

05/30/2025

Quackenbush Architects + Planners
1217 Hampton Street
Columbia, South Carolina 29201

May 30, 2025

ADDENDUM NO. 1

The following items shall take precedence over the drawings and specifications for the above named project and shall become a part of the contract documents. Where any item called for in the specifications, or indicated on the drawings, is not supplemented hereby, the original requirements shall remain in effect. Where any original item is amended, voided or superseded hereby, the provisions of such item not specifically amended, voided or superseded shall remain in effect.

ATTACHMENTS

Documents:

1. Non-mandatory Pre-bid sign-in sheet
2. Drawings: C-104, M-101, M-201, M-302, M-403, M-501
3. Specification Sections: SE-310

GENERAL

1. Bidders are hereby advised that information from bid documents which are not received from the sources listed in the Invitation for Bids is not legitimate and the bidder accepts full responsibility for any differences. Quackenbush Architects + Planners has not authorized the scanning of their documents. Bidders should be aware that the plans are copyrighted and any unlawful use is subject to legal action. Bidders are further advised that the purchase and/or use of partial bid documents is not recommended and bidder will be responsible for any discrepancies which might have been avoided had a full set of documents been reviewed.
2. Listing of multiple products or manufacturers within specifications or approval of products or manufacturers via substitution request does not waive or preclude any and all performance, warranty or specific requirements listed within the specification unless specifically noted in the Addendum. Only manufacturers and products meeting the specification requirements and listed in the specifications or included in the Addendum shall be approved for the project.

DRAWINGS

<u>Item No.</u>	<u>Description</u>
------------------------	---------------------------

- | | |
|-----|---|
| 1-1 | <u>Sheet C-104 – DEMOLITION PLAN:</u>
a) Revised the sheet to include trees removed by owner and contractor. |
|-----|---|

05/30/2025

- 1-2 Sheet M-101 – DUCTWORK – FIRST FLOOR:
 - a) Updated physical size of air handling units AHU-1 and AHU-2
 - b) Removed 48"x48" outside air intake duct from AHU-1 to louver.
 - c) Removed 48"x48" outside air intake duct from AHU-2 to louver.
 - d) Updated drawing note 2.

- 1-3 Sheet M-201 – HVAC PIPING – FIRST FLOOR:
 - b) Updated physical size of air handling units AHU-1 and AHU-2.

- 1-4 Sheet M-302 – MECHANICAL CONTROLS SYSTEMS AND SCHEMATICS:
 - a) Added the sheet M-302.

- 1-5 Sheet M-403 – MECHANICAL DETAILS:
 - a) Added the sheet M-403.

- 1-6 Sheet M-501 – MECHANICAL SCHEDULES:
 - a) Updated air handling unit schedule.

SPECIFICATIONS

- | <u>Item No.</u> | <u>Description</u> |
|------------------------|--|
| 1-1 | <u>SE-310 – INVITATION FOR DESIGN-BID-BUILD CONSTRUCTION SERVICES:</u> <ul style="list-style-type: none">a) Revised bid date only. |

END OF ADDENDUM NO. 1

Non-mandatory Pre-Bid Conference Sign-in Sheet

Coastal Carolina University

PGA Golf Management Program Academic Learning Lab Construction

State Project No. H17-9623-CB | Architect's Project No. 22.304.00

May 27, 2025, 10:00AM

NAME, TITLE, & SIGNATURE	ORGANIZATION / COMPANY	MAILING ADDRESS	PHONE	EMAIL ADDRESS	GC OR SUB
Shawn Godwin	CCU	PO Box 261954 Conway, SC 29228	843.349.2672	sgodwin@coastal.edu	
Barbara Haller	Quackenbush Architects + Planners	1217 Hampton St., Columbia, SC 29201	803.771.2999	bhaller@quackenbusharchitects.com	
Bob Hammond	CONTRACT CONSTRUCTION		803 781-7058	QUOIES@CONTRACT CONSTRUCTION.NET	GC
Christopher Edwards Senior PM	Monteith Construction		910 515-3551	cedwards@monteithco.com	GC
Brandon Lawrence Owner	Carolina Utilities and Sewer		843- 576-9740	Brandon@carolina utilities.com	Sub

May 27, 2025 10:00AM

**** PLEASE PRINT ****

NAME, TITLE, & SIGNATURE	ORGANIZATION / COMPANY	MAILING ADDRESS	PHONE	EMAIL ADDRESS	GC OR SUB
Annie Whiting	Robbins Construction	3262 Landmark Ave N. Charleston, SC 29401	404-620-9177	annie.whiting@robbsconstructiongroup.com	GC
Mike Dougherty	Consensus Construction	4277 HWY 175 Myrtle Beach SC 29588	843-546-2667	bids@consensusconstruction.com	GC
Tyler Wright	Garrett Construction	155 Main St. Suite 804 Greenville, SC 29601	864-617-0453	twright@garrettdgrp.com	GC
West Gunter	FBI Construction	490 Allied Drive Conway SC 29526	843-665-0408	westgunter@fbi-construction.com	GC
Nat Smith ESTIMATOR	Coastal Structures Corporation	407 Curran St. Georgetown, SC 29440	843-283-3006	nat@coastalstructures.com	G.C.

Current Owner
Kenneth & Gale Marlowe
D.B. 1926 / 681

Parcel-I
Being A Portion of Parcel B
PIN: 383-00-00-0133
TMS: 151-00-02-013
223,751 sq.ft.

5.14 Acres
Current Owner
Coastal Carolina University
Deed Book 3474 Deed Page141
Plat Book 200 Plat Page 130

Parcel H
PIN: 383-00-00-0133
TMS: 151-00-02-013
Coastal Carolina University
Deed Book 3474 Deed Page141
Plat Book 200 Plat Page 130

PIN: 383-09-03-0021
TMS: 151-19-03-001
Current Owner
Veronica E. Lynch
D.B. 3490 / 1412

Remainder Parent Tract
Parcel B
PIN: 383-00-00-0133
TMS: 151-00-02-013
± 96.6 Acres
Current Owner
Coastal Carolina University

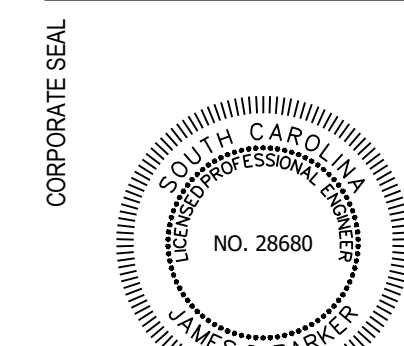
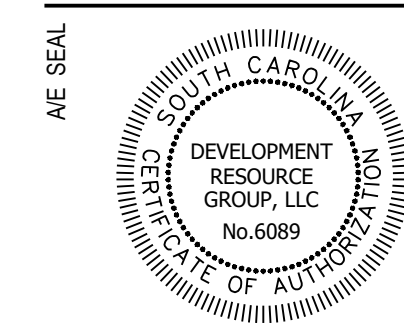
REFERENCE SITE DEMOLITION AND PHASING PLAN AD-101 FOR ADDITIONAL DETAIL

DEMOLITION PLAN GENERAL NOTES

1. UNDERGROUND UTILITIES ARE SHOWN APPROXIMATELY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING ANY WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE WHICH MAY OCCUR DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PROTECT ANY AND ALL UNDERGROUND UTILITIES.
2. THE INTENT OF THE DEMOLITION PLANS IS TO SHOW THE GENERAL NATURE OF THE DEMOLITION SCOPE. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR VISITING THE JOB SITE AND VERIFYING THE EXISTING CONDITIONS WITHIN DEMOLITION AREA.
3. THIS DEMOLITION PLAN IS PRELIMINARY AND SUBJECT TO THE SELECTED CONTRACTORS ANALYSIS OF CONSTRUCTION ACCESS, MEANS AND METHODS.
4. COMPLY WITH ALL STANDARD LOCAL, NATIONAL, STATE AND FEDERAL SAFETY REQUIREMENTS FOR DEMOLITION.
5. ABANDONING ITEMS OR UNUSED UTILITIES IN PLACE IS STRICTLY PROHIBITED, UNLESS SPECIFICALLY PERMITTED BY THE OWNER.
6. SCHEDULE ALL SERVICE SHUT-DOWN(S) WITH THE OWNER. NOTIFY OWNER A MINIMUM TIME OF ONE (1) WEEK AND ADDITIONALLY ONE (1) HOUR PRIOR TO SHUT-DOWN(S).
7. MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS.
8. DISPOSE OF ALL DEMOLISHED OR REMOVED MATERIALS LEGALLY OFF THE SITE. COMPLY WITH ALL LOCAL HAULING & DISPOSAL REQUIREMENTS.
9. CONDUCT DEMOLITION OPERATIONS & THE REMOVAL OF DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH STREETS, WALKS, & OTHER ADJACENT OCCUPIED OR USED FACILITIES. COMPLY WITH LOCAL JURISDICTION REQUIREMENTS FOR RECYCLING AND TREATMENT OF ITEMS TO BE RECYCLED.
10. CAUSE NO DAMAGE TO EXISTING CONSTRUCTION TO REMAIN. TAKE CARE NOT TO ENCROACH ON ADJACENT OCCUPIED AREAS OR AREAS NOT WITHIN THE SCOPE OF WORK. ANY DAMAGE CAUSED BY THE CONTRACTOR BEYOND THE CONSTRUCTION LIMITS (UNLESS APPROVED BY THE ENGINEER OR OWNER) IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR IT TO THE ORIGINAL OR BETTER CONDITION.
11. COORDINATE AND VERIFY WITH THE OWNER ALL ITEMS TO BE SALVAGED PRIOR TO DEMOLITION.
12. CONTRACTOR TO PROTECT IMPROVEMENTS OUTSIDE OF DEMOLITION LIMITS.
13. A DEMO PERMIT MUST BE OBTAINED FROM THE OFFICE OF THE STATE ENGINEER AND HORRY COUNTY FOR THE REMOVAL OF STRUCTURES.
14. THE DEMOLITION OF THE EXISTING BUILDING MUST OCCUR BEFORE THE FINAL CO IS GIVEN ON THE NEW BUILDING. ALL PARKING AND LANDSCAPING WILL NEED TO BE INSTALLED. FOR FINAL CO, CONTRACTOR TO COORDINATE WITH THE OFFICE OF STATE ENGINEER AND HORRY COUNTY IN ORDER TO SECURE PARTIAL CO TO OCCUPY THE NEW BUILDING DURING DEMOLITION.



QUACKENBUSH ARCHITECTS + PLANNERS
1217 HAMPTON | COLUMBIA, SC | 803.771.2399 | quackenbusharchitects.com



PGA GOLF MANAGEMENT PROGRAM
ACADEMIC LEARNING LAB CONSTRUCTION
COASTAL CAROLINA UNIVERSITY
107 OTTOLIE DR. CONWAY, SC 29526

CONDITIONS OF USE
THESE DRAWINGS AND THE DESIGN THEREON ARE THE PROPERTY OF QUACKENBUSH ARCHITECTS + PLANNERS. THE REPRODUCTION, COPYING, OR USE OF THIS DRAWING WITHOUT WRITTEN CONSENT OF QUACKENBUSH ARCHITECTS + PLANNERS IS PROHIBITED AND ANY INFRINGEMENT SHALL BE SUBJECT TO LEGAL ACTION.
COPYRIGHT © 2016 QUACKENBUSH ARCHITECTS + PLANNERS

PHASE
CONSTRUCTION
DOCUMENTS - FINAL

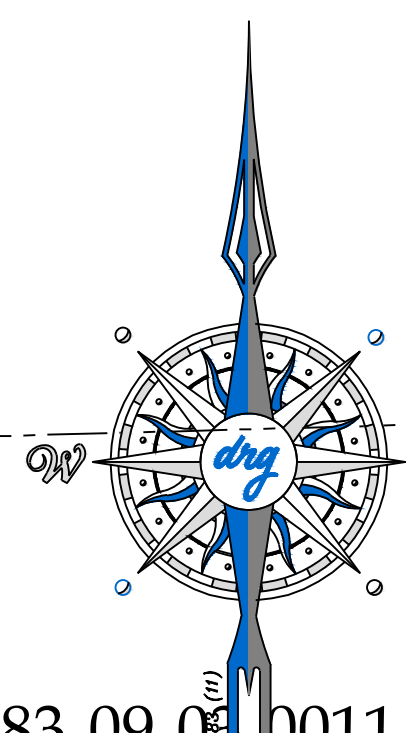
ISSUE DATE 04.10.24
PROJECT NO. 22.304.00
STATE PROJECT NO. H17-9623-MJ

REVISION DATE

TITLE
DEMOLITION PLAN

SHEET NO.

C-104

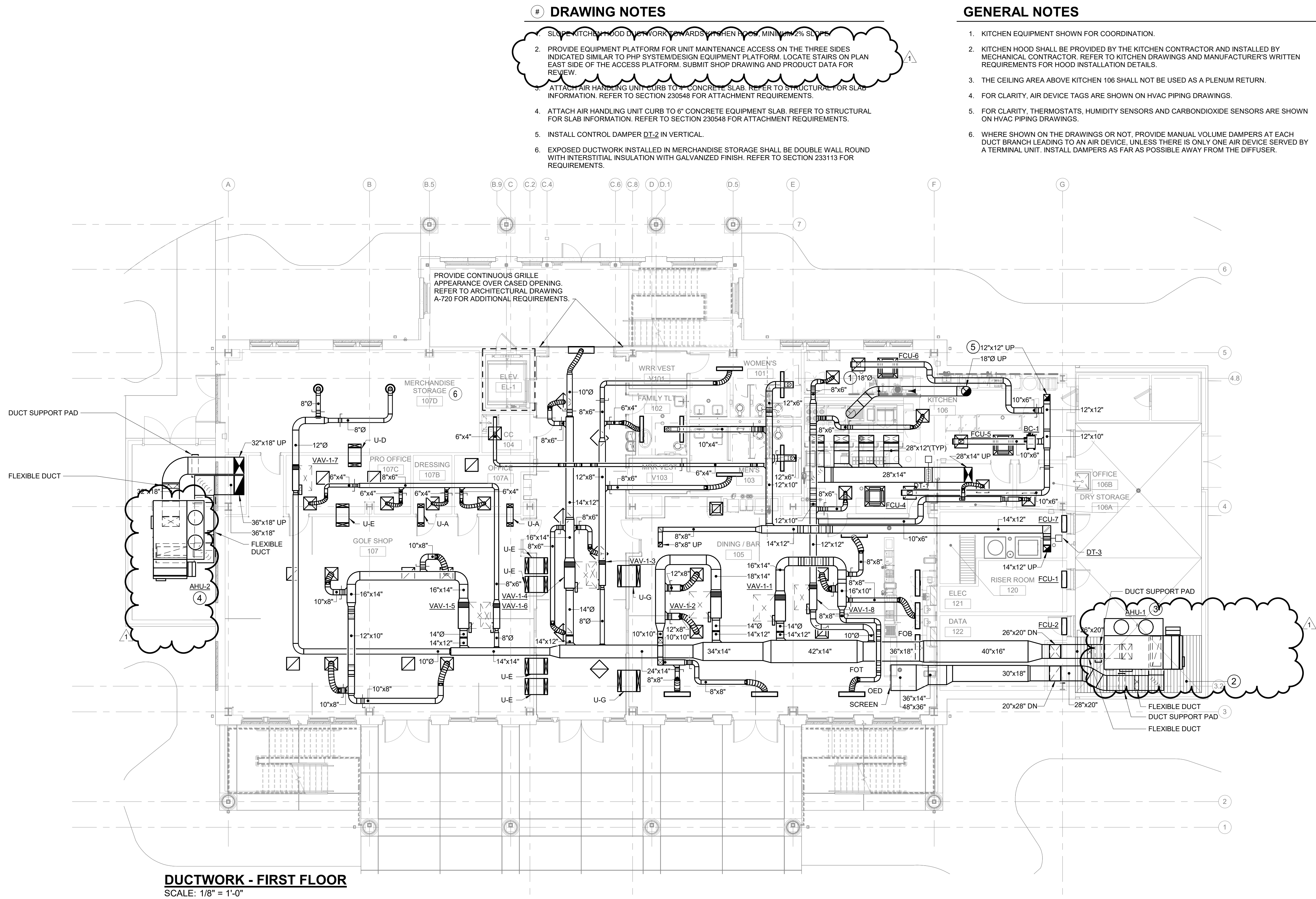


PIN: 383-09-03-0011
TMS: 151-19-03-001
GRAPHIC SCALE
Lori S. Lowrie

(IN FEET)
1 inch = 20 ft.

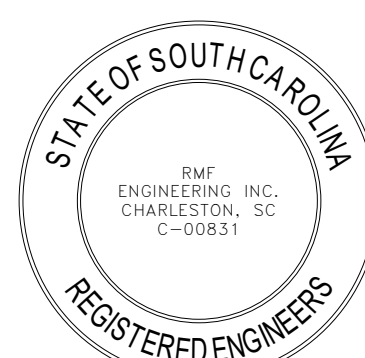
10/14/2021 12:20 PM

5/2/2025 11:24:41 AM
Autodesk Docs\CDU\PGA_S&P\022026\1\00_CDU_PGA_MEP.rvt



RMF ENGINEERING, INC.
194 SEVEN FARMS DRIVE
SUITE G
CHARLESTON, SC 29492
P: 843-971-9639 F: 843-971-9641
RMF PROJECT #: 03220511.A0

CORPORATE SEAL



PROJECT TITLE

PGA GOLF MANAGEMENT PROGRAM
ACADEMIC LEARNING LAB CONSTRUCTION
COASTAL CAROLINA UNIVERSITY

107 CITADEL DR. CONWAY, SC 29536

CONDITIONS OF USE
THIS DRAWING AND THE DESIGN THEREON ARE THE PROPERTY OF
QUACKENBUSH ARCHITECTS + PLANNERS
THE REPRODUCTION, COPYING, OR USE OF THIS DRAWING WITHOUT WRITTEN
CONSENT OF QUACKENBUSH ARCHITECTS + PLANNERS IS PROHIBITED AND
ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION.

COPYRIGHT TR 2011 QUACKENBUSH ARCHITECTS + PLANNERS

PHASE
CONSTRUCTION
DOCUMENTS - FINAL

ISSUE DATE 04.10.24
PROJECT NO. 22.304.00
STATE PROJECT NO. H17-9623-MJ

REVISION DATE
1 ADDENDUM 01 05/30/2025



GRAPHIC SCALE
8 4 0 8 16
SCALE: 1/8" = 1'-0"
UNIT OF MEASURE: FEET

TITLE
DUCTWORK - FIRST
FLOOR

SHEET NO

M-101

QUACKENBUSH ARCHITECTS + PLANNERS
1217 HAMPTON | COLUMBIA, SC | 803.771.2899 | quackenbusharchitects.com

A/E SEAL

DRAWING NOTES

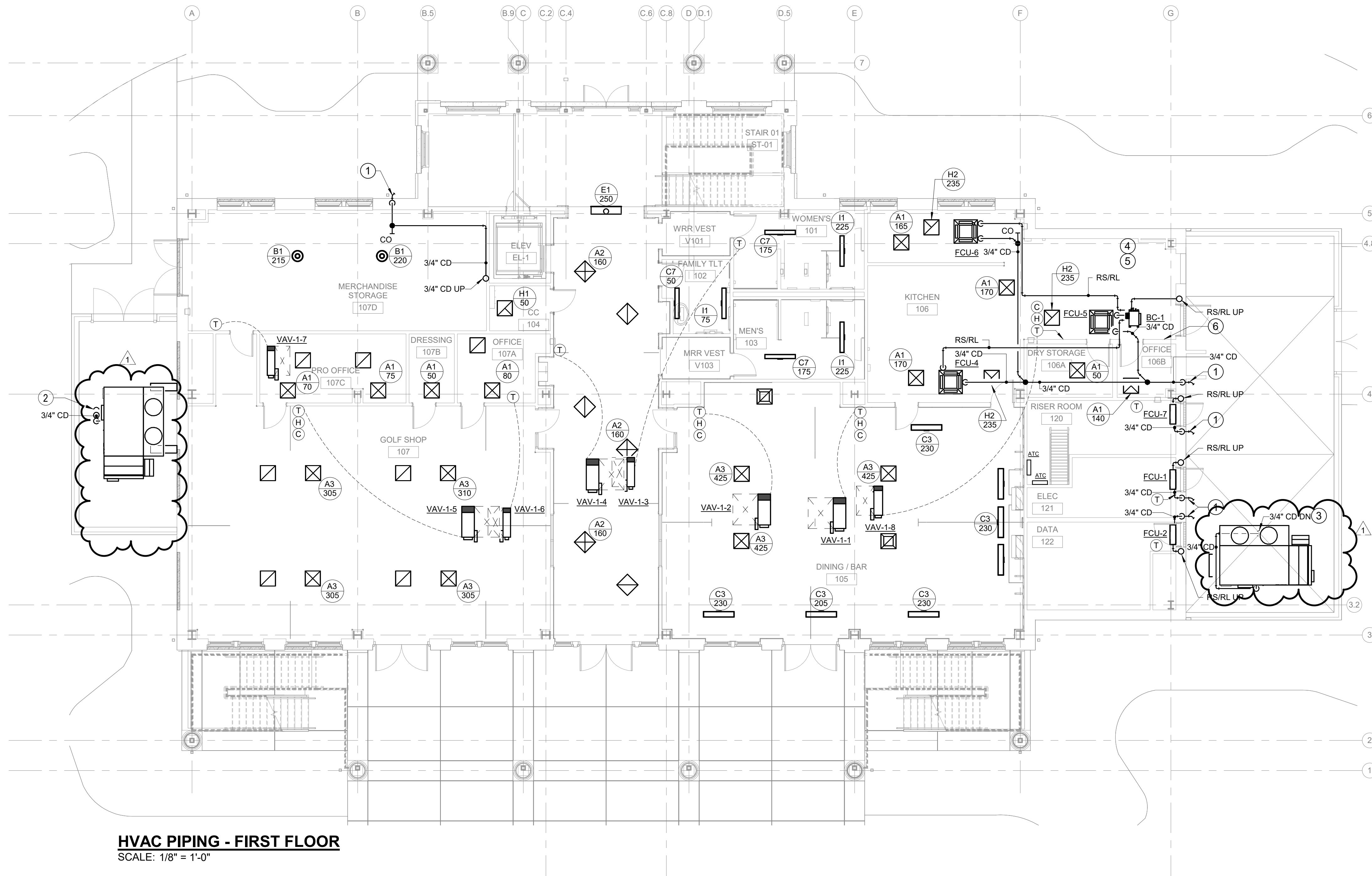
1. TERMINATE 3/4" CONDENSATE DRAIN TO GRADE AT 18" ABOVE FINISHED GRADE. TERMINATE WITH DOWNTURNED ELBOW.
2. TERMINATE 3/4" CONDENSATE DRAIN 6" ABOVE GRAVEL.
3. TERMINATE 3/4" CONDENSATE DRAIN 6" ABOVE STORM DRAIN. ROUTE PIPING UNDER EQUIPMENT PLATFORM.
4. PROVIDE CO2 MONITOR INSTALLED ON THE WALL 12" ABOVE THE FINISHED FLOOR ELEVATION AND SHALL ACTIVATE AN AUDIBLE AND VISIBLE SUPERVISORY ALARM IN THE KITCHEN AREA ONLY WHEN THE CONCENTRATION OF CO2 IS GREATER THAN 5,000 PPM (SEE NOTE 5). UPON DETECTION OF 30,000 PPM OR GREATER THE SYSTEM SHALL ENGAGE THE FIRE ALARM SYSTEM FOR THE ENTIRE BUILDING. CO2 MONITOR SHALL BE MACURCO CD-4MC OR APPROVED SIMILAR.
5. PROVIDE HORN STROBE FOR CO2 MONITORING ON THE WALL AT THE SAME HEIGHT AS THE FIRE ALARM DEVICES ON THE WALL IN THIS APPROXIMATE LOCATION. HORN STROBE SHALL BE BY THE MANUFACTURER OF THE CO2 MONITORING SYSTEM. COLOR OF STROBE SHALL BE COORDINATED WITH THE OWNER PRIOR TO ORDERING.
6. PROVIDE CO2 MONITORING MANUFACTURER'S CONTROL PANEL. THE CONTROL PANEL SHALL BE MONITORED BY THE FIRE ALARM SYSTEM FOR HIGH LIMIT ALARM AND SHALL BE CONNECTED TO THE BAS FOR NORMAL MONITORING.

GENERAL NOTES

1. SIZE REFRIGERANT PIPING IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. UNLESS OTHERWISE NOTED, RETURN DIFFUSERS SHALL BE TYPE F4 WITH RETURN AIR CANOPY.



RMF ENGINEERING, INC.
194 SEVEN FARMS DRIVE
SUITE G
CHARLESTON, SC 29492
P: 843-971-9639 F: 843-971-9641
RMF PROJECT #: 03220511.A0



HVAC PIPING - FIRST FLOOR
SCALE: 1/8" = 1'-0"



GRAPHIC SCALE
8 4 0 8 16
SCALE: 1/8" = 1'-0"
UNIT OF MEASURE: FEET

A/E SEAL

CORPORATE SEAL

PROJECT TITLE

PGA GOLF MANAGEMENT PROGRAM
ACADEMIC LEARNING LAB CONSTRUCTION
COASTAL CAROLINA UNIVERSITY
107 CITADEL DR. CONWAY, SC 29536

CONDITIONS OF USE
THIS DRAWING AND THE DESIGN THEREON ARE THE PROPERTY OF
QUACKENBUSH ARCHITECTS + PLANNERS
THE REPRODUCTION, COPYING, OR USE OF THIS DRAWING WITHOUT WRITTEN
CONSENT OF QUACKENBUSH ARCHITECTS + PLANNERS IS PROHIBITED AND
ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION.

COPYRIGHT TR 2011 QUACKENBUSH ARCHITECTS + PLANNERS

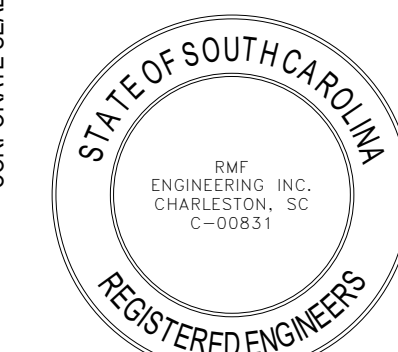
PHASE
CONSTRUCTION
DOCUMENTS - FINAL

ISSUE DATE 04.10.24
PROJECT NO. 22.304.00
STATE PROJECT NO. H17-9623-MJ

REVISION DATE
1 ADDENDUM 01 05/30/2025

TITLE
HVAC PIPING - FIRST
FLOOR

SHEET NO

M-201

SEQUENCE OF OPERATION

PART 1 - MASTER HEATING AND COOLING CONTROL

- A. THE BAS SHALL COMMAND THE AIR HANDLING UNIT ON BASED ON THE OCCUPIED/UNOCCUPIED SCHEDULE (INITIAL SCHEDULE SHALL BE PROVIDED BY THE OWNER) AND ENABLE THE AHU'S AUTOMATIC CONTROLS TO OPERATE AS INDICATED BELOW.
- B. BAS SHALL NORMALLY CONTROL THE SYSTEM HEATING AND COOLING MODES AS SELECTED IN ACCORDANCE WITH OUTDOOR AIR TEMPERATURE THROUGH THE BUILDING GLOBAL OUTDOOR AIR SENSOR. ON A RISE IN OUTDOOR AIR TEMPERATURE TO 50°F AND ABOVE, SYSTEMS SHALL OPERATE IN THE COOLING MODE. ON A FALL IN OUTDOOR AIR TEMPERATURE BELOW 50°F SYSTEMS SHALL OPERATE IN THE HEATING MODE.
- C. CONTROL POINT ADJUSTMENT FOR "HEATING" AND "COOLING" CHANGEOVER TEMPERATURE SHALL BE BY THE BAS.
- D. WHERE USED TO CONTROL BOTH COMFORT HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEAD BAND OF AT LEAST 5°F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.
- E. THE HVAC SYSTEMS AND BAS SHALL BE CAPABLE OF MAINTAINING SPACE TEMPERATURE SET POINTS WITHIN 2°F (PLUS OR MINUS) HEAD TO FOOT AND FROM SPACE TO SPACE.

PART 2 - AIR HANDLING UNIT CONTROL

A. SYSTEM CONTROL

- 1. SUPPLY AND RELIEF FAN SHALL BE MANUALLY INDEXED TO THE AUTOMATIC MODE AT THEIR RESPECTIVE VARIABLE FREQUENCY DRIVES.
- 2. THE AIR HANDLING UNIT SHALL BE ENERGIZED VIA REMOTE SIGNAL FROM THE BAS. THE BAS SHALL DETERMINE AND OPERATE THE UNIT ON AN OPTIMAL OCCUPIED AND UNOCCUPIED SCHEDULE WITH A 365 DAY/24 HOUR GRAPHIC INTERFACE SCHEDULE PROGRAM.
- 3. OPTIMUM START: THE BAS SHALL COMMAND THE SYSTEM ON BASED ON THE OPTIMUM START CONTROL STRATEGY (ALGORITHM) PROGRAMMED INTO THE BAS OR WHEN THE AHU IS OVERRIDDEN TO THE OCCUPIED MODE BY EITHER THE BAS FROM AN OPERATOR'S WORKSTATION, THE BAS WEB INTERFACE, OR FROM A VAV TERMINAL UNIT SPACE SENSOR OVERRIDE PUSHBUTTON. THE OPTIMUM START STRATEGY SHALL COMPARE EACH TERMINAL UNIT'S SPACE TEMPERATURE (WITHIN THE RESPECTIVE AHU ZONE) TO ITS OCCUPIED TEMPERATURE SETPOINT AND DETERMINE THE LENGTH OF TIME REQUIRED TO BRING THE SPACE FROM ITS CURRENT TEMPERATURE TO ITS OCCUPIED SPACE SETPOINT BASED ON THE SYSTEMS PREVIOUS OPERATING HISTORY AND CURRENT OUTSIDE TEMPERATURE AND HUMIDITY CONDITIONS. THE BAS SHALL WAIT AS LONG AS POSSIBLE TO START THE AHU SO THAT THE OCCUPIED TEMPERATURE SETPOINT IN EACH ZONE IS REACHED JUST BEFORE THE SCHEDULED OCCUPIED TIME.
- 4. OPTIMUM STOP: THE BAS SHALL DETERMINE HOW EARLY THE HEATING/COOLING TO EACH SPACE MAY BE COMMANDED OFF SO THAT THE SPACE DRIFTS NO MORE THAN 2°F FROM ITS HEATING OR COOLING SETPOINTS BEFORE THE END OF THE OCCUPIED SCHEDULE. THE SUPPLY FAN, RELIEF FAN, RETURN AIR DAMPER, RELIEF AIR DAMPER AND OUTSIDE AIR DAMPER SHALL CONTINUE TO OPERATE TO PROVIDE AIRFLOW AND VENTILATION TO THE OCCUPIED SPACES UNTIL THE END OF THE OCCUPIED SCHEDULE.
- 5. WHEN THE AIR HANDLING UNIT IS ENERGIZED THROUGH THE BAS, THE OUTDOOR DAMPER SHALL OPEN TO ITS MINIMUM BALANCED POSITION AND THE RETURN AIR DAMPER SHALL FULLY OPEN. THE SUPPLY FAN SHALL BE SOFT STARTED TO MINIMUM SPEED. THE RELIEF AIR DAMPER AND RELIEF AIR FAN SHALL INITIALLY BE DISABLED.
- 6. THE SUPPLY FAN SPEED SHALL BE MODULATED VIA THE VFD TO MAINTAIN SYSTEM STATIC PRESSURE SET POINT AS SEEN BY THE SYSTEM STATIC PRESSURE TRANSMITTER (SPT). THE SUPPLY FAN SHALL BE PROVIDED WITH A HIGH LIMIT CONTROL FUNCTION WHICH SHALL LIMIT THE CFM TO 115% OF ITS SCHEDULED QUANTITY. THE HIGH LIMIT CONTROL FUNCTION SHALL OVERRIDE SYSTEM STATIC PRESSURE CONTROL, ALARM THE BAS AND DEENERGIZE THE SUPPLY FAN IF THE STATIC PRESSURE EXCEEDS THE HIGH LIMIT.
- 7. WHEN THE AIR HANDLING UNIT IS DEENERGIZED THROUGH THE BAS, ALL CONTROLS SHALL RETURN TO THEIR NORMAL POSITION READY FOR RESTARTING. SUPPLY AND RELIEF FANS SHALL BE DISABLED. OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL CLOSE. RETURN AIR DAMPER SHALL BE OPEN.

B. HEATING MODE CONTROL

- 1. OCCUPIED MODE: SUPPLY FAN SHALL BE RUNNING, RETURN AND OUTDOOR DAMPER SHALL BE OPEN TO THEIR BALANCED POSITIONS, RELIEF AIR FAN SHALL BE UNDER BUILDING PRESSURE CONTROL. THE BAS SHALL MODULATE THE OUTSIDE AIR AND RETURN AIR DAMPERS SIMULTANEOUSLY TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 55°F. ON A RISE IN TEMPERATURE ABOVE ITS SET POINT, THE UNIT SHALL OPERATE IN ACCORDANCE WITH THE "COOLING MODE" OR "ECONOMIZER" SEQUENCE.
- 2. UNOCCUPIED MODE: THE AIR HANDLING UNIT SHALL BE DEENERGIZED WHEN THE UNOCCUPIED MODE IS INITIATED. THE SUPPLY FAN SHALL BE ENERGIZED WHEN THE OUTDOOR AIR TEMPERATURE, AS SENSED BY THE GLOBAL OUTDOOR AIR TEMPERATURE SENSOR, DROPS BELOW 50°F (ADJ) AND ANY TWO ROOM TEMPERATURES DROP BELOW THE DECREASED UNOCCUPIED TEMPERATURE SET POINT OF 61°F (ADJ). RETURN DAMPER SHALL BE OPEN. OUTSIDE AIR DAMPER SHALL BE CLOSED. RELIEF FAN SHALL BE DEENERGIZED. THE AIR HANDLING UNIT SHALL DEENERGIZE WHEN THE TEMPERATURE IN ALL ZONES REACH A MINIMUM OF 65°F (ADJ).

C. COOLING MODE CONTROL

- 1. OCCUPIED MODE: SUPPLY FAN SHALL BE RUNNING, RETURN AND OUTDOOR DAMPERS SHALL BE OPEN TO THEIR BALANCED POSITIONS, RELIEF AIR FAN SHALL BE UNDER BUILDING PRESSURE CONTROL. DISCHARGE AIR TEMPERATURE SENSOR, THROUGH THE BAS, SHALL SLOWLY MODULATE COOLING COIL TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SET POINT OF 55°F.
- 2. UNOCCUPIED MODE: THE AIR HANDLING UNIT SHALL BE DEENERGIZED WHEN THE UNOCCUPIED MODE IS INITIATED. THE SUPPLY FAN SHALL BE ENERGIZED WHEN OUTDOOR AIR TEMPERATURE, AS SEEN BY GLOBAL OUTDOOR AIR TEMPERATURE SENSOR, RISES ABOVE 90°F AND ANY TWO ROOM TEMPERATURES RISE ABOVE THE INCREASED UNOCCUPIED TEMPERATURE SET POINT OF 84°F. RETURN DAMPER SHALL BE OPEN. OUTDOOR AIR DAMPER SHALL BE CLOSED. RELIEF FAN SHALL BE DEENERGIZED. THE AIR HANDLING UNIT SHALL BE DEENERGIZED WHEN THE TEMPERATURE IN ALL ZONES REACHES A MAXIMUM OF 79°F.
- 3. COOL-DOWN MODE: THE BAS SHALL DETERMINE THE COOL-DOWN MODE START AND STOP TIMES BASED ON THE OPTIMAL START PROGRAM. SUPPLY FAN SHALL START WHEN THE UNIT IS INDEXED TO COOL-DOWN MODE BY THE BAS. RETURN DAMPER SHALL BE OPEN. OUTDOOR AIR DAMPER SHALL BE CLOSED. RELIEF FAN SHALL BE DEENERGIZED. AIR TERMINAL UNIT AIR REGULATORS SHALL OPEN TO MAXIMUM COOLING POSITION. WHEN THE SECOND WARMEST TERMINAL UNIT SPACE TEMPERATURE SENSOR REACHES THE COOL-DOWN SETPOINT OF 80°F, THE SYSTEM SHALL BE CONTROLLED AS INDICATED IN OCCUPIED MODE.

D. OUTDOOR AIR DAMPER AND CO2 LEVEL CONTROL

- 1. THE OUTDOOR AIR DAMPER SHALL BE CLOSED DURING COOL-DOWN, WARM-UP AND UNOCCUPIED MODES.
- 2. DURING OCCUPIED MODE, OUTDOOR AIR DAMPER SHALL INITIALLY OPEN TO ITS MINIMUM POSITION TO MAINTAIN THE MINIMUM OUTDOOR AIR QUANTITY AS SEEN BY OUTDOOR AIR FLOW MONITORING STATION. MINIMUM OUTDOOR AIR POSITION/QUANTITY SHALL BE SET BY THE TAB CONTRACTOR BASED ON ZONE EXHAUST AND BUILDING POSITIVE PRESSURE (INDICATED ON THE AIR HANDLING UNIT SCHEDULE).
- 3. WHENEVER AHU RETURN AIR CO2 AND ALL THE SPACE CO2 SENSORS INDICATE A CO2 LESS THAN 1100 PPM, THE AHU OR DAMPER SHALL BE AT ITS MINIMUM OPEN POSITION.
- 4. WHEN ANY SPACE CO2 LEVEL EXCEEDS THE HIGH LIMIT SET POINT OF 1100 PPM FOR 10 MINUTES, THE SUPPLY AIR TERMINAL UNIT AIR VOLUME REGULATOR SERVING THE SPECIFIC SPACE SHALL MODULATE TO ITS MAXIMUM CFM SETPOINT TO DROP THE SPACE CO2 BELOW THE MAXIMUM CO2 SET POINT. THE SCR CONTROLLED ELECTRIC RESISTANCE HEAT SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE HEATING SET POINT.
- 5. WHEN THE SPACE CO2 LEVEL EXCEEDS THE HIGH LIMIT SET POINT OF 1100 PPM FOR AN ADDITIONAL 15 MINUTES WITH THE SUPPLY AIR TERMINAL UNIT AIR VOLUME REGULATOR SERVING THE SPECIFIC SPACE FULLY OPEN, THE AHU OA DAMPER SHALL INCREMENTALLY OPEN AT A RATE OF 10% EVERY 15 MINUTES UNTIL THE SPACE CO2 DROPS BELOW 1000 PPM.
- 6. WHEN THE AHU RETURN AIR CO2 OR ANY SPACE CO2 SENSOR REMAINS BELOW 1000 PPM FOR 15 MINUTES, THE AHU OA DAMPER SHALL RETURN TO ITS MINIMUM POSITION AND THE SUPPLY AIR TERMINAL UNIT AIR VOLUME REGULATOR SERVING THE SPECIFIC SPACE SHALL RETURN TO NORMAL POSITION AND TEMPERATURE CONTROL.
- 7. ON A RISE IN AHU RETURN AIR CO2 OR ANY SPACE CO2 TO 1200 PPM THE BAS SHALL SEND AN ALERT AND NOTIFICATION THE FACILITY MANAGEMENT WITH A MESSAGE TO FIRST CHECK FOR PROPER OPERATION OF THE AHU'S OA DAMPER AND, IF DAMPER OPERATION APPEARS NORMAL, TO CHECK CO2 SENSOR CALIBRATION.

E. ECONOMIZER CONTROL

- 1. WHEN THE OUTDOOR AIR DRY BULB TEMPERATURE IS LESS THAN 70°F AND THE ENTHALPY IS LESS THAN 28 BTU/LB OF DRY AIR, THE BAS SHALL MODULATE THE OUTDOOR AIR AND RETURN AIR DAMPERS IN SEQUENCE TO MAINTAIN THE AHU LEAVING AIR TEMPERATURE SETPOINT OF 55°F.
- 2. ECONOMIZER CONTROL SHALL BE DISABLED IF OUTDOOR AIR DRY BULB TEMPERATURE RISES ABOVE 72°F, ENTHALPY RISES ABOVE 30 BTU/LB OF DRY AIR OR AHU'S LEAVING AIR TEMPERATURE DROPS BELOW 52°F.

F. DEHUMIDIFICATION CONTROL

- 1. ON A RISE IN RETURN AIR HUMIDITY ABOVE 60% RH ALL TEMPERATURE CONTROL, ECONOMIZER AND CO2 SEQUENCES SHALL BE OVERRIDDEN. OUTSIDE AIR AND RETURN AIR DAMPERS SHALL RETURN TO THEIR MINIMUM BALANCED POSITIONS.
- 2. THE DISCHARGE AIR SETPOINT SHALL BE REDUCED 3°F (FROM 55°F TO 52°F), AND THE COOLING COIL SHALL MODULATE OPEN TO MAINTAIN THE REDUCED DEHUMIDIFICATION DISCHARGE AIR TEMPERATURE SETPOINT.
- 3. WHEN THE RETURN AIR RELATIVE HUMIDITY DROPS BELOW 55% FOR 15 MINUTES, THE DEHUMIDIFICATION MODE SHALL BE CANCELED. THE DISCHARGE AIR SETPOINT SHALL BE RETURNED TO NORMAL (55°F) AND THE COOLING COIL SHALL BE CONTROLLED TO MAINTAIN THE DISCHARGE AIR SETPOINT.

G. SPACE PRESSURE CONTROL

- 1. SPACE STATIC PRESSURE SENSOR(S) SHALL BE SET TO MAINTAIN BUILDING STATIC PRESSURE BETWEEN 0.050 INCHES H2O AND 0.035 INCHES H2O.
- 2. SPACE STATIC PRESSURE SHALL BE TIME AVERAGED WITH A SLIDING 5-MINUTE WINDOW AND 15-SECOND SAMPLING RATE. THE AVERAGED VALUE SHALL BE THAT DISPLAYED AND USED FOR CONTROL.
- 3. UPON AVERAGE SPACE STATIC PRESSURE RISE ABOVE 0.035 INCHES H2O, THE RELIEF FAN SHALL SOFT START TO MINIMUM SPEED.
- 4. THE RELIEF FAN SHALL MODULATE SPEED TO MAINTAIN A MAXIMUM AVERAGE SPACE STATIC PRESSURE OF 0.035 INCHES H2O. ONCE AVERAGE SPACE STATIC PRESSURE FALLS BELOW 0.010 INCHES H2O WITH THE RETURN FAN AT MINIMUM SPEED, THE RELIEF FAN SHALL DEENERGIZE AND AFTER AN ADJUSTABLE PERIOD.

H. SMOKE CONTROL

- 1. THE AHU AND ASSOCIATED AIR DISTRIBUTION SYSTEM SHALL BE EQUIPPED WITH SMOKE DETECTORS AND CONNECTED TO THE BUILDING FIRE ALARM SYSTEM IN ACCORDANCE WITH THE INTERNATIONAL FIRE AND MECHANICAL CODES.
- 2. AN AHU OR ASSOCIATED AIR DISTRIBUTION (HVAC) SMOKE DETECTOR SHALL, UPON ACTIVATION, SHUT DOWN ALL OPERATIONAL CAPABILITIES OF THE RESPECTIVE AIR DISTRIBUTION SYSTEM. THE AIR HANDLING UNIT AND ALL ASSOCIATED SYSTEM SUPPLY, RELIEF AND EXHAUST FANS SHALL DEENERGIZE AND AN ALARM SHALL BE ANNUNCIATED AT THE BAS.
- 3. ALL HVAC SMOKE DETECTORS SHALL BE CONNECTED TO THE FIRE ALARM SYSTEM AND ACTIVATE A VISIBLE AND AUDIBLE SUPERVISORY SIGNAL IN ACCORDANCE WITH THE REQUIREMENTS OF THE INTERNATIONAL FIRE AND MECHANICAL CODES.

I. ALARMS

- 1. FAN FAILURE: A FAILURE OF ANY SUPPLY OR RELIEF FANS WITHIN THE RESPECTIVE FAN AS SENSED BY THEIR RESPECTIVE CURRENT TRANSDUCERS SHALL BE ALARMED TO THE BAS. UPON SENSING FAILURE, THE BAS SHALL INDICATE ALARM AND DISABLE THE FAILED FAN.
- 2. DAMPER FAILURE: A FAILURE OF ANY OF THE DAMPERS THAT ARE REQUIRED TO BE PROVEN OPEN FOR NORMAL OPERATION SHALL BE ALARMED TO THE BAS. UPON SENSING FAILURE, THE BAS SHALL INDICATE ALARM, DISABLE THE AHU AND RETURN ALL CONTROLS TO THEIR NORMAL POSITION.
- 3. HIGH STATIC PRESSURE: AT A SUPPLY STATIC PRESSURE AT 6" W.G. AS SENSED BY AHU STATIC PRESSURE TRANSMITTER (SPT), THE BAS SHALL INDICATE ALARM, DISABLE THE AHU AND RETURN ALL CONTROLS TO THEIR NORMAL POSITION.
- 4. HIGH RETURN AIR TEMPERATURE: IF THE RETURN AIR TEMPERATURE IS GREATER THAN 80°F FOR MORE THAN 30 MINUTES, THE BAS SHALL INDICATE ALARM.
- 5. LOW RETURN AIR TEMPERATURE: IF THE RETURN AIR TEMPERATURE IS LESS THAN 65°F FOR MORE THAN 30 MINUTES, THE BAS SHALL INDICATE ALARM.
- 6. HIGH RETURN AIR HUMIDITY: IF THE RETURN AIR HUMIDITY IS GREATER THAN 10% RH ABOVE DEHUMIDIFICATION MODE SETPOINT, OR GREATER THAN UPPER LIMIT OF 70% FOR MORE THAN 30 MINUTES, THE BAS SHALL INDICATE ALARM.
- 7. FILTERS: DIFFERENTIAL PRESSURE TRANSMITTER INSTALLED ACROSS THE FILTER BANK SHALL ALARM THE BAS WHEN THEIR RESPECTIVE SETTINGS ARE REACHED. INITIAL HIGH DIFFERENTIAL PRESSURE SET POINTS SHALL BE PER FILTER MANUFACTURER'S RECOMMENDATIONS.

L. FAILURE MODES

- 1. OUTSIDE AIR SHALL FAIL CLOSED. RETURN AIR DAMPER SHALL FAIL OPEN.

M. PROGRAMS

- 1. STATIC PRESSURE RESET: THE SYSTEM STATIC PRESSURE SET POINT SHALL BE RESET WITH TRIM AND RESPOND DEMAND BASED LOGIC IN ACCORDANCE WITH ASHRAE STANDARD 90.1 WITH A LOW LIMIT OF 0.35" WC, AND A HIGH LIMIT OF 2.0" WC, AS DETERMINED BY THE TEST ADJUST AND BALANCING (TAB) CONTRACTOR.

- A. WHEN THE FAN IS OFF, THE STATIC PRESSURE SETPOINT SHALL BE FROZEN AT THE INITIAL SETPOINT DETERMINED BY TAB.
- B. WHEN THE FAN IS PROVEN ON, EVERY 5 MINUTES, DECREASE THE SETPOINT BY 0.05 INCHES IF THERE IS ONE OR FEWER PRESSURE REQUESTS. IF THERE IS TWO OR MORE PRESSURE REQUESTS, INCREASE THE SETPOINT BY 0.05 INCHES.
- C. WHERE VAV TERMINAL UNIT DAMPER POSITION IS KNOWN, A PRESSURE REQUEST IS GENERATED WHEN ANY DAMPER SERVED BY THE SYSTEM IS MORE THAN 90% OPEN. WHERE VAV TERMINAL UNIT DAMPER POSITION IS UNKNOWN, A PRESSURE REQUEST IS MADE WHEN THE RATIO OF THE TERMINAL UNIT'S ACTUAL SUPPLY AIRFLOW TO SUPPLY AIRFLOW SETPOINT IS LESS THAN 90% UNTIL IT RISES TO 100%.
- D. IF A DAMPER POSITION IS AT 100% OPEN FOR MORE THAN 30 MINUTES THE TERMINAL UNIT SHALL BE LOCKED OUT OF THE POLLING AND AN ALARM SHALL BE GENERATED AT THE BAS. THIS LOCK OUT SHALL REMAIN UNTIL THE TERMINAL UNIT IS REVIEWED TO DETERMINE THE CAUSE OF THE READING AND THE LOCKOUT IS MANUALLY RELEASED. THIS TERMINAL UNIT SHALL BE TERMED A ROGUE ZONE BOX UNTIL RELEASED.

- 2. SUPPLY AIR TEMPERATURE RESET: THE SUPPLY AIR SET POINT SHALL BE RESET WITH TRIM AND RESPOND AIR TERMINAL UNIT DEMAND BASED LOGIC IN ACCORDANCE WITH ASHRAE STANDARD 90.1, AS FOLLOWS: THE INITIAL LEAVING AIR TEMPERATURE SHALL BE 55°F. IF THE MAXIMUM AIR TERMINAL UNIT COOLING DEMAND IS 85% OR BELOW FOR 5 MINUTES, THE LEAVING AIR TEMPERATURE SET POINT SHALL BE DECREASED 0.5°F. IF THE MAXIMUM AIR TERMINAL UNIT COOLING DEMAND IS 95% FOR 5 MINUTES, THE LEAVING AIR TEMPERATURE SET POINT SHALL BE INCREASED 0.5°F. MAXIMUM LEAVING AIR TEMPERATURE SHALL BE 60°F.

N. BAS TRENDING

- 1. OUTDOOR AIRFLOW, AS SEEN BY OUTDOOR AIRFLOW MEASURING STATION, SHALL BE TRENDRED BY THE BUILDING BAS.
- 2. BUILDING CARBON DIOXIDE LEVEL, AS SEEN BY AHU RETURN AIR CARBON DIOXIDE SENSOR, SHALL BE TRENDRED BY THE BUILDING BAS.



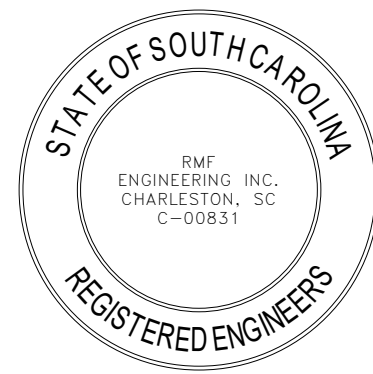
RMF ENGINEERING, INC.
194 SEVEN FARMS DRIVE
SUITE G
CHARLESTON, SC 29492
P: 843-971-9639 F: 843-971-9641
RMF PROJECT #: 03220511.A0



RMF ENGINEERING, INC.
194 SEVEN FARMS DRIVE
SUITE G
CHARLESTON, SC 29492
P: 843-971-9639 F: 843-971-9641
RMF PROJECT #: 03220511.A0

A/E SEAL

CORPORATE SEAL



PROJECT TITLE

PGA GOLF MANAGEMENT PROGRAM
ACADEMIC LEARNING LAB CONSTRUCTION
COASTAL CAROLINA UNIVERSITY
107 CITADEL DR. CONWAY, SC 29536

CONDITIONS OF USE
THIS DRAWING AND THE DESIGN THEREON ARE THE PROPERTY OF
QUACKENBUSH ARCHITECTS + PLANNERS.
THE REPRODUCTION, COPYING, OR USE OF THIS DRAWING WITHOUT WRITTEN
CONSENT OF QUACKENBUSH ARCHITECTS + PLANNERS IS PROHIBITED AND
ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION.

COPYRIGHT TR 2011 QUACKENBUSH ARCHITECTS + PLANNERS

PHASE
CONSTRUCTION
DOCUMENTS - FINAL

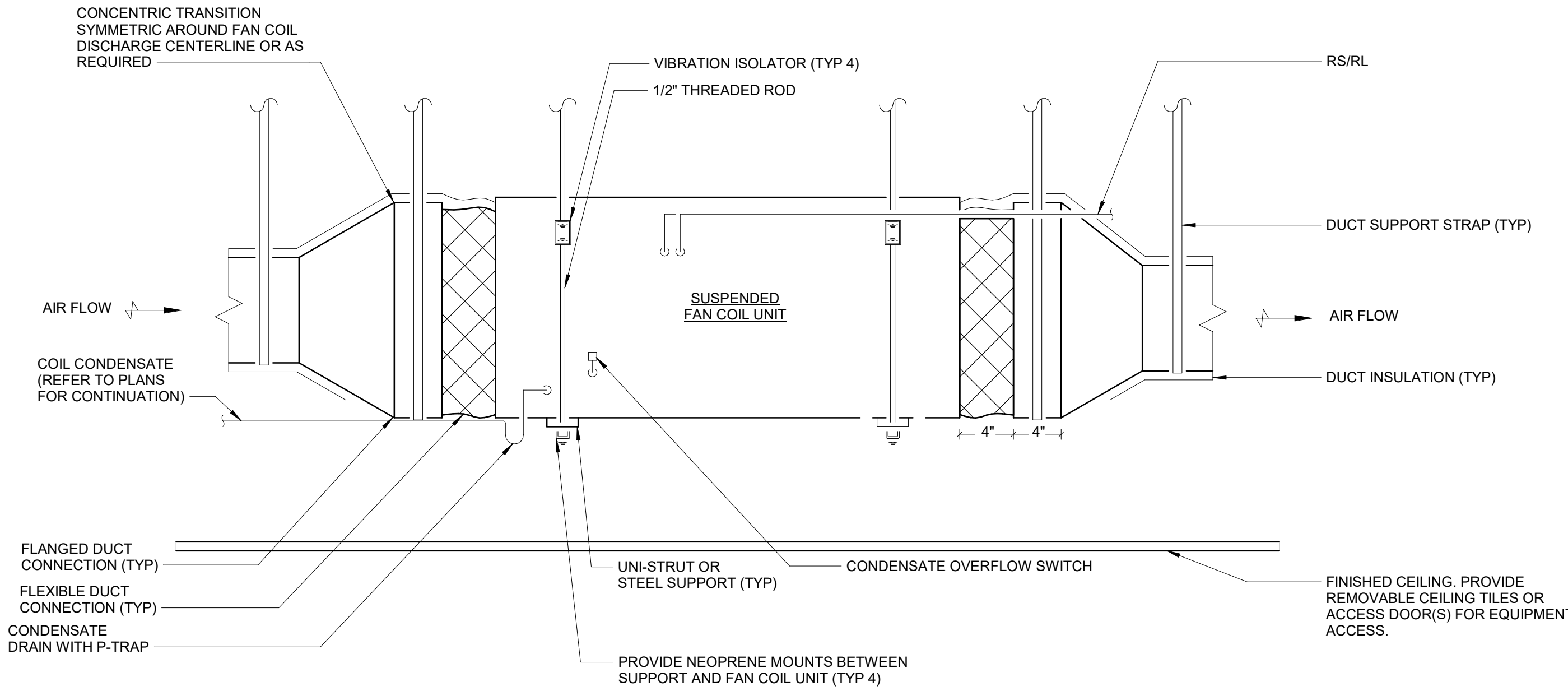
ISSUE DATE 04.10.24
PROJECT NO. 22.304.00
STATE PROJECT NO. H17-9623-MJ

REVISION DATE
1 ADDENDUM 01 05/30/2025

TITLE
MECHANICAL DETAILS

SHEET NO.

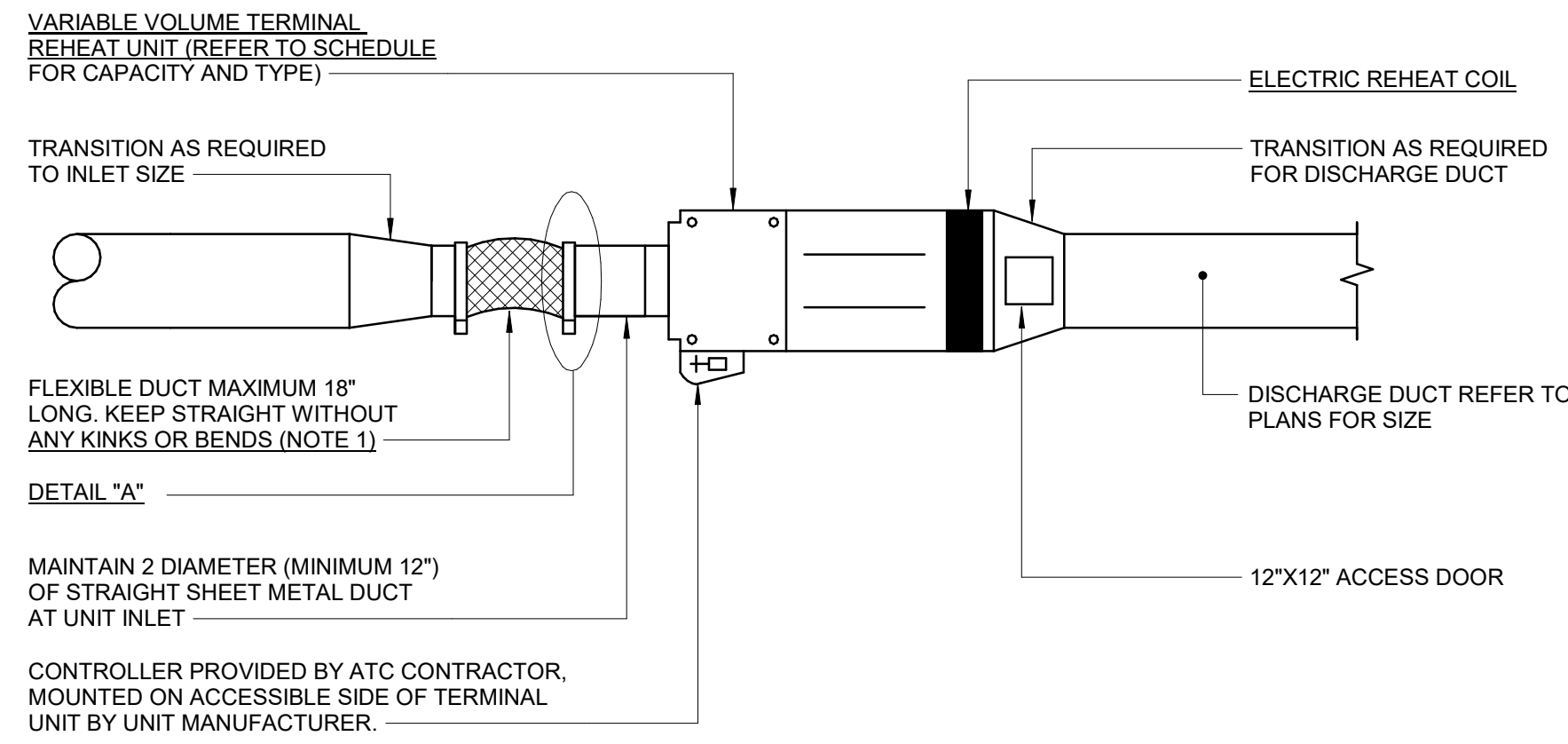
M-403



NOTES:

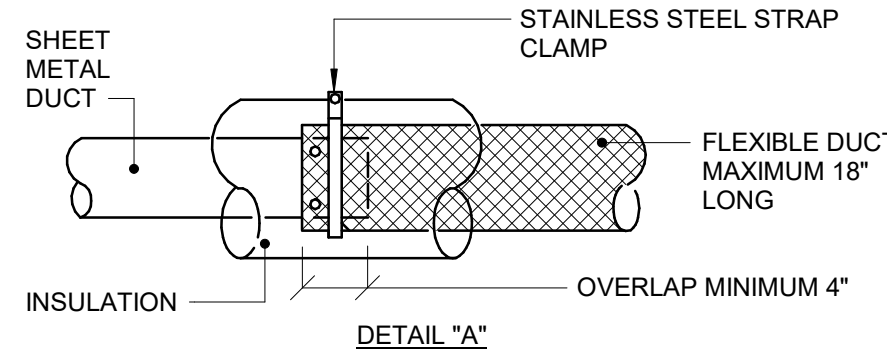
1. PROVIDE FLEXIBLE DUCT CONNECTIONS BEFORE TRANSITIONS.
2. PROVIDE SEISMIC BRACING FOR ALL FAN COIL UNITS, DUCTWORK AND HANGERS PER THE 2021 INTERNATIONAL BUILDING CODE AND 2021 INTERNATIONAL MECHANICAL CODE.
3. CONTRACTOR SHALL VERIFY MAXIMUM LOADING ON FAN COIL AND DUCTWORK SUPPORT ASSEMBLIES.
4. REFER TO SPECIFICATIONS FOR THREADED ROD AND HANGER ATTACHMENT INFORMATION.

1 **DETAIL - FAN COIL UNIT**
SCALE: N.T.S.

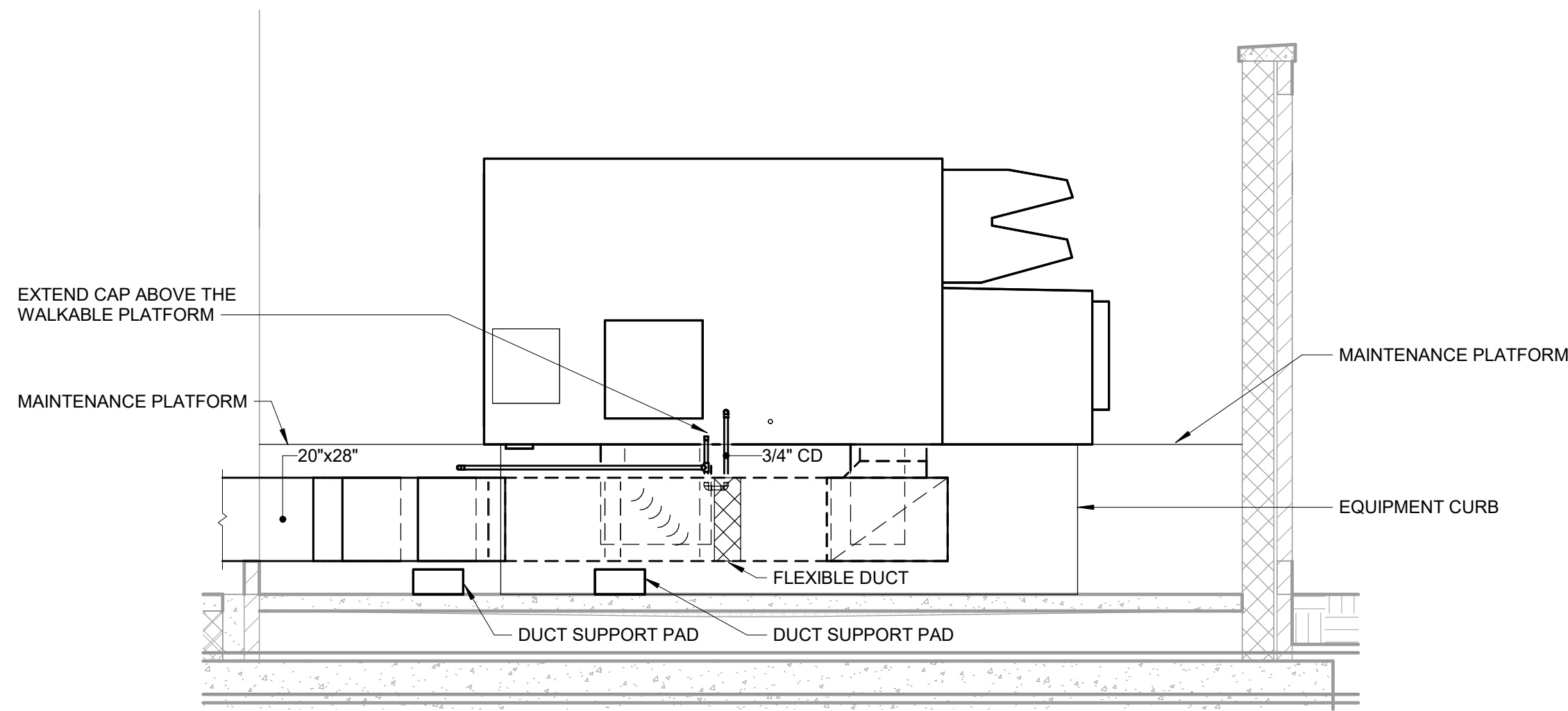


NOTES:

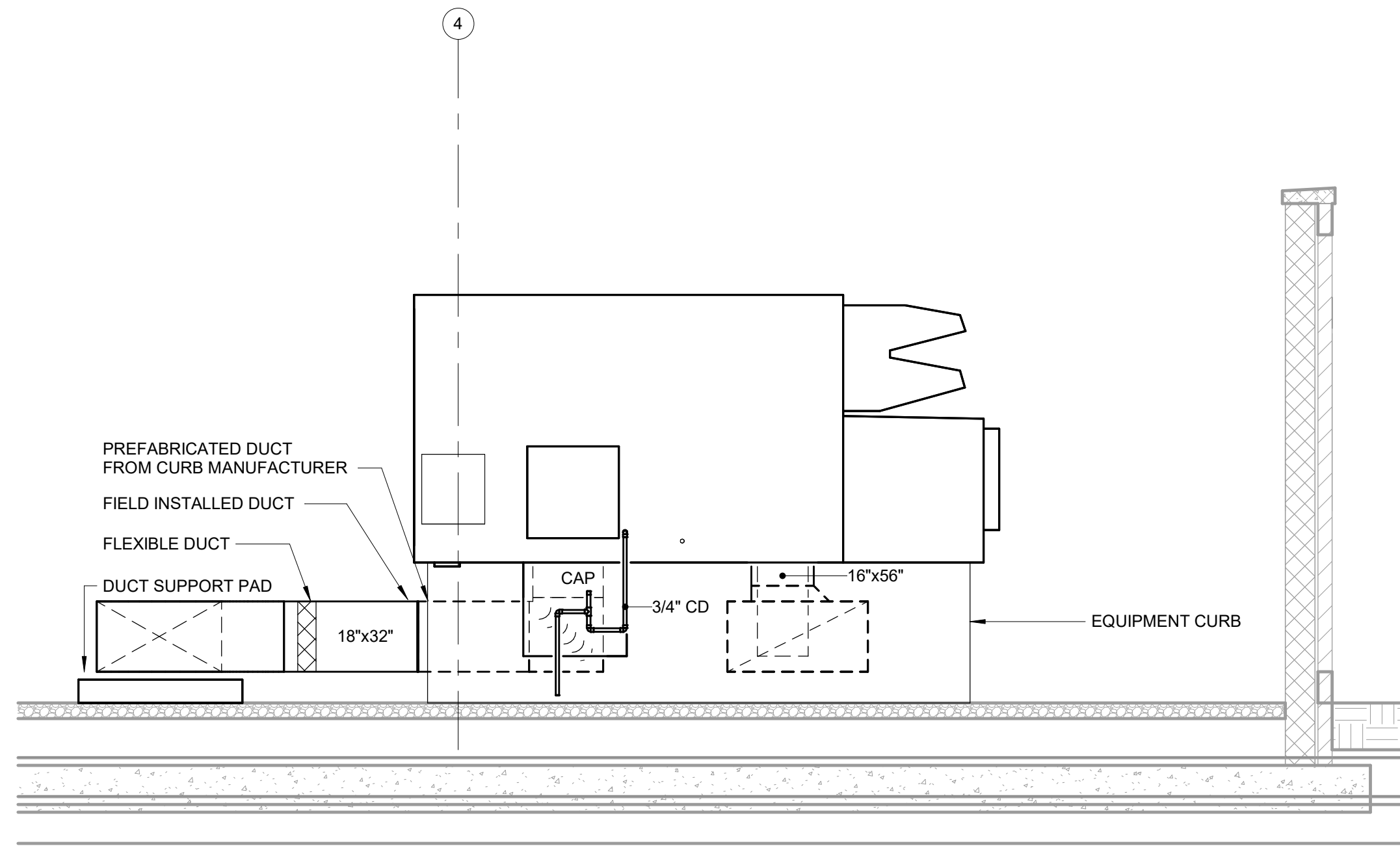
1. FLEXIBLE DUCTWORK SHALL NOT BE INSTALLED THROUGH WALLS OR PARTITIONS. SOLID DUCTWORK THE SAME DIMENSION AS THE FLEXIBLE DUCTWORK SHALL BE USED THROUGH THE PENETRATION, THEN TRANSITION TO THE FLEXIBLE DUCTWORK AS INDICATED ON THE DETAIL.
2. A STRAIGHT SECTION OF UNRESTRICTED DUCT AT LEAST TWO (2) DIAMETERS LONG SHALL BE INSTALLED AT THE TERMINAL UNIT INLET.



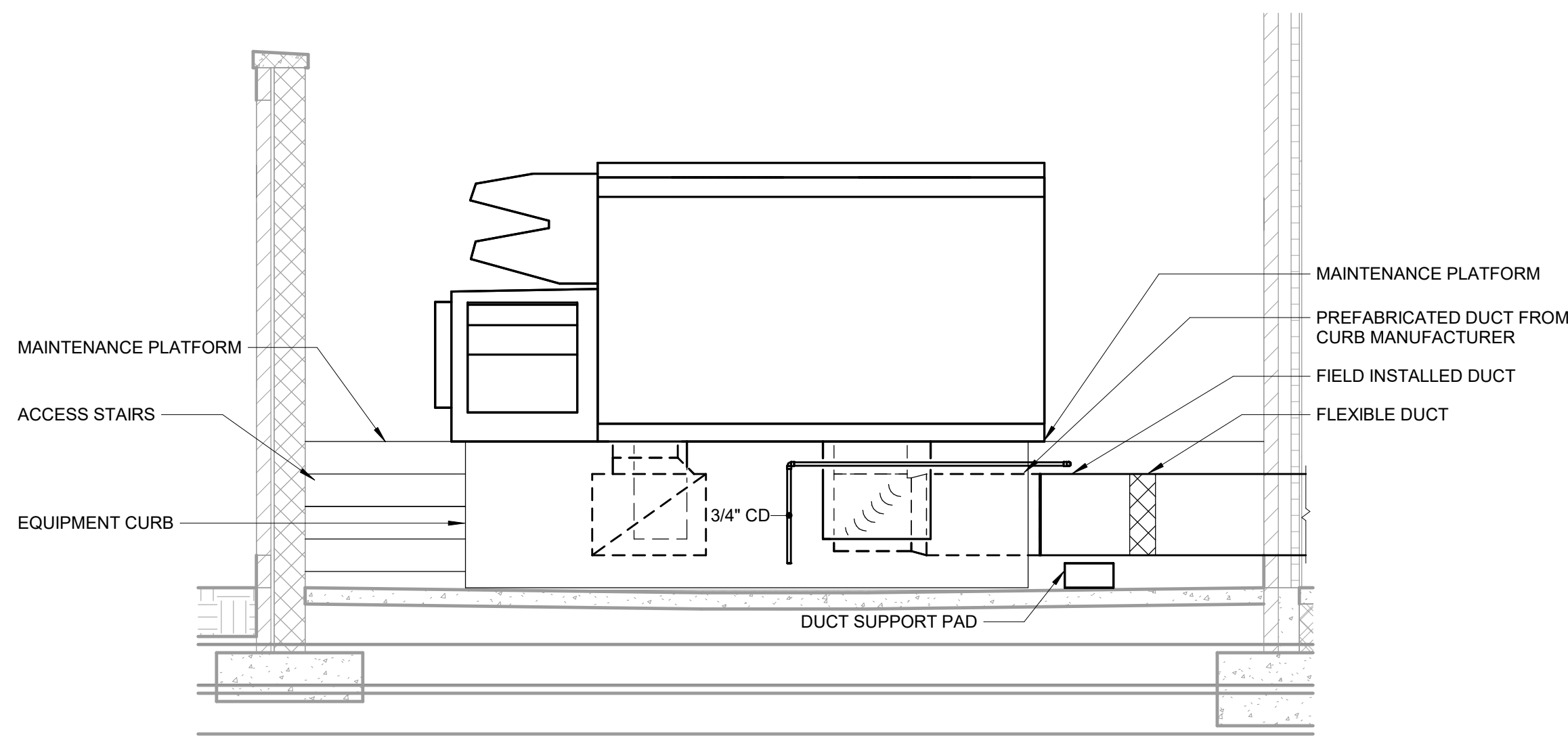
2 **DETAIL - VARIABLE AIR VOLUME TERMINAL REHEAT UNIT**
SCALE: N.T.S.



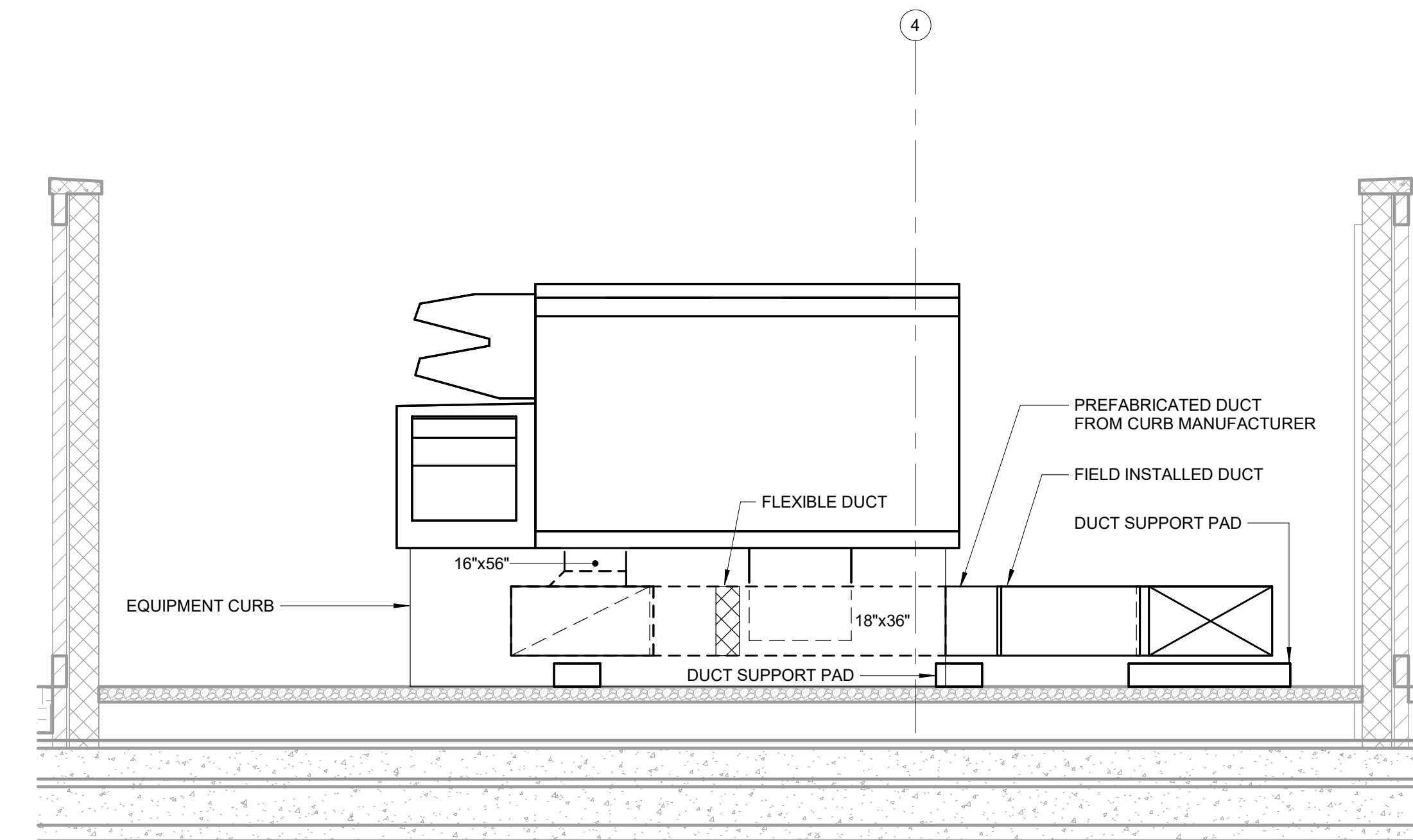
3 **SECTION - AHU-1 - PLAN NORTH**
SCALE: 3/8" = 1'-0"



5 **SECTION - AHU-2 - PLAN EAST**
SCALE: 3/8" = 1'-0"



4 **SECTION - AHU-1 - PLAN SOUTH**
SCALE: 3/8" = 1'-0"



6 **SECTION - AHU-2 - PLAN WEST**
SCALE: 3/8" = 1'-0"





RMF ENGINEERING, INC.
194 SEVEN FARMS DRIVE
SUITE G
CHARLESTON, SC 29492
P: 843-971-9639 F: 843-971-9641
E: RMF@RMF-ENG.COM

12/20/2011 AD

AIR HANDLING UNIT SCHEDULE

DESIGNATION	LOCATION	SERVICE	SUPPLY FAN					RELIEF FAN			COOLING COIL DATA						ELECTRICAL				WEIGHT (LBS)	BASIS OF DESIGN	REMARKS
			CFM	OUTSIDE AIR		ESP (IN WC)	MOTOR HP	CFM	ESP (IN WC)	HP	EAT (°F)		LAT (°F)		TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	REFRIGERANT	V/Ø/HZ	MCA	MOCP			
				DESIGN	MINIMUM						DB	WB	DB	WB									
AHU-1	GRADE	FIRST FLOOR	7,200	4,135	1,970	2.0	10	4,135	0.50	2	79.4	67.0	52.5	52.0	325.7	212.4	R-454B	460/3/60	81.3	100	3,075	TRANE / OAD	
AHU-2	GRADE	SECOND FLOOR	6,050	3,300	1,155	2.0	7 1/2	3,300	0.50	1.5	78.1	65.1	52.5	52.0	247.5	168.0	R-454B	460/3/60	63.8	80	3,240	TRANE / OAD	

BUILDING DESIGN COMMISSIONING DATA

1.	OUTSIDE DESIGN CONDITIONS: SUMMER SUMMER (DEHUMIDIFICATION): WINTER:	91.2°F DB / 77.1°F WB 82.2°F DB / 79.9°F WB 27.6 °F
2.	GENERAL BUILDING CRITERIA: WALL U-FACTOR: ROOF U-FACTOR: GLASS U-FACTOR: GLASS SHADING COEFFICIENT:	0.043 0.048 0.29 0.287
3.	GENERAL BUILDING DESIGN LOAD REQUIREMENTS: LIGHTING: EQUIPMENT: PEOPLE (OFFICE-SENSIBLE): PEOPLE (OFFICE-LATENT): PEOPLE (DINING-SENSIBLE): PEOPLE (DINING-LATENT): PEOPLE (SIM LAB-SENSIBLE): PEOPLE (SIM LAB-LATENT):	1.0 - 2 W/SF 1.5 - 2.5 W/SF 245 BTU/HPERSON 155 BTU/HPERSON 250 BTU/HPERSON 200 BTU/HPERSON 305 BTU/HPERSON 545 BTU/HPERSON
4.	COMFORT HEATING: INTERIOR SPACES	70°F ±2°F
5.	COMFORT COOLING: INTERIOR SPACES	74°F ±2°F / 50% RH
6.	MINIMUM BUILDING POSITIVE PRESSURE:	0.05" WG
7.	GENERAL EXHAUST CRITERIA: TOILETS/URINALS: CUSTODIAL:	75 CFM/FIXTURE 1 CFM/SF
8.	CODES: INTERNATIONAL BUIDING CODE, 2021 INTERNATIONAL MECHANICAL CODE, 2021 INTERNATIONAL PLUMBING CODE, 2021 INTERNATIONAL ENERGY CONSERVATION CODE, 2009 NATIONAL ELECTRIC CODE, 2020 NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS (LATEST EDITIONS)	

BRANCH CONTROLLER SCHEDULE

DESIGNATION	NO. BRANCHES	REFRIGERANT	V/Ø/Hz	WEIGHT (LB)	REMARKS
BC-1	3	R-410A	208/1/60	25	1

1. BRANCH CONTROLLER SHALL BE POWERED FROM OUTDOOR UNIT.

SUPPLY VAV UNIT SCHEDULE

DESIGNATION	AIRFLOW (CFM)			INLET SIZE	OUTLET SIZE	MINIMUM INLET SP (IN H2O)	MAXIMUM NC	MAXIMUM AIR PRESSURE DROP (IN H2O)	HEATING COIL PERFORMANCE				V/O/HZ	BASIS OF DESIGN	REMARKS
	COOLING		HEATING						EAT (°F)	LAT (°F)	CALCULATED CAPACITY (kW)	CONNECTED CAPACITY (kW)			
	MAXIMUM	MINIMUM	MAXIMUM												
VAV-1-1	1115	495	1000	14"ø	16"x15"	0.50	30	0.30	55	80	7.9	8.0	480/3/60	TITUS DESV	
VAV-1-2	1285	495	1000	14"ø	16"x15"	0.50	30	0.30	55	80	7.9	8.0	480/3/60	TITUS DESV	
VAV-1-3	550	300	300	6"ø	12"x8"	0.50	30	0.30	55	80	2.4	2.5	277/1/60	TITUS DESV	
VAV-1-4	1190	720	1100	14"ø	20"x18"	0.50	30	0.30	55	84	10.1	10.5	480/3/60	TITUS DESV	
VAV-1-5	1225	370	880	14"ø	20"x18"	0.50	30	0.30	55	84	8.1	8.5	480/3/60	TITUS DESV	
VAV-1-6	275	150	150	6"ø	12"x8"	0.50	30	0.30	55	80	1.2	1.5	277/1/60	TITUS DESV	
VAV-1-7	435	200	435	8"ø	14"x12"	0.50	30	0.30	55	84	4.0	4.0	480/3/60	TITUS DESV	
VAV-1-8	695	300	695	10"ø	14"x12"	0.50	30	0.30	55	82	5.9	6.0	480/3/60	TITUS DESV	
VAV-2-1	1590	480	930	16"ø	24"x18"	0.50	30	0.30	55	84	8.5	9.0	480/3/60	TITUS DESV	
VAV-2-2	480	530	530	8"ø	12"x10"	0.50	30	0.30	55	80	4.2	4.5	480/3/60	TITUS DESV	
VAV-2-3	1340	635	1335	14"ø	20"x18"	0.50	30	0.30	55	84	12.3	12.5	480/3/60	TITUS DESV	
VAV-2-4	505	200	385	8"ø	12"x10"	0.50	30	0.30	55	84	3.5	4.0	480/3/60	TITUS DESV	
VAV-2-5	535	165	405	8"ø	12"x10"	0.50	30	0.30	55	84	3.7	4.0	480/3/60	TITUS DESV	
VAV-2-6	610	210	440	10"ø	14"x12"	0.50	30	0.30	55	84	4.0	4.5	480/3/60	TITUS DESV	
VAV-2-7	890	270	310	16"ø	16"x15"	0.50	30	0.30	55	84	1.0	3.0	480/3/60	TITUS DESV	

DIRECT EXPANSION FAN COIL UNIT SCHEDULE

DESIGNATION		MOUNTING	FAN		COIL DUTY							ELECTRICAL			BASIS OF DESIGN	REMARKS	
INDOOR UNIT	OUTDOOR UNIT		NOM AIRFLOW	HP	COOLING				SENSIBLE MBH	HEATING			VOLTS	PHASE			HERTZ
					EAT (°F)		LAT (°F)			EAT (°F)	LAT (°F)	SENSIBLE MBH					
FCU-1	SSAC-1	WALL	775	1/10	80	67	55	54.5	24.0	--	--	--	208	1	60	TRANE / TRUY	1
FCU-2	SSAC-2	WALL	775	1/10	80	67	55	54.5	24.0	--	--	--	208	1	60	TRANE / TRUY	1
FCU-3	SSAC-3	WALL	775	1/10	80	67	55	54.5	24.0	--	--	--	208	1	60	TRANE / TRUY	1
FCU-4	SSHP-4	CEILING CASSETTE	710	1/10	75	62	55	54.5	24.0	70	84	3.2	208	1	60	TRANE / NTXM	1
FCU-5	SSHP-4	CEILING CASSETTE	335	1/15	75	62	55	54.5	12.0	70	84	1.6	208	1	60	TRANE / NTXCK	1
FCU-6	SSHP-4	CEILING CASSETTE	335	1/15	75	62	55	54.5	12.0	70	84	1.6	208	1	60	TRANE / NTXCK	1
FCU-7	SSHP-5	WALL	190	1/25	80	67	55	54.5	4.3	70	84	1.6	208	1	60	TRANE / TPKFY	1

1. INDOOR UNIT SHALL BE POWERED FROM OUTDOOR UNIT.

SPLIT SYSTEM CONDENSING UNIT SCHEDULE

DESIGNATION	COMPRESSOR		TOTAL LOAD (MBH)	ELECTRICAL				BASIS OF DESIGN	WEIGHT	REMARKS
	RLA	LRA		VOLTS	PHASE	HERTZ	MCA			
SSAC-1	7.0	11.0	24.0	208	1	60	19.0	TRANE / TRUY	155	1
SSAC-2	7.0	11.0	24.0	208	1	60	19.0	TRANE / TRUY	155	1
SSAC-3	7.0	11.0	24.0	208	1	60	19.0	TRANE / TRUY	155	1
SSHP-4	19.0	22.0	48.0	208	1	60	35.0	TRANE / NTXM	275	1
SSHP-5	7.0	11.0	6.0	208	1	60	19.0	TRANE / TPKFY	155	1

AIR DEVICE SCHEDULE

NUMBER	DUTY	TYPE	CFM		FACE/MODULE SIZE (IN)	NOMINAL DUCT SIZE (IN)	BLOW	MAX TOTAL AIR PD (IN H2O)	MAX NOISE CRITERIA VALUE	BASIS OF DESIGN		REMARKS
			MIN	MAX						MANUFACTURER	MODEL	
A1	SUPPLY	A	0	200	24"x24"	6"ø	4-WAY	0.10	25	TITUS	OMNI	-
A2	SUPPLY	A	201	325	24"x24"	8"ø	4-WAY	0.10	25	TITUS	OMNI	-
A3	SUPPLY	A	326	425	24"x24"	10"ø	4-WAY	0.10	25	TITUS	OMNI	-
B1	SUPPLY	B	0	275	18"ø	8"ø	ROUND	0.10	25	TITUS	R- OMNI	-
C1	SUPPLY	C	116	135	48"x6"-8" (2 SLOT)	8"ø	ADJ FLOW BAR	0.10	25	TITUS	ML	-
C2	SUPPLY	C	151	175	48"x6"-8" (3 SLOT)	8"ø	ADJ FLOW BAR	0.10	25	TITUS	ML	-
C3	SUPPLY	C	211	230	48"x6"-10" (4 SLOT)	10"ø	ADJ FLOW BAR	0.10	25	TITUS	ML	-
C7	SUPPLY	C	251	400	48"x6"-8" (3 SLOT)	12"x6"	ADJ FLOW BAR	0.10	25	TITUS	ML	-
D1	SUPPLY	D	0	300	48"x6"-8" (2 SLOT)	12"x6"	ADJ FLOW BAR	0.10	25	TITUS	FL	-
E1	SUPPLY	E	0	300	48x06x3-SLOT	8"ø	ADJ FLOW BAR	0.10	25	TITUS	CT-480	1
F1	RETURN	F	0	150	24"x24"	6"ø	-	0.05	20	TITUS	PAR	-
F2	RETURN	F	151	240	24"x24"	8"ø	-	0.05	20	TITUS	PAR	-
F3	RETURN	F	241	330	24"x24"	10"ø	-	0.05	20	TITUS	PAR	-
F4	RETURN	F	505	700	24"x24"	15"x15"	-	0.05	20	TITUS	PAR	-
G1	RETURN	G	151	175	48"x6"-8" (3 SLOT)	8"ø	ADJ FLOW BAR	0.05	20	TITUS	ML	-
G2	RETURN	G	211	230	48"x6"-10" (4 SLOT)	10"ø	ADJ FLOW BAR	0.05	20	TITUS	ML	-
H1	EXHAUST	H	0	150	24"x24"	6"x6"	-	0.05	20	TITUS	350R	-
H2	EXHAUST	H	151	250	24"x24"	8"x8"	-	0.05	20	TITUS	350R	-
I1	EXHAUST	I	151	175	48"x6"-8" (3 SLOT)	8"ø	ADJ FLOW BAR	0.05	20	TITUS	ML	-

1. PROVIDE WITH MANUFACTURER'S STANDARD PRIMER FINISH. DIFFUSER SHALL BE FINISHED ON SITE BY THE PAINTING CONTRACTOR.

FAN SCHEDULE

DESIGNATION	SERVICE	TYPE	CFM	SP INCH H2O	APPROX RPM	MOTOR		DRIVE	V/Ø/HZ	VFD	APPROX WEIGHT (LBS)	BASIS OF DESIGN	REMARKS
						BHP	HP						
GEF-1	KITCHEN	A	700	0.5	1,230	0.11	1/4	DIRECT	115/60/1	YES	45	GREENHECK/CUE	2
KEF-1	KITCHEN HOOD	B	3480	2.0	1,275	2.35	5	DIRECT	480/3/60	YES	215	CAPTIVE AIRE	1,2
TEF-1	TOILET	A	925	0.75	1,485	0.25	1/4	DIRECT	115/60/1	YES	65	GREENHECK/CUBE	2

1. PROVIDE WITH MANUFACTURER'S HINGE KIT, GREASE CUP, AND UL762 LISTING.
2. PROVIDE WITH MANUFACTURER'S FACTORY WIRED AND INSTALLED SPEED CONTROLLER.

MAKE-UP AIR SCHEDULE SCHEDULE

DESIGNATION	SERVICE	CFM	NO. OF FANS	TSP (IN WG)	ESP (IN WG)	FAN RPM	MOTOR		DRIVE	DB EAT (°F)	DB LAT (°F)	CALCULATED CAPACITY (KW)	CONNECTED CAPACITY (KW)	ELECTRICAL			APPROX WEIGHT (LBS)	BASIS OF DESIGN	REMARKS
							BHP	HP						VOLTS	PHASE	HERTZ			
MAU-1	MAIN HOOD	2785	1		1.0	1,280	1.20	2	DIRECT	28.0	70.0	37.2	40	460	3	60	670	CAPTIVE AIRE	1

1. PROVIDE WITH ONE ELECTRICAL CONNECTION FOR FAN AND ONE FOR THE ELECTRIC HEATER.

AE SEAL

CORPORATE SEAL

PROJECT TITLE

PGA GOLF MANAGEMENT PROGRAM
ACADEMIC LEARNING LAB CONSTRUCTION

COASTAL CAROLINA UNIVERSITY

107 CITADEL DR. CONWAY, SC 29536

CONDITIONS OF USE
THIS DRAWING AND THE DESIGN THEREON ARE THE PROPERTY OF
QUACKENBUSH ARCHITECTS + PLANNERS
THE REPRODUCTION, COPYING, OR USE OF THIS DRAWING WITHOUT WRITTEN
CONSENT OF QUACKENBUSH ARCHITECTS + PLANNERS IS PROHIBITED AND
ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION.

COPYRIGHT TR 2011 QUACKENBUSH ARCHITECTS + PLANNERS

PHASE

CONSTRUCTION
DOCUMENTS - FINAL

ISSUE DATE 04.10.24
PROJECT NO. 22.304.00
STATE PROJECT NO. H17-9623-MJ

RE ADVERTISED FOR BID DATE ONLY

SE-310

INVITATION FOR DESIGN-BID-BUILD CONSTRUCTION SERVICES

AGENCY: Coastal Carolina University

PROJECT NAME: PGA Golf Management Program Academic Learning Lab Construction

PROJECT NUMBER: H17-9623-CB CONSTRUCTION COST RANGE: \$9,000,000 to \$9,300,000

PROJECT LOCATION: PGA Golf Management Program Academic Learning Lab

DESCRIPTION OF PROJECT/SERVICES: *(450 character limit)*

Project is a golf management and academic learning lab building consisting of roughly 15,975 SF. It will serve as a teaching/working lab with classrooms and hands on spaces that serve the golf course functions. A kitchen and dining area will also be included.

BID/SUBMITTAL DUE DATE: 06/12/2025 TIME: 02:00 PM NUMBER OF COPIES: 1

PROJECT DELIVERY METHOD: Design-Bid-Build

AGENCY PROJECT COORDINATOR: Shawn Godwin

EMAIL: sgodwin@coastal.edu

TELEPHONE: (843) 349-2672

DOCUMENTS OBTAINED FROM: https://www.coastal.edu/facilities/projects/

BID SECURITY IS REQUIRED IN AN AMOUNT NOT LESS THAN 5% OF THE BASE BID.

PERFORMANCE AND LABOR & MATERIAL PAYMENT BONDS: The successful Contractor will be required to provide Performance and Labor and Material Payment Bonds, each in the amount of 100% of the Contract Price.

DOCUMENT DEPOSIT AMOUNT: \$0.00 IS DEPOSIT REFUNDABLE: ☐ Yes ☐ No ☒ N/A

Bidders must obtain Bidding Documents/Plans from the above listed sources(s) to be listed as an official plan holder. Bidders that rely on copies obtained from any other source do so at their own risk. All written communications with official plan holders & bidders will be via email or website posting.

Agency **WILL NOT** accept Bids sent via email.

All questions & correspondence concerning this Invitation shall be addressed to the A/E.

A/E NAME: Quackenbush Architects-Planners

A/E CONTACT: Barbara Haller

EMAIL: bhaller@quackenbusharchitects.com

TELEPHONE: (803) 771-2999

PRE-BID CONFERENCE: ☒ Yes ☐ No MANDATORY ATTENDANCE: ☐ Yes ☒ No

PRE-BID DATE: 05/27/2025 TIME: 10:00 AM

PRE-BID PLACE: Hackler Golf Course Club House - Joe Carter Way, Conway, SC 29526

BID OPENING PLACE: Facilities 1 (Winyah House) 755 Highway 544, Conway, SC 29526

BID DELIVERY ADDRESSES:

HAND-DELIVERY:

Attn: Shawn Godwin

755 Highway 544

Conway, SC 29526

MAIL SERVICE:

Attn: Shawn Godwin

PO Box 261954

Conway, SC 29528

IS PROJECT WITHIN AGENCY CONSTRUCTION CERTIFICATION? ☐ Yes ☒ No

APPROVED BY:



DATE: 05/29/2025

(OSE PROJECT MANAGER)