °F	75 °F	63 °F	58.5	8 °F	6 °F	70 °F	51 °F	73.9	1.2	12.00	NO	140 °F	120	6.0 A	15.0 A	1	208 V	2,3,4

NOTES:

1. PURCHASE AND TURNOVER TO OWNER FOR FUTURE INSTALLATION.
2. PROVIDE WITH INTEGRAL HOT WATER COIL IF AVAILABLE, OTHERWISE PROVIDE EQUIVILANT DUCT MOUNTED HOT WATER COIL IN SUPPLY DUCT WITHIN 4 FEET OF THE SUPPLY AIR OUTLET FROM THE ERV PER SPECIFICATIONS.
3. AIRFLOWS NOTED ARE NOMINAL. BALANCE UNIT TO ACTUAL SYSTEM AIRFLOWS NOTED ON DRAWINGS.
4. PROVIDE WITH 2" MERV 8 AIR FILTERS.
5. CONTRACTOR TO PROVIDE ROOF CURB PER DETAIL, AND ANY REQUIRED STRUCTURAL REINFORCING NEEDEED TO SPPORT UNIT.

23-HYDRONIC PUMP SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	DESIGN FLOW RATE	TOTAL DYNAMIC HEAD	ELECTRICAL CHARACTERISTICS			NOTES
						MOTOR HP	Ø	VOLTAGE	
P-1	GRUNDFOS	NBS 025-070-4P	HOT WATER	200 GPM	45	5	3	460 V	
P-2	GRUNDFOS	NBS 025-070-4P	HOT WATER	200 GPM	45	5	3	460 V	

23-FIN TUBE RADIATION

Mark	MANUFACTURER	MODEL SERIES	HEATING COIL TYPE	FACE SIZE	PASSES	GPM	BTU/LINER FOOT PANEL	HEATING COIL EWT	HEATING COIL LAT	NOTES
FTR-1	MODINE	FT SERIES	FIN TUBE	4-1/4"X 4-1/4"X6'	1	0.4	600	140	120	1
FTR-2	MODINE	FT SERIES	FIN TUBE	4-1/4"X4-1/4"X8'	1	0.5	600	140	120	1

NOTES:

1. MOUNT WITH BOTTOM OF ENCLOSER SAME AS THE EXISTING BEING REPLACED.

23-CONDENSING BOILER

MARK	MANUFACTURER	MODEL	MBH CAPACITY	FLUID TYPE	FLUID TEMPERATURE		FLOW RATE (GPM)			ALLOWABLE GAS PRESSURE (")		MINIMUM THERMAL EFFICIENCY	ELECTRICAL CHARACTERISTICS		NOTES
					ENTERING	LEAVING	DESIGN	MINIMUM	FT HD	MINIMUM	MAXIMUM		AMPS	Ø	
HWB-1	LOCHINVAR	FBN2001	2,000	WATER	120 °F	140 °F	200	25	14.5	4	14	96.40%	13.0 A	3	1
HWB-2	AERCO	BMK 2000	2,000	WATER	120 °F	140 °F	200	25		4	14	94.60%	16.0 A	3	2

NOTES:

1. EXISTING BOILER TO REPLACE HWB-1.
2. EXISTING TO REMAIN.

COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
STEPHEN D. TOSSEY
56417
REGISTERED
PROFESSIONAL ENGINEER

SHP
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.2124
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD ESSR RENOVATIONS
825 WAYCROSS ROAD, CINCINNATI, OHIO 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OHIO 45240

ISSUANCES

	03-31-22	BID / PERMIT
2	06-03-22	ADDENDUM 3

MECHANICAL SCHEDULES

DATE 03-31-22

COMM NO. 2021091.01

M001

0-1" REFERENCE LINE

6/2/2022 11:40:54 AM C:\Users\eheinbach\Documents_LFile22\MEP 2021091.01 Winton Woods CSD-Early Childhood Village-ESSR_eheinbach.rvt

KEYNOTES

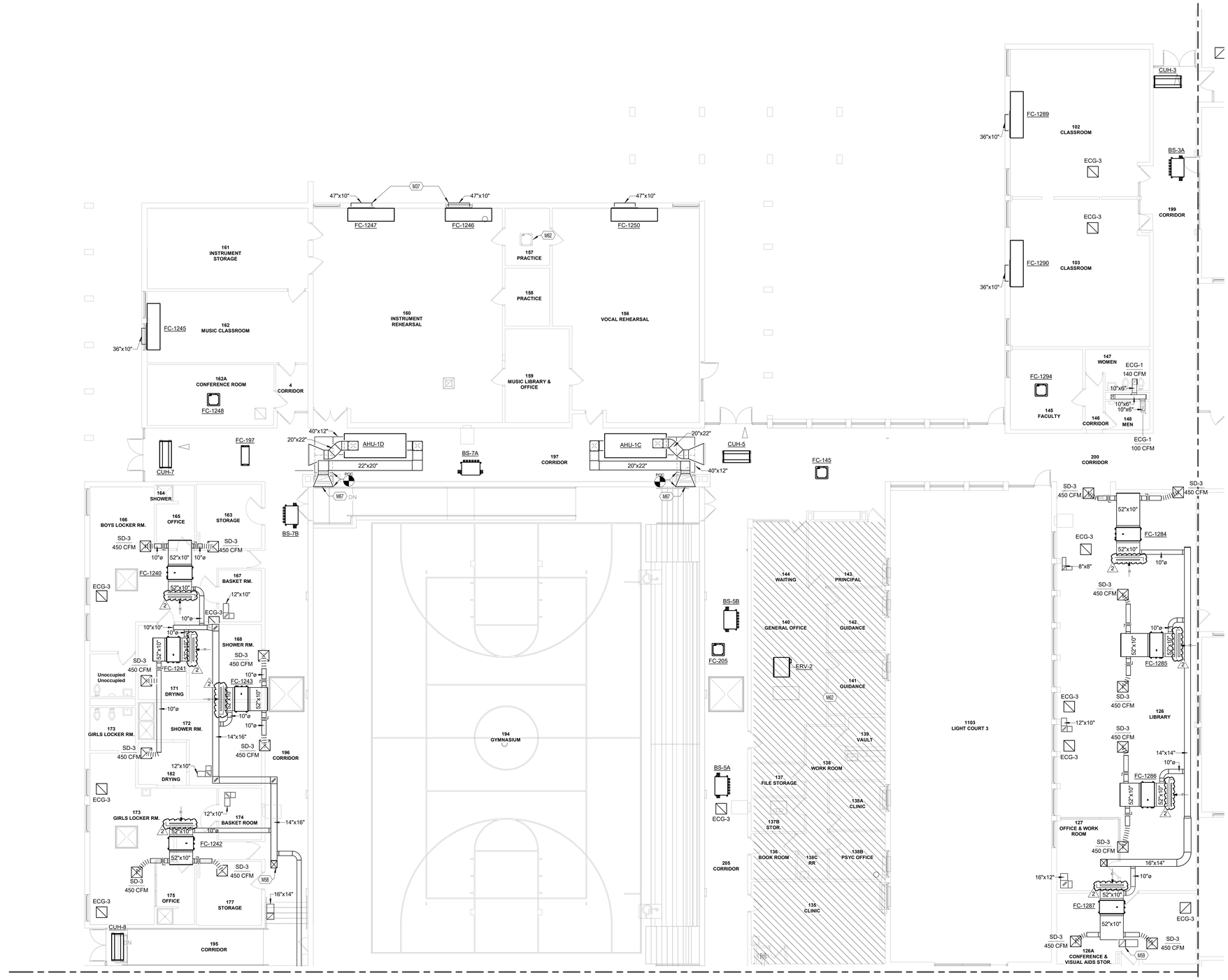
M37 COMBUSTION AIR VENT TO BE DEMOLISHED. PROTECT EXISTING CURB REUSE.

M58 SUPPLY /RETURN DUCT TO ERV-3. COORDINATE SUPPLY DUCT LOCATION WITH EXISTING FRAMED OPENING IN STRUCTURE.

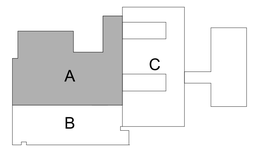
M59 SUPPLY /RETURN DUCT TO ERV-4. COORDINATE RETURN DUCT LOCATION WITH EXISTING FRAMED OPENING IN STRUCTURE.

M62 EXISTING HVAC TO REMAIN. PROTECT DURING CONSTRUCTION.

M67 RE-USE EXISTING SUPPLY GRILLE, BALANCE TO 3500 CFM.



1 M100 FIRST FLOOR DUCTWORK PLAN AREA A
1/8" = 1'-0"



KEY PLAN
NTS

"1" REFERENCE LINE

COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
STEPHEN D. TOSSEY
56417
REGISTERED PROFESSIONAL ENGINEER

SHP
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.2124
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD ESSER RENOVATIONS
825 WAYCROSS ROAD, CINCINNATI, OHIO 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OHIO 45240

ISSUANCES

	11-05-21	DESIGN DEVELOPMENT
	03-31-22	BID / PERMIT
1	05-18-22	ADDENDUM 1
2	06-03-22	ADDENDUM 3

FIRST FLOOR DUCTWORK PLAN AREA A

DATE 03-31-22

COMM NO. 2021091.01

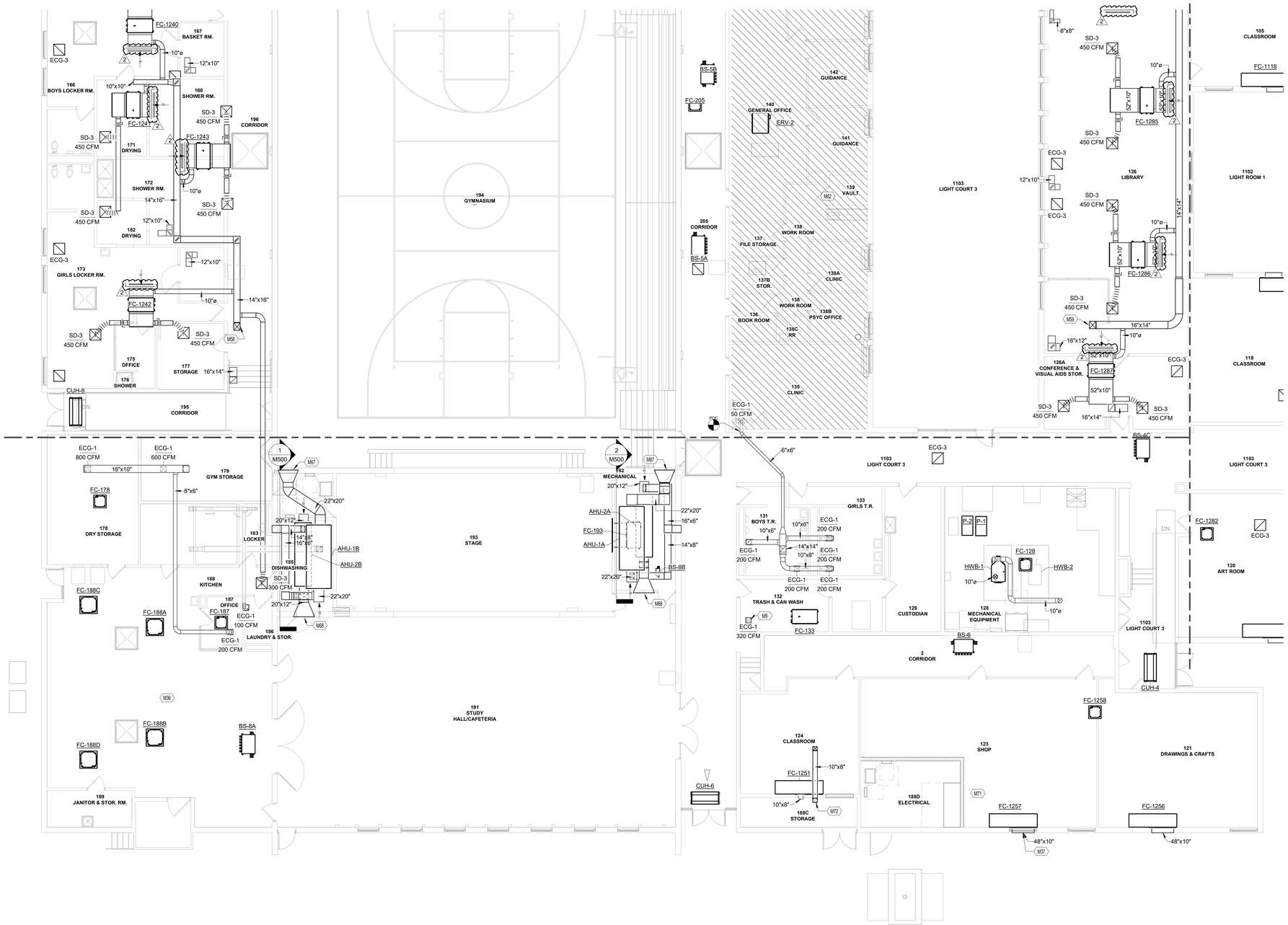
M100

C:\Users\eheinbach\Documents_LFile22\MEP 2021091.01 Winton Woods CSD-Early Childhood Village-ESSR_eheinbach.rvt

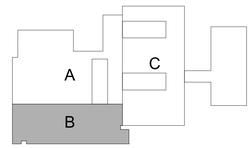
6/2/2022 11:40:58 AM

KEYNOTES

M9	UP TO EF-9.
M36	DESIGN OF KITCHEN DOES NOT REQUIRE KITCHEN EXHAUST SYSTEM PER OMC 507.3. EXISTING TYPE 1 HOOD AND EXHAUST SYSTEM TO REMAIN IN PLACE.
M37	COMBUSTION AIR VENT TO BE DEMOLISHED. PROTECT EXISTING CURB REUSE.
M58	SUPPLY /RETURN DUCT TO ERV-3. COORDINATE SUPPLY DUCT LOCATION WITH EXISTING FRAMED OPENING IN STRUCTURE.
M59	SUPPLY /RETURN DUCT TO ERV-4. COORDINATE RETURN DUCT LOCATION WITH EXISTING FRAMED OPENING IN STRUCTURE.
M62	EXISTING HVAC TO REMAIN. PROTECT DURING CONSTRUCTION.
M67	RE-USE EXISTING SUPPLY GRILLE, BALANCE TO 3500 CFM.
M68	RE-USE EXISTING SUPPLY GRILLE, BALANCE TO 1500 CFM.
M71	EXISTING BOILER FLUE TO REMAIN. PROTECT DURING CONSTRUCTION. VERIFY COMBUSTION AIR INTAKE IN FIELD.
M72	FOR ALL EXISTING CURBS BEING REUSED FOR AIR INLETS AND OUTLETS, PROVIDE A NEW GRAVITY VENT OR INTAKE HOOD PER THE SPECIFICATIONS. BASIS OF DESIGN TO BE GREENHECK GRSI/GRSR SIZE 20, SIZED TO FIT ON EXISTING ROOF CURB OF APPROXIMATELY 30X30". PROVIDE WITH GRAVITY DAMPERS.



1 M101 FIRST FLOOR DUCTWORK PLAN AREA B
1/8" = 1'-0"



KEY PLAN
NTS

"0-1" REFERENCE LINE

COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
STEPHEN D. TOSSEY
56417
REGISTERED
PROFESSIONAL ENGINEER

SHP
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.2264
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD ESSER RENOVATIONS
825 WAYCROSS ROAD, CINCINNATI, OHIO 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OHIO 45240

ISSUANCES

	11-05-21	DESIGN DEVELOPMENT
	03-31-22	BID / PERMIT
1	05-18-22	ADDENDUM 1
2	06-03-22	ADDENDUM 3

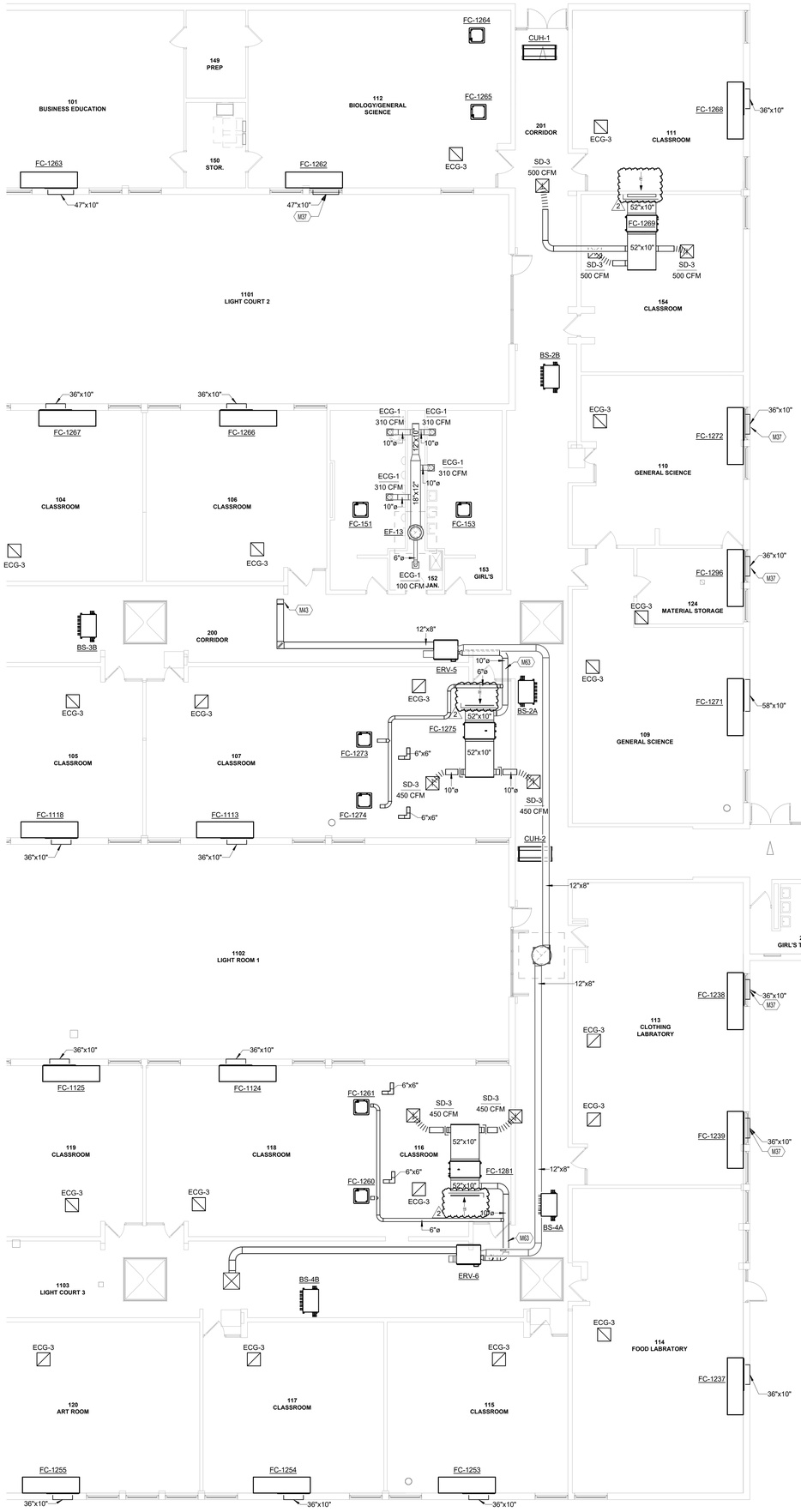
FIRST FLOOR DUCTWORK PLAN AREA B

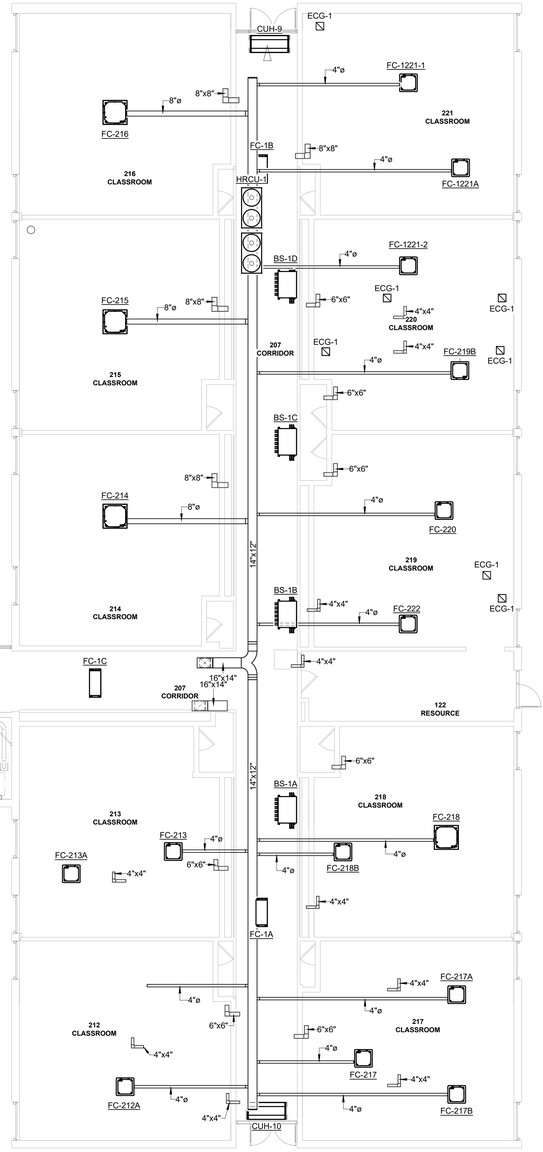
DATE 03-31-22

COMM NO. 2021091.01

M101

6/2/2022 11:41:03 AM C:\Users\eheinbach\Documents_LFile22\MEP 2021091.01 Winton Woods CSD-Early Childhood Village-ESSR_eheinbach.rvt





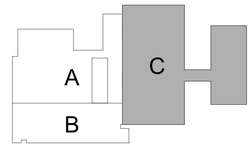
1 M102 FIRST FLOOR DUCTWORK PLAN AREA C
1/8" = 1'-0"

KEYNOTES

M37 COMBUSTION AIR VENT TO BE DEMOLISHED. PROTECT EXISTING CURB REUSE.

M43 SUPPLY DUCT AND RETURN DUCT THROUGH EXISTING FRAMED OPENING IN STRUCTURE.

M63 DUCT HEATING COIL FOR ERV. REFER ERV SCHEDULE FOR MORE DETAIL.



KEY PLAN
NTS

COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
STEPHEN D. TOSSEY
56417
REGISTERED
PROFESSIONAL ENGINEER

SHP
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.2124
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD ESSER RENOVATIONS
825 WAYCROSS ROAD, CINCINNATI, OHIO 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OHIO 45240

ISSUANCES

	11-05-21	DESIGN DEVELOPMENT
	03-31-22	BID / PERMIT
1	05-18-22	ADDENDUM 1
2	06-03-22	ADDENDUM 3

FIRST FLOOR DUCTWORK PLAN AREA C

DATE 03-31-22

COMM NO. 2021091.01

M102

0.1" REFERENCE LINE

6/2/2022 11:41:07 AM C:\Users\eheinbach\Documents_LFile22\MEP 2021091.01 Winton Woods CSD-Early Childhood Village-ESSR_eheinbach.rvt

GENERAL NOTES:

A. CONTROLLER ACCESS IS SHOWN AS A HASHED BOX.
B. SUPPLY, RETURN AND CONDENSATE PIPING IS 3/4" UNLESS NOTED OTHERWISE.
C. DO NOT ROUTE PIPING OVER ELECTRICAL EQUIPMENT.
D. CONDENSATE PIPING IS 1" UNLESS NOTED OTHERWISE.
E. PROVIDE FRENCH DRAIN FOR AIR CONDITIONING CONDENSATE PER DETAIL FOR ALL UNIT VENTILATORS IN WALL.

KEYNOTES

M46 SIZE EXPANSION TANKS AND AIR SEPARATOR BASED ON FINAL SYSTEM VOLUME.

M48 1" CONDENSATE DRAIN DOWN TO MOP SINK.

M49 1-1/2" HHWS/HHWR TO AHU.

M50 2" HHWS/HHWR TO AHU.

M51 ROUTE THE CONDENSATION PIPE TO DISCHARGE THROUGH EXTERIOR WITH FRENCH DRAIN.

M52 1-1/2" HHWS/HHWR TO AHU-1A.

M53 2" HHWS/HHWR TO AHU-2A

M54 1" CONDENSATE DRAIN FROM AHU-1A &2A.

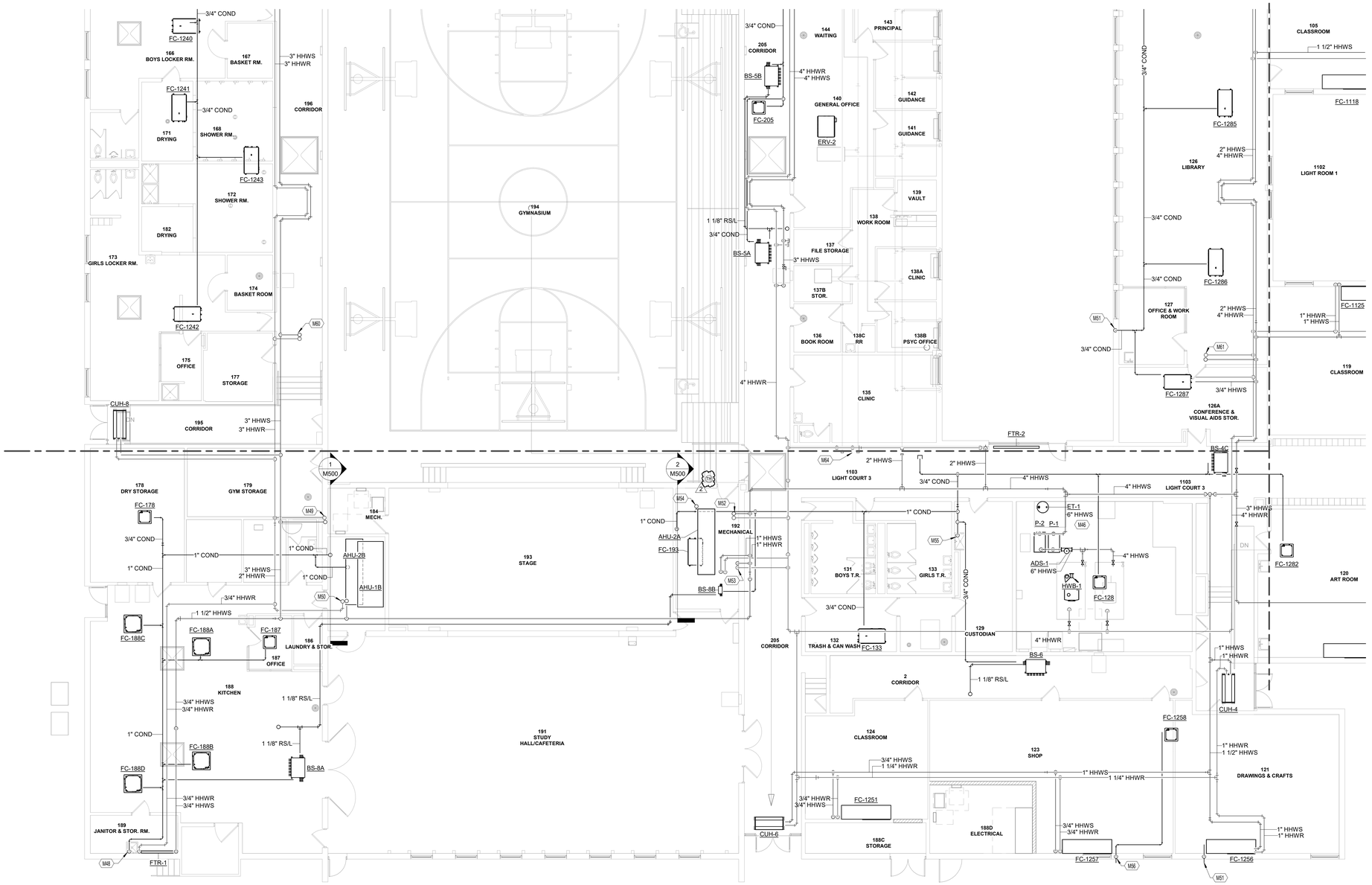
M55 1-1/4" CONDENSATE DRAIN DOWN TO MOP SINK.

M56 CONNECT CONDENSATE DRAIN TO CONDENSATE DRAIN OF FAN COIL AND ROUTE THE CONDENSATION PIPE TO DISCHARGE THROUGH EXTERIOR WITH FRENCH DRAIN.

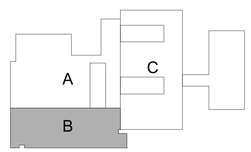
M60 1" HHWS/HHWR TO ERV-3.

M61 1" HHWS/HHWR TO ERV-4.

M64 EXTEND EXISTING HWR&S TO NEW HEADERS.



1 M201 FIRST FLOOR MECHANICAL PIPING PLAN AREA B
1/8" = 1'-0"



KEY PLAN
NTS

COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
STEPHEN D. TOSSEY
56417
REGISTERED
PROFESSIONAL ENGINEER

SHP
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.2124
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD ESSER RENOVATIONS
825 WAYCROSS ROAD, CINCINNATI, OHIO 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OHIO 45240

ISSUANCES

	11-05-21	DESIGN DEVELOPMENT
	03-31-22	BID / PERMIT
1	05-18-22	ADDENDUM 1
2	06-03-22	ADDENDUM 3

FIRST FLOOR PIPING PLAN AREA B

DATE 03-31-22

COMM NO. 2021091.01

M201

"0.1" REFERENCE LINE"

6/2/2022 11:41:18 AM C:\Users\eheinbach\Documents_LFile22\MEP 2021091.01 Winton Woods CSD-Early Childhood Village-ESSR_eheinbach.rvt

GENERAL NOTES:

A. CONTROLLER ACCESS IS SHOWN AS A HASHED BOX.
B. SUPPLY, RETURN AND CONDENSATE PIPING IS 3/4" UNLESS NOTED OTHERWISE.
C. DO NOT ROUTE PIPING OVER ELECTRICAL EQUIPMENT.
D. CONDENSATE PIPING IS 1" UNLESS NOTED OTHERWISE.
E. PROVIDE FRENCH DRAIN FOR AIR CONDITIONING CONDENSATE PER DETAIL FOR ALL UNIT VENTILATORS IN WALL.

KEYNOTES

M45 EXISTING EXHAUST DUCT AND HYDRONIC HEATERS IN THIS AREA TO REMAIN. CONNECT HOT WATER SUPPLY AND RETURN LINES TO NEW PIPING IN CORRIDOR. REPLACE EXHAUST FAN ON ROOF PER SCHEDULE.

M48 1" CONDENSATE DRAIN DOWN TO MOP SINK.

M51 ROUTE THE CONDENSATION PIPE TO DISCHARGE THROUGH EXTERIOR WITH FRENCH DRAIN.

M56 CONNECT CONDENSATE DRAIN TO CONDENSATE DRAIN OF FAN COIL AND ROUTE THE CONDENSATION PIPE TO DISCHARGE THROUGH EXTERIOR WITH FRENCH DRAIN.

M57 1" HHWS/HHWR TO ERV-1.

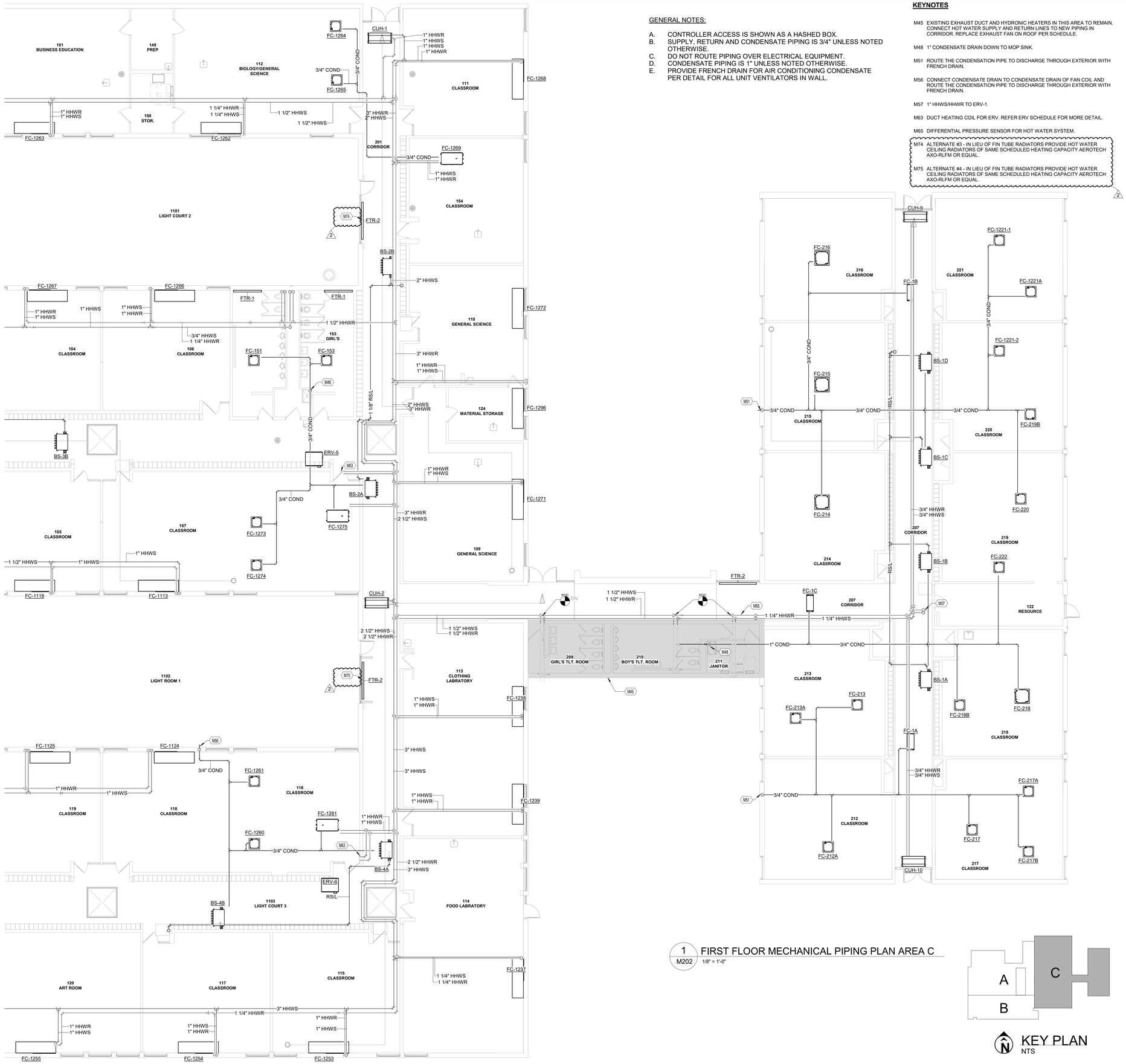
M63 DUCT HEATING COIL FOR ERV. REFER ERV SCHEDULE FOR MORE DETAIL.

M65 DIFFERENTIAL PRESSURE SENSOR FOR HOT WATER SYSTEM.

M74 ALTERNATE #3 - IN LIEU OF FIN TUBE RADIATORS PROVIDE HOT WATER CEILING RADIATORS OF SAME SCHEDULED HEATING CAPACITY AEROTECH AXO-RLFM OR EQUAL.

M75 ALTERNATE #4 - IN LIEU OF FIN TUBE RADIATORS PROVIDE HOT WATER CEILING RADIATORS OF SAME SCHEDULED HEATING CAPACITY AEROTECH AXO-RLFM OR EQUAL.

2



1 M202 FIRST FLOOR MECHANICAL PIPING PLAN AREA C
1/8" = 1'-0"

KEY PLAN
NTS

"0.1" REFERENCE LINE"

COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
STEPHEN D. TOSSEY
56417
REGISTERED
PROFESSIONAL ENGINEER

SHP
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.223.2264
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD ESSER RENOVATIONS
825 WAYCROSS ROAD, CINCINNATI, OHIO 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OHIO 45240

ISSUANCES

	11-05-21	DESIGN DEVELOPMENT
	03-31-22	BID / PERMIT
1	05-18-22	ADDENDUM 1
2	06-03-22	ADDENDUM 3

FIRST FLOOR PIPING PLAN AREA C

DATE 03-31-22

COMM NO. 2021091.01

M202

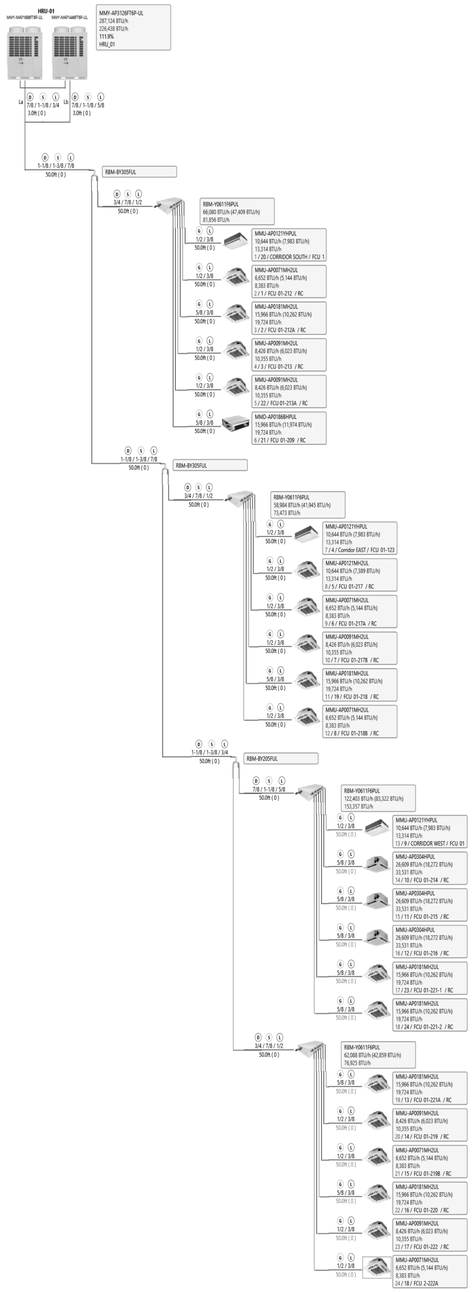
6/2/2022 11:41:25 AM C:\Users\eheinbach\Documents_LFile22\MEP 2021091.01 Winton Woods CSD-Early Childhood Village-ESSR_eheinbach.rvt

VRoom Select v2.0.405
11/04/2021

HRU-01

Piping Diagram Image (Design View)

Note: Installing Contractor must verify actual piping lengths and update selection file as necessary to check for errors and calculate correct additional refrigerant charge.

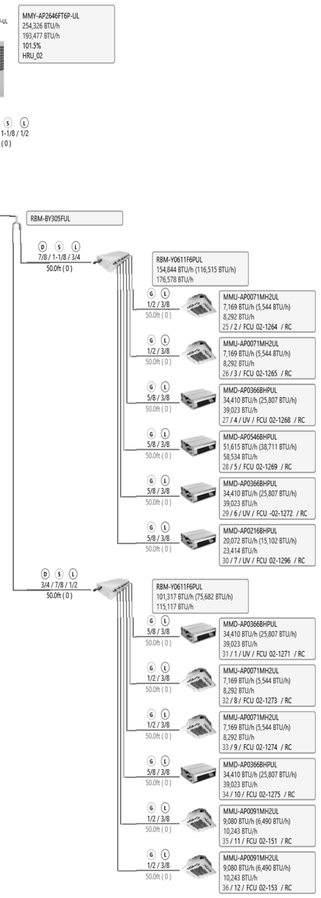


VRoom Select v2.0.405
11/04/2021

HRU-02

Piping Diagram Image (Design View)

Note: Installing Contractor must verify actual piping lengths and update selection file as necessary to check for errors and calculate correct additional refrigerant charge.

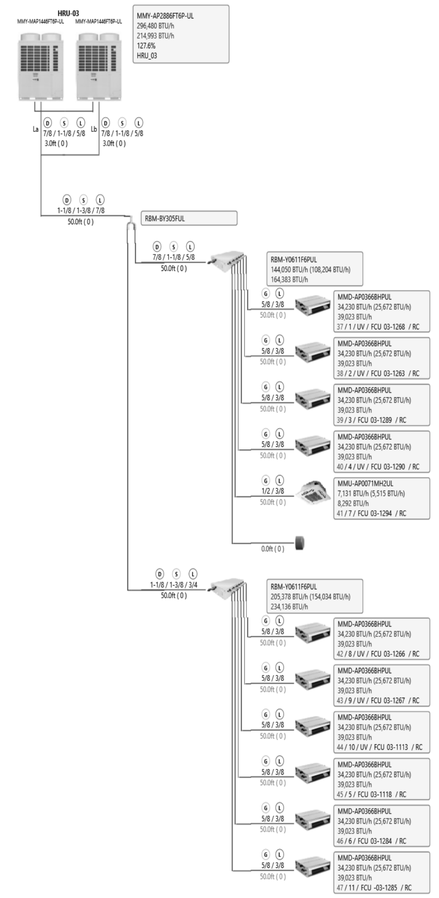


VRoom Select v2.0.405
11/04/2021

HRU-03

Piping Diagram Image (Design View)

Note: Installing Contractor must verify actual piping lengths and update selection file as necessary to check for errors and calculate correct additional refrigerant charge.



COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
STEPHEN D. TOSSEY
56417
REGISTERED
PROFESSIONAL ENGINEER

SHP
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.2124
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD ESSER RENOVATIONS
825 WAYCROSS ROAD, CINCINNATI, OHIO 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OHIO 45240

ISSUANCES

2	06-03-22	ADDENDUM 3

VRF PIPING SCHEMATICS

DATE 03-31-22

COMM NO. 2021091.01

M701

"0.1" REFERENCE LINE"

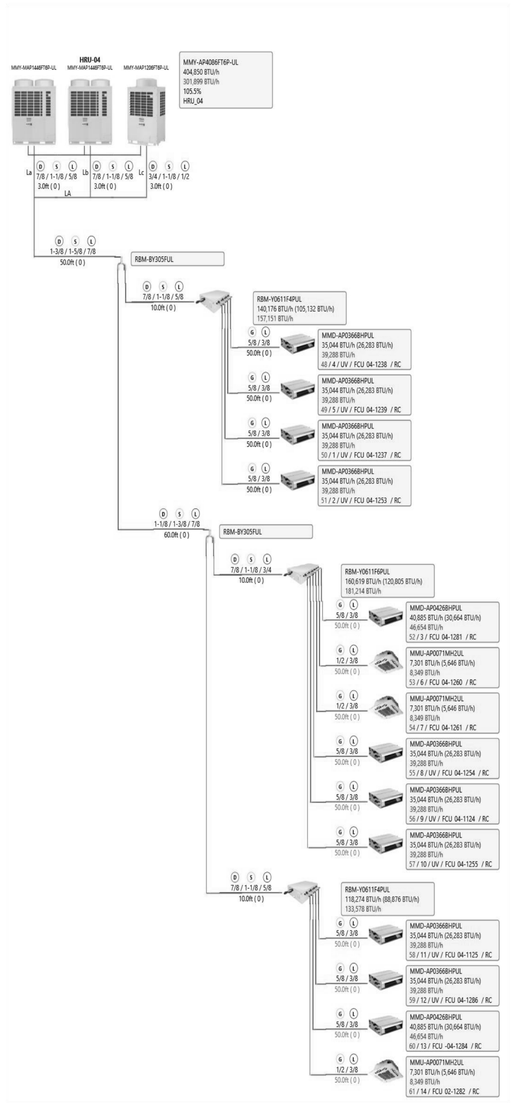
6/2/2022 11:41:26 AM C:\Users\eheinbach\Documents_LFile22\MEP 2021091.01 Winton Woods CSD-Early Childhood Village-ESSR_eheinbach.rvt

VRoom Select v2.0.405
11/04/2021

HRU-04

Piping Diagram Image (Design View)

Note: Installing Contractor must verify actual piping lengths and update selection file as necessary to check for errors and calculate correct additional refrigerant charge.

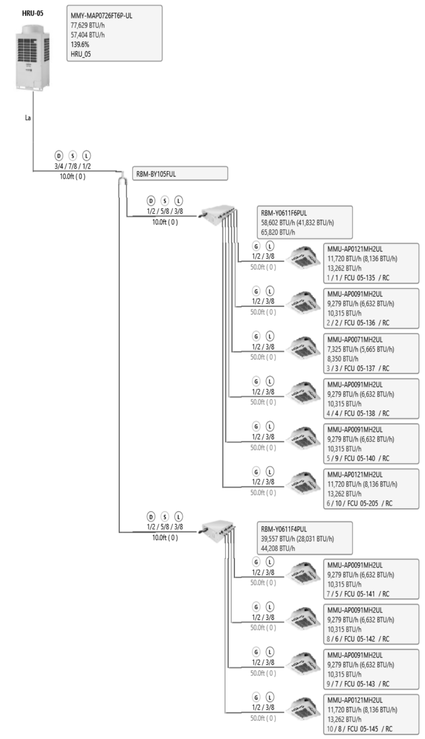


VRoom Select v2.0.405
11/04/2021

HRU-05

Piping Diagram Image (Design View)

Note: Installing Contractor must verify actual piping lengths and update selection file a necessary to check for errors and calculate correct additional refrigerant charge.

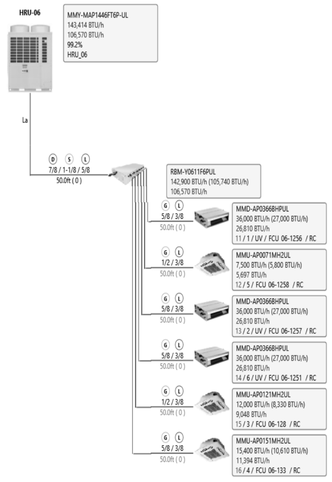


VRoom Select v2.0.405
11/04/2021

HRU-06

Piping Diagram Image (Design View)

Note: Installing Contractor must verify actual piping lengths and update selection file as necessary to check for errors and calculate correct additional refrigerant charge.



COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
STEPHEN D. TOSSEY
56417
REGISTERED PROFESSIONAL ENGINEER

SHP
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.423.2124
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD ESSER RENOVATIONS
825 WAYCROSS ROAD, CINCINNATI, OHIO 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OHIO 45240

ISSUANCES

2	06-03-22	ADDENDUM 3

VRF PIPING SCHEMATICS

DATE 03-31-22

COMM NO. 2021091.01

M702

"0-1" REFERENCE LINE"

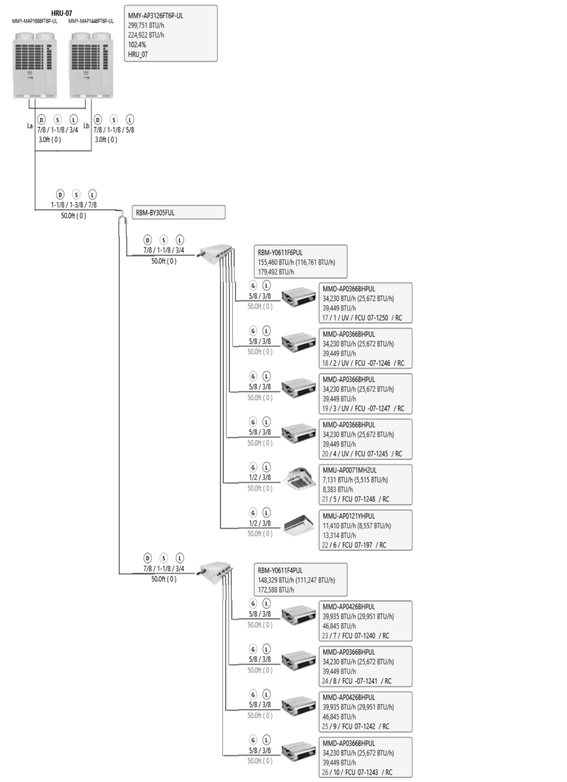
6/2/2022 11:41:26 AM C:\Users\eheinbach\Documents_LFile22\MEP 2021091.01 Winton Woods CSD-Early Childhood Village-ESSR_eheinbach.rvt

VRoom Select v2.0.405
11/04/2021

HRU-07

Piping Diagram Image (Design View)

Note: Installing Contractor must verify actual piping lengths and update selection file as necessary to check for errors and calculate correct additional refrigerant charge.

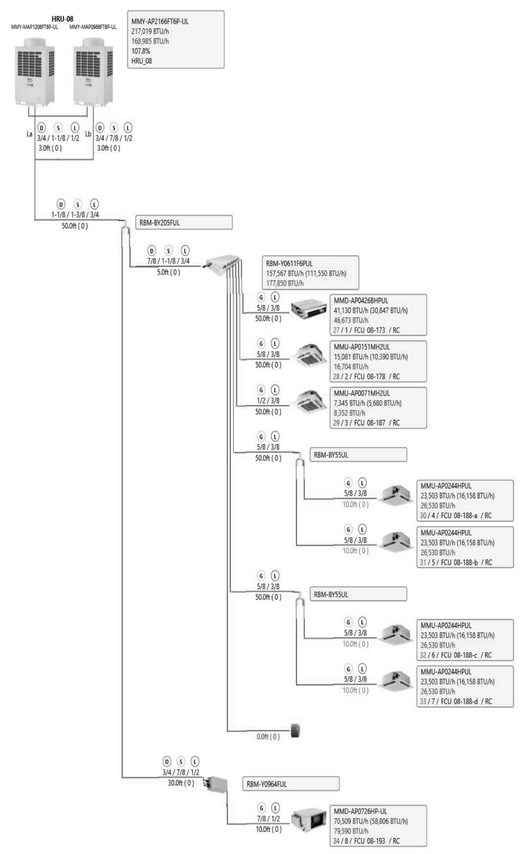


VRoom Select v2.0.405
11/04/2021

HRU-08

Piping Diagram Image (Design View)

Note: Installing Contractor must verify actual piping lengths and update selection file as necessary to check for errors and calculate correct additional refrigerant charge.



COPYRIGHT
STEED HAMMOND PAUL, INC
ALL RIGHTS RESERVED

STATE OF OHIO
STEPHEN D. TOSSEY
56417
REGISTERED
PROFESSIONAL ENGINEER

SHP
312 Plum Street, Ste 700
Cincinnati, Ohio 45202
513.381.2112
1086 North 4th Street, Ste 111
Columbus, Ohio 43201
614.223.2264
223 Fairfield Avenue, Ste 100
Bellevue, Kentucky 41073
859.360.1234

WINTON WOODS CITY SCHOOLS
EARLY CHILDHOOD ESSER RENOVATIONS
825 WAYCROSS ROAD, CINCINNATI, OHIO 45240

WINTON WOODS CITY SCHOOLS
825 WAYCROSS ROAD, SUITE A, CINCINNATI, OHIO 45240

ISSUANCES

2	06-03-22	ADDENDUM 3

VRF PIPING SCHEMATICS

DATE 03-31-22

COMM NO. 2021091.01

M703

0"x1" REFERENCE LINE

6/2/2022 11:41:27 AM C:\Users\eheinbach\Documents_LFile22\MEP 2021091.01 Winton Woods CSD-Early Childhood Village-ESSR_eheinbach.rvt