ROOF-TOP UNIT SCHEDULE - GAS HEAT

MARK	MANUFACTURER/ MODEL	NOMINAL TONS	CFM	O/A CFM	E.S.P. (IN. W.C.)	(SEER) SEER2/ (EER) EER2	COOLING CAP. (MBH) TOTAL	COOLING CAP. (MBH) SENSIBLE	COOLING CAP. (MBH) DRY BULB/ WET BULB °F	HEATING CAP. (MBH) IN./OUT.	THERM. EFF. (%)	ELEC. HEAT KW	ELECTRICAL (VOLTS/PH/HZ)	UNIT MCA	UNIT MOCP	UNIT WEIGHT (LBS)	MANUF. DATE	NOTES
(NEW) RTU-1	RHEEM RGECYB060ACT102AABB0	5.0	2,000	400	0.5"	13.4/10.6	61.0	41.9	80/67	100.0/81.0	81.0	N/A	208/3/60	33.0	45.0	650	2025	1-6,8-10,13,14
(NEW) RTU-2	RHEEM RGECYB036ACT102AABB0	3.0	1,600	220	0.8"	13.4/10.6	34.2	25.6	80/67	100.0/81.0	81.0	N/A	208/3/60	24.0	30.0	625	2025	1-5,8-10,13,14

NOTES:
1. LABEL EACH RTU AND EXHAUST FAN WITH "BODYBAR" AND SUITE NUMBER.
2. COOLING CAPACITY IS BASED ON 80°F EDB AND 67°F EWB CONDITIONS.
3. PROVIDE PROGRAMMABLE ROOM THERMOSTAT, GOOGLE NEST SERIES.
4. PROVIDE UNWIRED CONVENIENCE OUTLET (ELECTRICIAN SHALL FIELD WIRE TO 208V PANEL) AND ROOF CURB.
5. VERIFY VOLTAGE AVAILABLE ON SITE PRIOR TO ORDERING NEW UNITS. OBTAIN STRUCTURAL APPROVAL PRIOR TO PLACING UNIT.
6. UNIT PROVIDED WITH DUAL COMPRESSORS/2-STAGE COOLING.
7. PROVIDE FACTORY ELECTROFIN OR EQUAL ANTI-CORROSION COATING ON OUTDOOR COILS.
8. WEIGHTS INCLUDE ACCESSORIES.
9. ORDER WITH ACCESSORIES INCLUDING: CURB, ECONOMIZER, HAIL GUARD, 2-POSITION DAMPER, DUAL ENTHALPY SENSORS, DUCT DETECTORS, ETC.
10. MCA BASED ON MEDIUM STATIC FAN.
11. AUXILIARY STRIP HEAT. (ELECTRIC UNIT ONLY)
12. BRING EXISTING UNIT TO LIKE NEW OPERATING AND PERFORMANCE CONDITIONS. COMB OUT FINS, CHANGE BELTS, BRING TO FACTORY SPEC REFRIGERANT LEVELS.
13. G.C./ STRUCTURAL ENGINEER SHALL CONFIRM EXACT WEIGHT WITH ALL OPTIONS INSTALLED, OR BOTH EXISTING AND NEW RTUS.
14. ECONOMIZER SHALL HAVE CAPABILITY TO RUN DOWN BELOW 40°F OUTSIDE TEMPERATURE (LOW AMBIENT CAPABILITY). UPDATE CONTROL PACKAGE ON EXISTING EQUIPMENT AS NEEDED.

NOTE:

THE USE OF R-410A REFRIGERANT IN HVAC SYSTEMS WILL BE PHASED OUT EFFECTIVE JANUARY 1, 2025. THE CONTRACTOR SHALL ENSURE THAT ALL HVAC EQUIPMENT ORDERED AFTER THIS DATE IS COMPATIBLE WITH EITHER R-454B OR R-32 REFRIGERANT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY REFRIGERANT TYPE PRIOR TO ORDERING EQUIPMENT.

MECHANICAL PLAN KEYED NOTES '⬡'

1. RTU ON INSULATED ROOF CURB LOCATED ON ROOF ABOVE. REFER TO MEP1.0 FOR ROOF PLAN. PROVIDE FLEXIBLE CONNECTORS FOR THE SUPPLY AND RETURN AIR DUCT CONNECTIONS. PROVIDE DUCT WORK AND AIR DISTRIBUTION DEVICES AS INDICATED ON THE PLAN. REFER TO EQUIPMENT SCHEDULES FOR ADDITIONAL REQUIREMENTS. CONFIRM SUPPLY DUCT AND RETURN DROP LOCATIONS IN FIELD.
2. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT, GOOGLE NEST WITH REMOTE SENSOR, AND AUTO CHANGEOVER AND RELATED WIRING TO CONTROL EACH UNIT. MOUNT T-STAT AT 48" AFF, SENSOR AT 96" AFF.
3. HVAC CONTRACTOR TO FURNISH AND INSTALL DUCT SMOKE DETECTOR IN RETURN AIR DUCTS WITH A CAPACITY 2000 CFM OR MORE TO MEET LOCAL CODE REQUIREMENTS (IF REQUIRED AND NOT ALREADY PRESENT IN EXISTING UNITS).
4. PROVIDE BALANCING DAMPER ON EACH SUPPLY AND RETURN RUNOUT. (TYPICAL)
5. CONTRACTOR SHALL ENSURE THAT ALL FRESH AIR INTAKES ARE AT LEAST 10'-0" AWAY FROM EXHAUST SOURCES (PLUMBING VENTS, EXHAUST FANS, COMBUSTION EXHAUST, ETC.). PROVIDE OFFSETS AND ADJUST/RELOCATE EQUIPMENT AS NEEDED.
6. ROUTE EXHAUST DUCT TO EXTERIOR/ROOF. PROVIDE BIRD SCREEN, INSECT SCREEN, & BACK DRAFT DAMPER.
7. DROP/RISE (LOWER/RAISE) DUCTWORK AS NEEDED, DEPENDING ON LOCATION OF SPRINKLER MAINS, STRUCTURAL ELEMENTS, ETC.
8. EXPOSED DUCTWORK.

CONDENSATE LINE SIZES:

3/4"	UP TO 20 TONS CONNECTED.
1"	UP TO 21-40 TONS CONNECTED.
1-1/4"	UP TO 41-90 TONS CONNECTED.
1-1/2"	UP TO 91-125 TONS CONNECTED.
2"	UP TO 126-250 TONS CONNECTED.

*ROUTE TO APPROVED RECEPTOR VIA AIR GAP.

MANDATORY TEST AND BALANCE REPORT BY LICENSED 3RD PARTY TO BE PROVIDED TO OWNER AND ARCHITECT UPON COMPLETION OF HVAC WORK.

FINAL PLACEMENT OF THERMOSTAT TO BE SELECTED BY CONSTRUCTION MANAGER OR OWNER'S REPRESENTATIVE AND MAY NEED TO BE MODIFIED DUE TO FIELD CONDITIONS.

REFER ALSO TO SHEET MEP1.0 FOR MORE MECHANICAL NOTES

CONTRACTOR NOTES:

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY.
THE ARCHITECT, LANDLORD OR TENANT OF ANY DISCREPANCIES ENCOUNTERED ON THE PLANS OR IN EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK.

BIDDERS ARE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF WORK. THE BASE BID SHALL REFLECT MODIFICATIONS TO SYSTEMS AND DEVICES AS REQUIRED BY STATE AND LOCAL CODES WHETHER INDICATED OR NOT ON CONTRACT DOCUMENTS. THE SUBMISSIONS OF A BID WILL BE EVIDENCE THAT SUCH AN EXAMINATION AND COMPLIANCE WITH GOVERNING CODES / REQUIREMENTS HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT, OR MATERIALS REQUIRED OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN, HAD AN EXAMINATION AND CODE REVIEW BEEN MADE, WILL NOT BE ALLOWED.

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL	DRIVE	AIRFLOW (CFM)	EXT. SP (IN W.C.)	V, PH, HZ	MOTOR PWR. (W)	SERVICE	APPROXIMATE WEIGHT (LBS)	INSTALL LOCATION	NOTES
EF-1	GREENHECK	SP-80	DIRECT	80	0.30"	115/1/60	18	RESTROOM	26	CEILING	2
EF-2	GREENHECK	SP-80	DIRECT	80	0.30"	115/1/60	18	RESTROOM	26	CEILING	2
EF-3	GREENHECK	SP-80	DIRECT	80	0.30"	115/1/60	18	UTILITY	26	CEILING	2

1. FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS.
2. PROVIDE WITH GRAVITY BACK DRAFT DAMPER, MANUFACTURES ROOF VENT CAP AND BIRD SCREEN

CENTERVILLE, OH NOTE:

HVAC UNITS ARE SHOWN IN A STRUCTURAL BAY. CONFIRM WITH STRUCTURAL PLANS EXACT LOCATION OF STRUCTURAL BY REINFORCING ROOF AS NEEDED TO WITHSTAND WEIGHT OF NEW RTUS AS NEEDED.

BODYBAR PROTO NOTE:

ALL "RECTANGULAR" EXPOSED DUCTWORK SHOWN SHALL BE INTERNALLY INSULATED, METAL DUCT

AIR DEVICE SCHEDULE

SYMBOL	TAG	MANUF.	CATALOG #	FIXTURE DESCRIPTION	NECK SIZE	REMARKS
	A	TITUS	OMNI	24x24 SUPPLY GRILLE/ 12x12 SUPPLY GRILLE	SEE PLAN	ALUMINUM, BORDER TYPE 1 IN GYP, BD. CLG. PAINTED TO MATCH CEILING WHERE CEILING IS NOT WHITE, REF ARCH. SHEETS.
	B	TITUS	350RS	24x24 RETURN GRILLE/ 12x12 RETURN GRILLE	SEE PLAN	LOUVERED, BORDER TYPE 1
	C	NAILOR	61DV-0	SIDEWALL SUPPLY, 1/2" WIDTH, WHITE. PAINTED TO MATCH WALL.	--	SURFACE MOUNT, EACH SHALL HAVE SADDLE-MOUNT FITTING WITH NECK VOLUME DAMPER. 10 x 6 = 005-350 CFM 10 X 8 = 350-500 CFM 12 X 8 = 500-580 CFM "DOUBLE DEFLECTION, ADJUSTABLE"
	D	TITUS	350FL	RETURN GRILLE	--	ALUMINUM LOUVERED RETURN GRILLE, 3/4" BLADE SPACING, 35 DEGREE DEFLECTION, LONG BLADES
	E	TITUS	300FL	SUPPLY GRILLE	--	ALUMINUM DOUBLE DEFLECTION SUPPLY GRILLE, 3/4" BLADE SPACING, FRONT BLADES PARALLEL TO LONG DIMENSION
	F	TITUS	R-OMNI	27" ROUND CEILING DIFFUSER 13" ROUND CEILING DIFFUSER	SEE PLAN	DUCT MOUNTED; ORDER TRIM FOR OPEN CEILING.

NOTE:
1. ALL GRILLES IN GYP BOARD CEILING SHALL BE ORDERED WITH INTEGRAL BALANCING DAMPERS.
2. PROVIDE RECTANGULAR TO ROUND ADAPTERS WHEREVER NECESSARY.
3. NOT ALL DEVICES USED ON ALL JOBS.
4. TRANSITION NECK SIZE ON SUPPLY AND RETURN AS NEEDED TO ENSURE SAME SIZE (WITHIN 2") SUPPLY AND RETURN REGISTERS FOR UNIFORM APPEARANCE.

HVAC SUMMARY:

2,051 SQ FT. (CONDITIONED)

8.0 TONS

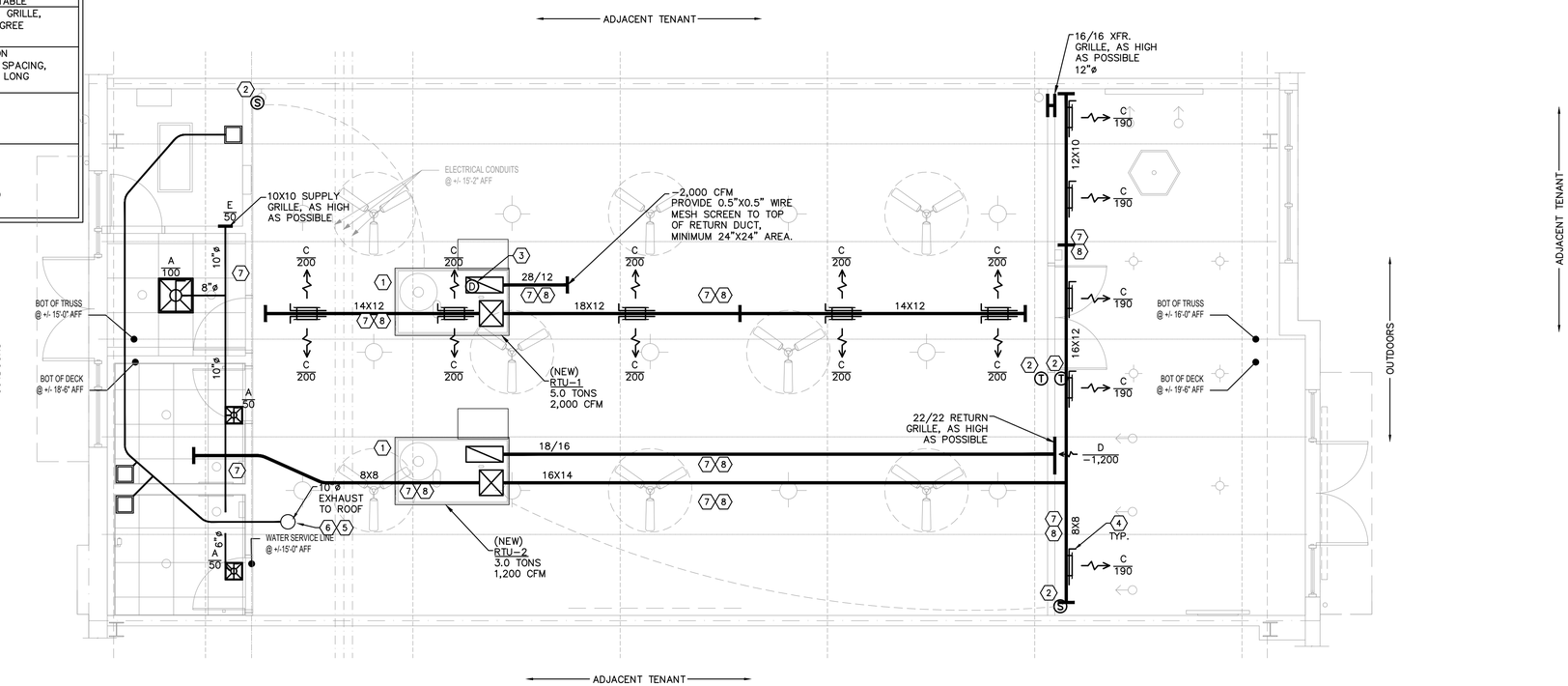
256.4 SF/TON

CENTERVILLE, OH NOTE:

DUCTWORK SHALL BE INSTALLED PER SMACNA STANDARDS.

CENTERVILLE, OH NOTE:

ALL MECHANICAL WORK SHALL BE IN ACCORDANCE WITH OHIO ENERGY CODE 2021 (ADOPTS WITH AMENDMENTS 2021 INTERNATIONAL ENERGY CONSERVATION CODE 2021), 2024 OHIO MECHANICAL CODE (2021 IMC AMENDED) & ANY ENERGY CODES REQUIRED BY AHJ.



TRUE NORTH PLAN NORTH

01 MECHANICAL PLAN
SCALE: 1/4"=1'-0"

MECHANICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
T	THERMOSTAT @ 48" AFF
D	DUCT MOUNTED SMOKE DETECTOR
S	REMOTE ROOM TEMPERATURE SENSOR AT 96" AFF
	VOLUME DAMPER
M	MOTORIZED DAMPER WITH ACTUATOR
B	BAROMETRIC FLAP DAMPER
RTU	ROOF TOP UNIT
AHU	AIR HANDLING UNIT
EF	EXHAUST FAN

HVAC DROP LOCATIONS ARE DIAGRAMMATIC. CONTRACTOR SHALL FIELD-VERIFY EXACT DROP CONFIGURATION ON BOTTOM OF RTU. MODIFY DUCT LAYOUT BASED ON EXISTING BEAMS, COLUMNS AND JOISTS, SPRINKLER PIPING, & ETC LOCATIONS AS FIELD CONDITIONS REQUIRE. IT IS EXPECTED THAT THE MECHANICAL CONTRACTOR WILL MAKE MINOR ADJUSTMENTS TO BEST SUIT FIELD CONDITIONS. MOUNT DUCTWORK AS TIGHT AS POSSIBLE TO STRUCTURE. MAINTAIN CROSS SECTIONAL AREA AS INDICATED.

PRINT DATE: Tuesday, April 22, 2025 4:33:24 PM

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ISSUE RECORD

DATE	DESCRIPTION

REVISION RECORD

PROFESSIONAL SEAL

STATE OF OHIO
PETER ADAM LEPTUCH
E-75787
REGISTERED
PROFESSIONAL ENGINEER
04/22/25

REMODEL

PROJECT NAME

BODYBAR

THE VILLAGE AT CORNERSTONE SHOPPES IV

CENTERVILLE
OHIO

5268 CORNERSTONE NORTH BLVD
CENTERVILLE, OH 45440

Peter A. Leptuch, P.E.
104 W. Oak St.,
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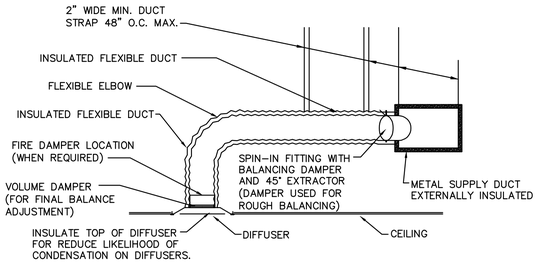
Denton, TX 76201
(940) 808-0615

PROJECT NUMBER
25-0030

MECHANICAL PLAN

SHEET NUMBER

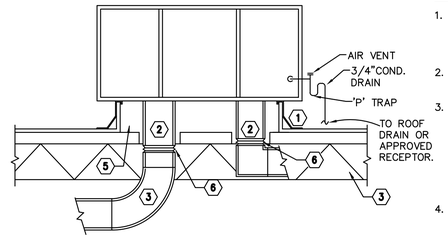
M1.0



–*REFER TO THE MECHANICAL EQUIPMENT SCHEDULE FOR COMPONENT AND DEVICE SPECIFICATIONS.–

02 HVAC DUCTWORK DETAIL

SCALE: NOT TO SCALE



01 TYPICAL ROOF-TOP UNIT DETAIL

SCALE: NOT TO SCALE

NOTES:

1. SET ROOF CURB ON STRUCTURAL STEEL – SHIM DEAD LEVEL. SECURE ROOF CURB TO METAL DECK AND A/C UNIT TO ROOF CURB.
2. TRANSITION TO CONNECTION SIZES IN DUCT RISE, REFER TO PLANS FOR SIZES.
3. 1" ACOUSTIC LINING IN SUPPLY AND RETURN DUCTS FROM FAN DISCHARGE TO POINT INDICATED ON MECHANICAL DRAWINGS (10'–0" MIN.). DUCT SIZES INDICATED ON PLAN ARE INTERIOR. PAINT EXPOSED DUCTWORK TO MATCH CEILING. REFER TO ARCHITECTURAL DRAWINGS FOR COLOR SCHEME.
4. THE MECHANICAL ENGINEER DOES NOT PROVIDE STRUCTURAL ENGINEERING SERVICES, AND RECOMMENDS TO THE OWNER THAT ANY ADDITIONS LOAD PLACED ON THE ROOF BE APPROVED BY A STRUCTURAL ENGINEER.
5. INSULATED ROOF CURB.
6. FLEXIBLE CONNECTION – TYPICAL.

HVAC Load Calc - Fitness Center		4/22/2025		Bodybar - Centerville, OH	25.116
Cooling Load Analysis:			ASHRAE DESIGN:	DB = 90.3	
Sensible Heat:			Basis of Design: Dayton, OH	WB = 73.6	
			Design Indoor Temp	68 F	
H_sensible, O.A. = 1.08 * cfm * delta T			H_sensible_OA =	14932.08 dT =	22.3
H_sensible, lighting = watts * 3.413			H_sens_ltg=	7000.063	
H_sensible, people =305 * # people			H_sens_ppl =	5490	
H_sensible, walls = A*u*dT			H_sens_wall =	2584.615 (dT = 40F)	
H_sensible, floor = A*u*dT			H_sens_floor =	2051 (dT = 1F)	
H_sensible, roof = A*u*dT			H_sens_roof =	5397.368 (dT=50F)	
H_sensible, window conductance = A_glass*U*dT			H_sens_glass =	7260	
H_sensible, window transmittance = A_glass*SHGC*Et			H_sens_solar gain =	20064	
H_latent, O.A. = 0.68 * q*delta w_grains			H_latent_OA =	10750.8	
H_latent, people = 545 * # people			H_latent_ppl=	9810	
Lighting Load (watts)	2051	(from Comcheck/ T-24 / FlaCom)			
Occupant Load	18	(Auto Populate - from ASHRAE calculation)			
Grains O.A. =	97.7	<----- update per site			
Grains I.A. =	72.2	(72.2 is for saturated air at 58F)			
Outside Air, Ventilation =	620	(Auto Populate - from ASHRAE calculation)			
Roof / Floor Area =	2051	(Auto Populate - from ASHRAE calculation)			
Wall Height - Average	20	<----- update per site			
Perimeter (unconditioned)	42	<----- update per site			
Wall Area =	840				
Window Length =	22	<----- update per site			
Window Height =	10	<----- update per site			
Window Area =	220				
Shading Factor =	0.4	(0 = none, 1.0 = fully shaded)			
R-value Walls = (R_net) =	13	Existing Wall			
U-value Walls =	0.076923	Average Wall			
R-floor = (R_net) =	1				
U-floor	1				
R-roof = (R_net) =	19	Existing Roof			
U-roof	0.052632	Average Roof			
U-glass	1.1	(use 1.1 for 1-pane glass; use 0.55 for double pane glass, energy star windows can be 0.55 max.)			
SHGC	0.76	(use 0.76 for ordinary windows)			
Et = incident solar radiation	200	(assume peak daily, btu/hr p.s.f. Solar constant is 442 BTUH/hr at top of atmos, 317 at sfc.))			
Total Cooling Load:				**85339.93**	
Space Load - Tonnage Required				**7.111661 tons**	
Safety Factor (10%)				**93873.92**	
Space Load - Recommended Tonnage				**7.822827 tons**	

HVAC Load Calc - Fitness Center		4/22/2025		Bodybar - Centerville, OH	
Heating Load Analysis:			ASHRAE DESIGN:	DB = 0.6	
Sensible Heat Loss:			Design Temp	70	
H_sensible, O.A. = 1.08 * cfm * delta T			H_sensible_OA =	-46470.2 (dT = 57F)	
H_sensible, O.A. = 1.08 * cfm * delta T			H_sensible_OA =	-22485.6 (dT = 57F)	
H_sensible, walls = A*u*dT			H_sens_wall =	-4484.31 (dT = 57F)	
H_sensible, floor = A*u*dT			H_sens_floor =	6153 (dT = 3F)	
H_sensible, roof = A*u*dT			H_sens_roof =	-7491.55 (dT = 57F)	
H_sensible, window conductance = A_glass*U*dT			H_sens_glass =	-16794.8	
Outside Air, ventilation =	620	(from ASHRAE calculation)			
Outside Air, intrusion =	300	(from open doors on windy winter days)			
Outside Air =	920				
Roof / Floor Area =	2051	<----- update per site			
Wall Height - Average	20	<----- update per site			
Perimeter (unconditioned)	42	<----- update per site			
Wall Area =	840				
Window length =	22	<----- update per site			
Window height =	10	<----- update per site			
Window Area =	220				
Shading Factor =	0.4	(0 = none, 1.0 = fully shaded)			
R-value Walls = (R_net) =	13	New Wall			
U-value Walls =	0.076923077	Average Wall			
R-floor = (R_net) =	1				
U-floor	1				
R-roof = (R_net) =	19	New Roof			
U-roof	0.052631579	Average Roof			
U-glass	1.1	(use 1.1 for 1-pane glass; use 0.55 for double pane glass, energy star windows can be 0.55 max.)			
Total Heating Load:				**-91573.5**	
Safety Factor (25%)				**-114467 MBH**	
Space Load - Tonnage Required				**33.53849 KW**	
Mechanical contractor shall verify Existing HVAC Equipment meets the above minimum requirement.					
Provide 180 mbh heat for quick heat-up in the mornings.					

MEP DRAWINGS ARE NOT STRUCTURAL ENGINEERING DRAWINGS. VERIFY WITH STRUCTURAL DESIGN, WHICH TAKES PRECEDENCE OVER THE M.E.P. SHEETS IN TERMS OF MOUNTING AND PLACEMENT.

VERIFY WITH STRUCTURAL DESIGN, WHICH TAKES PRECEDENCE OVER THE M.E.P. SHEETS IN TERMS OF MOUNTING AND PLACEMENT.

AIR BALANCE SCHEDULE

UNIT	SUPPLY AIR	RETURN AIR	OUTSIDE AIR	EXHAUST	PRESSURE	AREA SERVED
RTU–1	2,000	1,600	400	––	+400	STUDIO
RTU–2	1,200	980	220	––	+220	LOBBY
EF–1	––	––	––	80	–80	RR
EF–2	––	––	––	80	–80	RR
EF–3	––	––	––	80	–80	UTILITY
TOTAL	3,200	2,580	620	240	+370	––

HVAC SYSTEMS SHALL BE PROVIDED WITH BAROMETRIC RELIEF.

2024 OMC Ventilation Comparison — 4/22/2025 — Bodybar - Centerville, OH

Zone Identification		Standard Case: 2024 Ohio Mechanical Code - Table 403.3.1.1 Min. Ventilation Rates												Design Case		
Zone	Occupancy Category	Area (sf) (Az)	People Outdoor Air Rate (cfm/ person) (Rp)	Area outdoor Air Rate (cfm/sf) (Ra)	Expected Occupant Density (#/1000 sf)	Zone Population (# persons) (Pz)	Breathing Zone Outdoor Air Flow (CFM) (Vbz)	(403.3.1.1.1.2) Zone Air Distribution Effectiveness (Ez)	Zone Outdoor Air Flow (CFM) (Voz)	Zone Primary Air Flow Fraction (CFM) (Vpz)	Factor Zp= Voz/Vpz	(403.3.1.1.1.2) System Ventilation Efficiency (Ev)	Outdoor Air Intake Flow (CFM) (Vot)	Total Outdoor Airflow provided by HVAC equip. (CFM)	Total Airflow provided by HVAC equip. (CFM)	Design % by which Outside Air Design Flow Exceeds Standard
Studio (Health Club/Aerobics Room)	**Sports & Amusement**	1,402	20	0.06	40	16	404.1	0.8	505.2	1	505.2	1	505.2	510	2000	1.0%
Restroom	**Restroom**	106	0	0.06	0	0	6.4	0.8	8.0	1	8.0	1	8.0	10	100	25.8%
Utility (Storage)	**Retail Stores, Sales..**	63	0	0.12	0	0	7.6	0.8	9.5	1	9.5	1	9.5	10	50	5.8%
Retail Lobby (Sales)	**Retail Stores, Sales..**	420	7.5	0.12	15	1	57.9	0.8	72.4	1	72.4	1	72.4	75	950	3.6%
Office (Office Spaces)	**Offices**	60	5	0.06	5	1	8.6	0.8	10.8	1	10.8	1	10.8	15	100	39.5%
	Total	2,051				18						Total (CFM):	606	620	3200	

$V_{bz} = R_p*P_z + R_a*A_z$

V_{pz} = Total airflow provided by the HVAC equipment (Outdoor + Recirculated).

$V_{oz} = V_{bz}/E_z$

$Z_p = V_{oz}/V_{pz}$

*Occupancy is counted by # of stretch boards plus instructor of class, which is the actual peak anticipated occupancy for this area

* Terminology has been adopted from IMC 2021, refer to section 403 of that code for additional terminology, equations, etc.

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ISSUE RECORD

DATE DESCRIPTION

REVISION RECORD

PROFESSIONAL SEAL

STATE OF OHIO — PETER ADAM LEPTUCH E-75787 — REGISTERED PROFESSIONAL ENGINEER — MECHANICAL

04/22/25

REMODEL

PROJECT NAME

BODYBAR

THE VILLAGE AT CORNERSTONE SHOPPES IV

CENTERVILLE OHIO

5268 CORNERSTONE NORTH BLVD
CENTERVILLE, OH
45440

Peter A. Leptuch, P.E.
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PROJECT NUMBER

25–0030

MECHANICAL DETAILS

SHEET NUMBER

M2.0

PRINT DATE: Tuesday, April 22, 2025 4:33:30 PM

KEY NOTES BY SYMBOL '(#)'

1. ROOFTOP UNIT, REFER TO EQUIPMENT SCHEDULE SHEET M1.0. PROVIDE FLEXIBLE CONNECTORS FOR THE SUPPLY AND RETURN AIR DUCT CONNECTIONS. TRANSITION TO DUCT SIZES SHOWN. PROVIDE CANT STRIPS, FLASHING, AND WEATHER PROOFING AROUND RTU.
2. MAINTAIN 10'-0" BETWEEN OUTSIDE AIR INTAKES AND ALL EXHAUST SOURCES (PLUMBING VENTS, EXHAUST FANS, COMBUSTION EXHAUST, ETC.). MECHANICAL CONTRACTOR SHALL PROVIDE OFFSETS AS NEEDED TO ENSURE EXHAUST FANS ARE 10'-0" AWAY FROM NEIGHBORING TENANT'S FRESH AIR INTAKES. PROVIDE OFFSETS AND ADJUST/RELOCATE EQUIPMENT AS NEEDED.
3. CONDENSATE PIPING FOR RTUS SHALL BE DRIPPED TO ROOF, OR NEAREST APPROVED RECEPTOR VIA INDIRECT WASTE (MINIMUM 3" AIRGAP). CONDENSATE MAY BE PVC OR THIN COPPER WHERE ALLOWED BY AHJ IN THAT ORDER. CONDENSATE INSULATION SHALL BE PROVIDED WHERE REQUIRED BY AHJ..
4. ROUTE EXHAUST DUCT UP THROUGH ROOF. TERMINATE WITH WEATHERPROOF DOME WITH BIRD SCREEN. PROVIDE WITH BACK DRAFT DAMPER.
5. ROOF LADDER IN RISER ROOM, APPROXIMATELY ±50'-0" AWAY FROM THIS POINT.
6. SUPPORT GAS PIPING ON ROOF WITH PIPE SUPPORTS EQUAL TO MIRO. ROUTE TO EQUIPMENT AS SHOWN. ROUTE TO RTU'S LOCATED ON THE ROOF.
7. NEW GAS MANIFOLD/METER. COORDINATE WITH LOCAL GAS PROVIDER TO BRING NEW/ADDITIONAL GAS TO BUILDING, AS NEEDED.

GENERAL NOTES

1. CONTRACTORS AND SUB CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCING THE COMPLETE DOCUMENT SET.
2. COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER AND CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.
3. ALL ROOFING WORK (CUTS, REPAIRS, SPUD WORK, ETC.) SHALL BE PERFORMED BY THE LANDLORD'S APPROVED ROOFING CONTRACTOR.
4. DRAWINGS FOR THE MECHANICAL WORK ARE DIAGRAMMATIC SHOWING THE GENERAL LOCATION, EQUIPMENT TYPE AND LAYOUT, THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO MANUFACTURERS STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, OFFSETS, ACCESSORIES AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM. SUBMIT SHOP DRAWINGS PER THE SPECIFICATIONS.
5. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE AUTHORITY HAVING JURISDICTION INCLUDING APPLICABLE SECTIONS OF NFPA, OSHA, BOCA, NEC AND IBC OR ANY INTERIM AMENDMENTS AT THE TIME OF THE PROPOSAL. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK AND OBTAIN ALL INSPECTIONS REQUIRED BY CODE.
6. FLEXIBLE DUCT SHALL NOT EXCEED 5' IN LENGTH. ONLY ONE 90 DEGREE ELBOW ALLOWED IN FLEXIBLE DUCTWORK. FLEXIBLE DUCTWORK SHALL BE INSTALLED FREE OF ANY KINKS OR RESTRICTIONS THAT WOULD REDUCE AIRFLOW. FLEX DUCT ALLOWED ONLY ABOVE CONCEALED CEILINGS.
7. UNITS SHALL USE SAME ROOF PENETRATION IF POSSIBLE. VERIFY CURB REUSE WITH LANDLORD, ANY ROOF WORK THAT MUST BE DONE SHALL BE BY LANDLORD-APPROVED ROOFING CONTRACTOR. ANY NEW RTU LOCATIONS SHALL BE APPROVED BY STRUCTURAL ENGINEER.
8. TENANT'S G.C. SHALL PROVIDE TEST AND BALANCE REPORT (BY NEBB/AABC CONTRACTOR) TO OWNER PRIOR TO COMPLETION OF WORK.
9. TENANT IS NOT TO SUSPEND ANY ITEMS FROM THE BOTTOM OF THE ROOF DECK. TENANT IS NOT TO SUSPEND ANY ITEMS FROM THE BOTTOM ROOF JOIST OR JOIST GIRDER CHORDS, WITHOUT WRITTEN APPROVAL OF THE BUILDING SHELL STRUCTURAL ENGINEER OF RECORD. TENANT IS TO SUBMIT PROPOSED DETAILS, FOR ITEMS SUSPENDED FROM THE ROOF STRUCTURE, FOR REVIEW BY SHELL STRUCTURAL ENGINEER. IN GENERAL, NO DUCT WORK, CONDUITS, PIPES, BANNERS, SIGNAGE, OR CURTAIN/SUSPENDED FURR-DOWNS OR WALLS ARE TO BE SUSPENDED FROM THE BOTTOM OF THE ROOF STRUCTURE, WITHOUT APPROVAL. NO TENANT FINISH-OUT WORK IS TO BE SUSPENDED FROM ANY WORK BY ANOTHER TRADE, FROM JOIST BRIDGING OR FROM X-BRACING OR FROM THE BOTTOM OF THE ROOF DECK. SUSPENDED TEE GRID CEILINGS AND LIGHT FIXTURES MAY BE SUSPENDED FROM THE BOTTOM ROOF JOIST AND BOTTOM JOIST GIRDER CHORDS IN MAXIMUM WEIGHTS OF SEVENTY-FIVE (75) POUNDS AT BOTTOM CHORD JOIST PANEL POINTS, WITHOUT ADDED STEEL ANGLE REINFORCING UP TO TOP JOIST CHORDS. SUSPENDED CEILINGS AND LIGHT FIXTURES ARE NOT TO BE SUSPENDED FROM THE BOTTOM OF THE ROOF DECK.
10. CONTRACTOR MAY ADJUST VENT LINE LOCATIONS AND REUSE EXISTING VTR(S) WHERE VENT IS NOT WITHIN 10'-0" OF AN EXISTING OR PROPOSED FRESH AIR INTAKE.
11. THE MEP PLANS ARE NOT STRUCTURAL ENGINEERING PLANS. OBTAIN STRUCTURAL APPROVAL PRIOR TO SETTING ANY NEW EQUIPMENT ON ROOF, AND PRIOR TO HANGING ANYTHING TO STRUCTURE THAT MAY IMPACT THE STRUCTURAL INTEGRITY OF THE SPACE.
12. MAINTAIN 3'-0" CLEAR SPACE AROUND ALL EQUIPMENT FOR MAINTENANCE AND SERVICING.
13. ADD PRESSURE REGULATORS AS NEEDED WHERE 2 PSI GAS IS EXISTING AT THE GAS METER BANK.

LINE SIZES SHOWN HERE ARE ASSUMED EXISTING. THESE SIZES REPRESENT MINIMUM LINE SIZES. NOTIFY ENGINEER FOR RESIZING IF ANY OTHER EQUIPMENT IS SERVED BY EXISTING LINES BEYOND WHAT IS SHOWN HERE, OR IF TOTAL DEVELOPED LENGTH EXCEEDS 150' FOR RESIZING OF LINES.

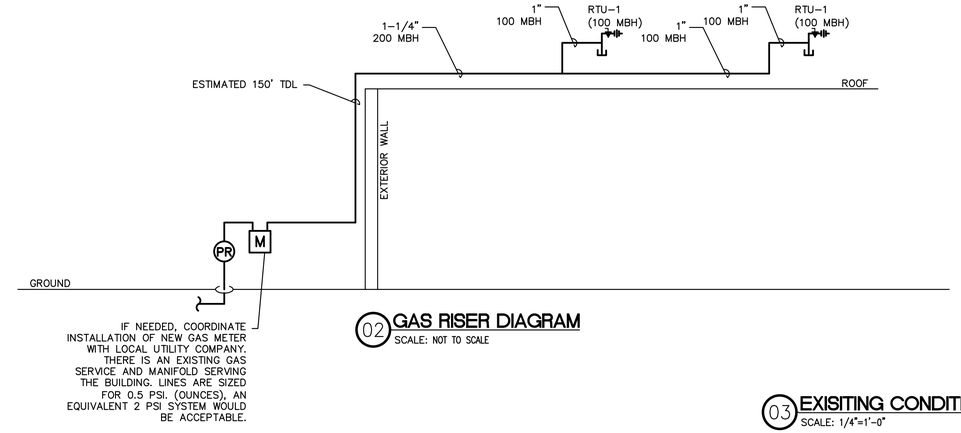
CENTERVILLE, OH NOTE:

AT TIME OF DESIGN, LOCATION OF DESIGN, IT WAS UNCLEAR OF LOCATION OF GAS MANIFOLD OR IF MANIFOLD EXISTS. CONTRACTOR SHALL VERIFY LOCATION AND LENGTH BACK TO GAS EQUIPMENT IN FILED AND NOTIFY ENGINEER IF LENGTH OF LINE IS GREATER THAN NOTED ABOVE. SHOWN IS ROUTING ON ON BODYBAR SPACE. UPGRADE GAS METER AS NEEDED IF METER EXISTS.

PROVIDE SERVICE RECEPTACLE AT AN ACCESSIBLE LOCATION, WITHIN 25 FT FROM HVAC EQUIPMENT.

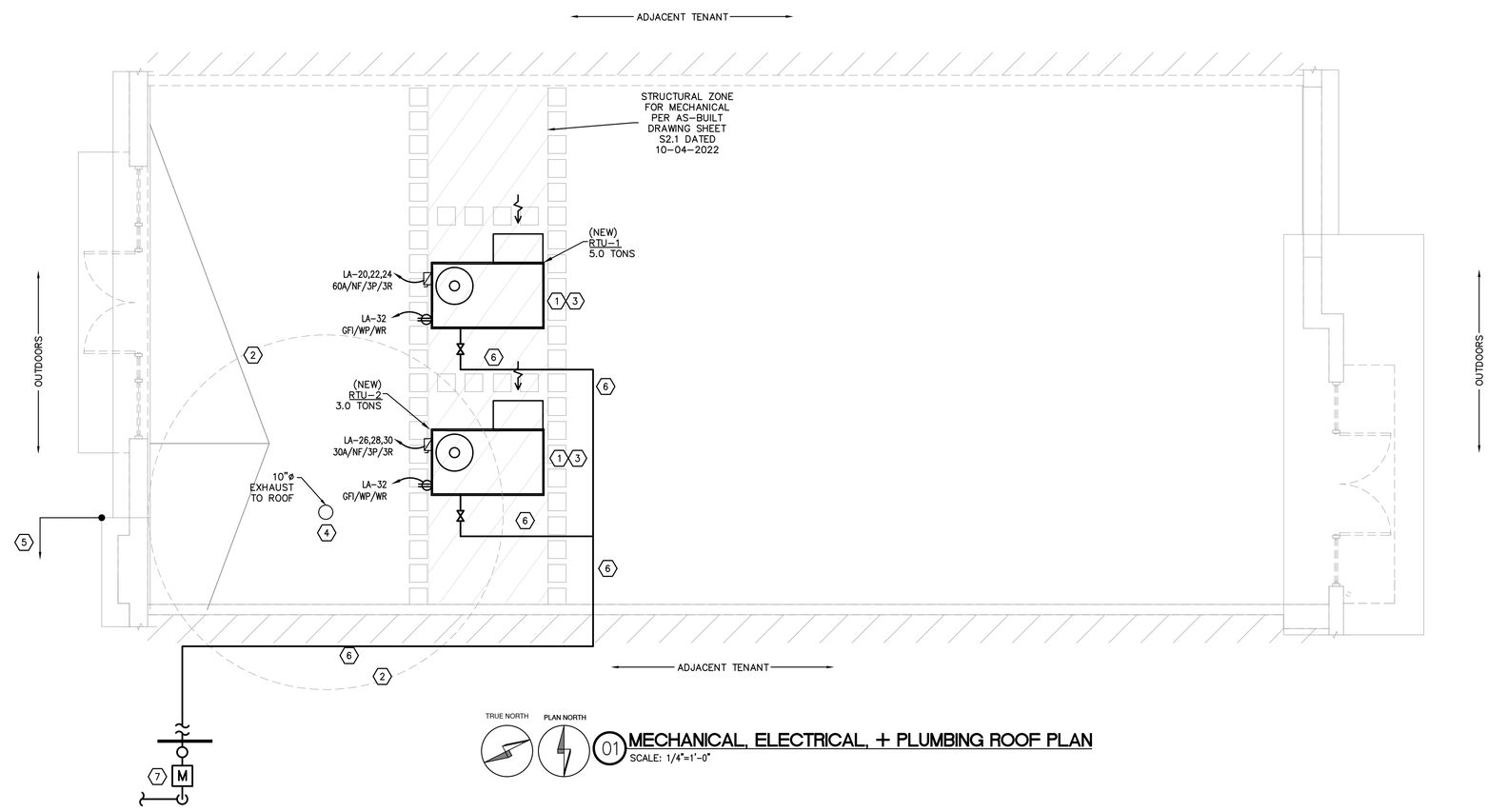
GAS DEMAND

RTU-1	100,000 BTUH
RTU-2	100,000 BTUH
TOTAL	200,000 BTUH



02 GAS RISER DIAGRAM
SCALE: NOT TO SCALE

03 EXISITING CONDITIONS - GAS MANIFOLD
SCALE: 1/4"=1'-0"



01 MECHANICAL, ELECTRICAL, + PLUMBING ROOF PLAN
SCALE: 1/4"=1'-0"

PRINT DATE: Tuesday, April 22, 2025 4:40:31 PM

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ISSUE RECORD

DATE	DESCRIPTION

REVISION RECORD

PROFESSIONAL SEAL

STATE OF OHIO
PETER ADAM LEPTUCH
E-75787
REGISTERED
PROFESSIONAL ENGINEER
04/22/25

REMODEL

PROJECT NAME

BODYBAR

THE VILLAGE AT CORNERSTONE SHOPPES IV

CENTERVILLE OHIO

5268 CORNERSTONE NORTH BLVD
CENTERVILLE, OH 45440

Peter A. Leptuch, P.E.
104 W. Oak St.,
Suite 200 (2nd Floor)
Denton, TX 76201
(940) 808-0615

PROJECT NUMBER
25-0030

MECHANICAL ELECTRICAL & PLUMBING ROOF PLAN

SHEET NUMBER

MEP1.0

ELECTRICAL SPECIFICATIONS

*ANY AND ALL EQUIPMENT BREAKER AND/OR DISCONNECT SIZES SHALL BE CONFIRMED WITH EQUIPMENT THAT ARRIVES ON SITE. BREAKER SIZES AND WIRE SIZES SHALL BE ADJUSTED AS NECESSARY

> PROTOTYPICAL "NO SURPRISE" MEP BID NOTE:
> EACH SET OF DRAWINGS IS INDIVIDUALLY ASSEMBLED AND AN ATTEMPT IS MADE TO INCLUDE LEASE SCOPE IN THE DRAWING SET. HOWEVER, THE CONTRACTOR SHALL VISIT THE SITE TO CONFIRM WHAT IS LISTED AS EXISTING BY LANDLORD, OR SIMILAR IS ACTUALLY THERE, AND IF IT IS NOT, THE CONTRACTOR SHALL PROVIDE ITEMIZED BID TO COMPLETE SUCH GAP WORK TO ENSURE ALL WORK THAT WILL BE REQUIRED BY CONTRACTOR IS INCLUDED IN THE CONTRACTOR'S SCOPE. IF THE CONTRACTOR PROVIDES A BULK BID OR SINGLE PRICE BID, IT WILL INCLUDE EVERYTHING REQUIRED TO BUILD A COMPLETE STORE, INCLUDING ANY WORK "BY OTHERS" THAT IS NOT PRESENT.

16010 WORK INCLUDED:

1.1 CONTRACTOR SHALL PROVIDE THE FOLLOWING;
a. LABOR
b. SUPPLIES
c. MATERIALS
d. SHOP DRAWINGS
e. PERMITS AND INSPECTION FEES
f. CERTIFICATION OF FINAL INSPECTION AND APPROVAL
g, ONE YEAR GUARANTEE

1.2 CONTRACTOR SHALL PERFORM THE FOLLOWING;
a. INSTALLATION OF ALL ELECTRICAL EQUIPMENT.
b. COORDINATE WITH OTHER TRADES OF ELECTRICAL EQUIPMENT INSTALLATION.
c. MATERIAL PROTECTION DURING CONSTRUCTION.
d. TEST OF ENTIRE SYSTEM IN PRESENCE OF OWNER OR HIS REPRESENTATIVE AND CORRECT ANY DEFICIENCIES DISCOVERED.
e. COORDINATION OF ELECTRICAL SERVICE AND METERING WITH LOCAL POWER COMPANY.
f. COORDINATION OF TELEPHONE SERVICE WITH LOCAL TELEPHONE COMPANY.

1.3 GOVERNING CODES SHALL BE THE FOLLOWING;
a. LOCAL MUNICIPALITY ELECTRICAL CODE.
b. PER LATEST NATIONAL ELECTRICAL CODE (NEC)
c. UTILITY COMPANY REGULATIONS
d. AMERICANS WITH DISABILITY ACT
e. CURRENT APPLICABLE BUILDING CODES
f. LOCAL BUILDING CODES AND ORDINANCES
g. THE NATIONAL MANUFACTURER'S ASSOCIATION STANDARDS (NEMA)
h. UNDERWRITER LABORATORIES INCORPORATED STANDARD(S)
i. AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
j. THE MANUFACTURER'S RECOMMENDATION

1.4 MATERIAL WILL BE;
a. NEW
b. UL LISTED

16110 RACEWAYS

1.1 USE AND TYPES
a. SERVICE ENTRANCE – RIGID STEEL
b. FEEDERS – RIGID STEEL EXCEPT ABOVE 8'-0" AND INDOOR THEN EMT
c. BRANCH CIRCUIT, TELEPHONE OR COMMUNICATIONS – EMT
d. IN EARTH OR CONCRETE – SCHEDULE 40 PVC
e. RECESSED LIGHTING FIXTURES – FLEXIBLE STEEL CONDUIT (SHORT BUT MAXIMUM 72")
f. OUTDOOR FINAL CONNECTION TO EQUIPMENT OR IN WET LOCATIONS – LIQUID TIGHT FLEXIBLE STEEL CONDUIT (MAXIMUM 36")
g. ALL RACEWAYS, UNLESS SPECIFICALLY INDICATED TO BE EXPOSED, SHALL BE CONCEALED IN WALLS, CEILING OR FLOORS.
h. PAINT ALL EXPOSED RACEWAYS COLOR AS DIRECTED BY ARCHITECT.

1.2 CONDUIT BUSHING,
a. PROVIDE INSULATED CONDUIT BUSHING AT EACH END OF EVERY CONDUIT RUN.

16120 WIRES AND CABLES 600 VOLTS

1.1 COLOR CODING

	208Y/120V	480Y/277V
PHASE A	BLACK	BROWN
PHASE B	BLUE	YELLOW
PHASE C	RED	ORANGE
NEUTRAL	WHITE	WHITE
GROUND	GREEN	GREEN

1.2 INSULATED, THHN, THWN, XHHW 75 DEGREE C (THWN OR BETTER, WET-RATED FOR BELOW GRADE).

1.3 PROVIDE COPPER WIRING UNLESS ALUMINUM IS SPECIFICALLY SOWN ON THE DRAWINGS. WHEN ALUMINUM CONDUCTORS ARE UTILIZED – PROVIDE COMPRESSION LUG FITTINGS.

1.4 FIXTURE WIRE, 600 VOLTS, 200 DEGREE C. #14 AWG MINIMUM STRANDED, TINNED COPPER WITH SILICONE RUBBER INSULATION AND AN OVERALL JACKET OF GLASS BRAID, AND RATED AS NEC TYPE 'SF-2'

16130 BOXES

1.1 ATTACHED SECURELY TO BUILDING CONSTRUCTION OR SUPPORT FROM SAME

1.2 MASONRY BOXES SHALL BE RACO OR STEEL CITY

1.3 EXPOSED BOXES SHALL BE CAST TYPE SIMILAR TO CROUSE HINDS TYPE FS

1.4 ALL OTHERS SHALL BE STAMPED STEEL

16140 WIRING DEVICES

1.1 RECEPTACLES
a. DUPLEX – 15 AMPS, 125V. AC GROUNDED UNO
b. SINGLE – 15 AMPS, 125V. AC GROUNDED UNO
c. COORDINATE COLOR OF DEVICE WITH ARCHITECT, ALSO SEE NOTES ON E1.0
d. COORDINATE FINISH AND COLOR OF COVER PLATE WITH ARCHITECT, ALSO SEE NOTES ON E1.0

1.2 WALL SWITCHES
a. SINGLE POLE – 20 AMPS, SINGLE THROW, QUIET TYPE, GROUNDED
b. COORDINATE COLOR OF DEVICE WITH ARCHITECT, ALSO SEE NOTES ON E1.0
c. COORDINATE FINISH AND COLOR OF COVER PLATE WITH ARCHITECT, ALSO SEE NOTES ON E1.0

1.3 TIME CLOCK
a. FURNISH AND INSTALL A TWENTY FOUR (24), SEVEN (7) DAY TIME CLOCK INCLUDING ALL INTEGRAL WIRING AND LOAD BALANCING (PANEL) FOR CONTROLLING THE STOREFRONT SIGN AND SHOW WINDOW LIGHTING, WHETHER SUCH WORK IS OR IS NOT SHOWN ON PLANS OR SPECIFICATIONS

16170 PANEL BOARDS

1.1 PANEL BOARDS SHALL HAVE, BUT NOT BE LIMITED TO THE FOLLOWING;
a. THREE PHASE, 4 WIRE, COPPER BUSING, NEMA 1 ENCLOSURE FOR INDOOR, NEMA 3R FOR OUTDOOR.
b. GROUND BUS WITH SET SCREW CONNECTIONS
c. SOLID NEUTRAL, 100% RATED WITH SET SCREW CONNECTION
d. SWITCH RATED BOLT-ON BREAKERS
e. TYPE WRITTEN DIRECTORY
f. PLAQUE, BLACK WITH 1" HIGH WHITE LETTERS TO INDICATE PANEL NAME
g. SQUARE D, GENERAL ELECTRIC OR SIEMENS

16190 GROUNDING

1.1 FEEDERS AND BRANCH CIRCUITS
a. PROVIDE A GREEN INSULATED GROUND CONDUCTOR, SIZED PER THE NEC IN EACH RACEWAY

16200 LIGHTING FIXTURES

1.1 COORDINATE FIXTURE TRIMS WITH CEILING IN/ON WHICH IT IS BEING INSULATED.

1.2 MATCH VOLTAGE OF FIXTURE TO CIRCUIT TO WHICH FIXTURE IS SHOWN CONNECTED

1.3 PROVIDE LOW TEMPERATURE HIGH EFFICIENCY ELECTRONIC BALLASTS IN FLUORESCENT FIXTURES

1.4 PROVIDE THERMAL OVERLOAD PROTECTION IN BOTH FLUORESCENT AND INCANDESCENT FIXTURES

1.5 NARRATIVE DESCRIPTION IN LIGHTING FIXTURE SCHEDULE TAKES PRECEDENCE OVER CATALOG NUMBER

1.6 PROVIDE INTEGRAL DISCONNECTING MEANS FOR ALL FLUORESCENT FIXTURES PER THE NEC

16210 EXISTING CONDITION

1.1 VISIT SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS IN AND AROUND THE BUILDINGS

16220 TELEPHONE SERVICE

1.1 SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE, 600 OR 250 VOLT, WITH NUMBER OF POLES REQUIRED. FUSED SAFETY SWITCHES SHALL BE QUICK-MAKE, QUICK-BREAK MECHANISM, VISIBLE BLADES WITH REJECTION TYPE FUSE CLIPS AND NEMA CLASS "LPJ" FUSES, THE SWITCHES SHALL BE NEMA 3R FOR OUTDOOR. ALL SWITCHES SHALL BE LOCKABLE.

PLUMBING SPECIFICATIONS

SECTION 15-A – PLUMBING

15A-01 GENERAL:

A. ALL PLUMBING WORK SHALL CONFORM TO THE LANDLORD'S CRITERIA, THE STATE, COUNTY, CITY, LOCAL CODES AND ORDINANCES, SAFETY AND HEALTH CODES, NFPA CODES, ENERGY CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. INCORPORATE ALL REQUIREMENTS WITH THIS WORK, WHETHER SPECIFICALLY INDICATED ON PLANS OR NOT. ADVISE ARCHITECT IF REQUIREMENTS ARE CONTRARY TO THESE PLANS. IT IS INTENDED THAT THE CONTRACTOR SHALL PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.

B. THIS CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS, INSPECTIONS AND FEES REQUIRED OR RELATED TO HIS WORK.

C. CONTRACTOR SHALL DETERMINE THE LOCATION OF EXISTING WATER SUPPLY AND DRAIN LINES AND MAKE PROPER CONNECTION THERETO, INCLUDING VENTS.

D. ALL MATERIALS SHALL BE NEW AND SHALL FIT THE SPACE AVAILABLE. VERIFY ALL DIMENSIONS AT THE SITE.

E. ALL VALVES, CLEANOUTS, ETC., SHALL BE SO LOCATED AND INSTALLED TO PERMIT ACCESS FOR SERVICE WITHOUT DAMAGE TO BUILDING OR FINISHED MATERIAL.

F. ALL PLUMBING EQUIPMENT AND WORK SHALL BE GUARANTEED FOR ONE YEAR AFTER FINAL ACCEPTANCE BY LANDLORD AND TENANT.

15A-02 MATERIALS

A. REFER TO PLANS FOR SCHEDULES OF EQUIPMENT AND FIXTURES. AMERICAN STANDARD, KOHLER AND CRANE ARE CONSIDERED ACCEPTABLE AS EQUALS. ALL PLUMBING EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

B. SANITARY PIPING:
1. WHERE NOT OTHERWISE SPECIFIED THROUGHOUT THE DRAWING SET, WASTE, DRAIN AND VENT PIPING SHALL BE PER LOCAL CODE AND AUTHORITY HAVING JURISDICTION. VENT PIPING ABOVE FLOOR 2" OR SMALLER MAY BE GALVANIZED STEEL.
2. PROVIDE LINE-ITEM BID TO UTILIZE PVC, OBTAIN APPROVAL FROM INSPECTOR PRIOR TO INSTALLATION THAT PVC IS ALLOWED FOR THE SPECIFIC HVAC LAYOUT FOR THIS PROJECT.
3. INSULATE ALL HORIZONTAL RUNS OF PIPING LOCATED IN CEILING SPACES OF TENANTS IN SPACES BELOW WHEN APPLICABLE. INSULATION TO BE AS SPECIFIED FOR WATER PIPING.
4. CONDENSATE PIPING SHALL BE TYPE "L" HARD DRAWN COPPER TUBE WITH 95-5 TIN-ANTIMONY SOLDERED JOINTS AND WROUGHT COPPER FITTINGS WITH DIELECTRIC SEPARATION BETWEEN DISSIMILAR METALS. CONDENSATE PIPING BELOW ROOF DECK MAY BE PVC. PROVIDE SHARKBITE TRANSITION FROM PVC TO COPPER.
5. ANY WASTE PIPING EXPOSED IN PARKING AREAS SHALL BE PROTECTED FROM MECHANICAL DAMAGE AND SHALL BE PROVIDED WITH FREEZE PROTECTION (HEAT TAPE & INSULATION) WHERE SUBJECT TO POSSIBLE FREEZING CONDITIONS.

C. POTABLE WATER PIPING
1. WATER PIPING IN CEILING SPACE AND WITHIN WALLS MAY BE TYPE 'L' COPPER OR PEX, INSTALLED PER MANUFACTURER'S INSTRUCTIONS. PROVIDE SHARK-BITE TRANSITIONS, OR APPROVED EQUALS.
2. BELOW GRADE: TYPE "K", ANNEALED TEMPERED COPPER TUBE FOR PIPE SIZES 2 INCHES AND SMALLER. BRAZE ALL JOINTS.
3. WHERE APPLICABLE, TRANSITIONS BETWEEN COPPER AND PLASTIC PIPE SHALL BE MADE BY SHARKBITE OR SIMILAR TRANSITIONS, RATED FOR USE WITH SUCH MATERIALS AS ARE BEING USED.

D. PIPING OF DISSIMILAR METALS MUST BE DI-ELECTRICALLY SEPARATED.

E. INSULATE ALL HOT WATER, COLD WATER AND CONDENSATE PIPING WITH 1" THICK (K=0.23 @ 75°F) PIPE INSULATION WITH AN ALL SERVICE JACKET TO MEET LOCAL CODES AND UL FLAME SPREAD AND SMOKE DEVELOPED RATINGS. OWENS-CORNING OR EQUAL.

F. INSULATE THE TRAP, SANITARY AND SUPPLY PIPES UNDER LAVATORY WITH 1/2" ARMSTRONG "ARMAFLEX" PIPING INSULATION OR TRUEBRO MODEL 102W "HANDI LAV GUARD" INSULATION KIT.

G. INSTALL AIR CHAMBER SHOCK ABSORBERS IN BOTH HOT AND COLD LINES OF PIPING SYSTEM TO PREVENT NOISE AND DAMAGE DUE TO WATER HAMMER. J.R. SMITH 5000 SERIES ALL STAINLESS STEEL "HYDROTROLS" OR EQUAL, INSTALLED IN AN UPRIGHT POSITION.

H. ALL BRANCH PIPING SYSTEMS SHALL HAVE ACCESSIBLE SERVICE VALVE. PROVIDE SHUT OFF VALVES IN THE SUPPLY PIPING TO EVERY FIXTURE. PROVIDE ACCESS DOORS WHERE NECESSARY.

I. INSTALL ALL NECESSARY PIPE HANGERS, SADDLES AND CARRIERS TO PROPERLY SUPPORT ALL PIPING AND FIXTURES. HANGERS SHALL SUIT TYPE OF PIPING AND SEISMIC BRACING WHERE REQUIRED BY CODES.

J. STERILIZE WATER SYSTEM IN ACCORDANCE WITH LOCAL CODES.

K. CLEAN-OUTS AND FLOOR DRAINS SHALL BE INSTALLED PER LOCAL CODES.

L. ESCUTCHEONS SHALL BE CHROME PLATED, SIZE AS REQUIRED AND PLACE AT ALL PIPE PENETRATIONS AT WALL, FLOORS AND CEILINGS IN FINISHED AREAS.

M. LEAKAGE TESTS SHALL BE PER LOCAL CODES.

N. FLASHING SHALL BE SEALED WATERTIGHT AND PERFORMED IN ACCORDANCE TO THE LANDLORD'S CRITERIA. USE LANDLORD APPROVED ROOFING CONTRACTOR WHERE APPLICABLE.

O. NOT USED.

P. GAS PIPING
1. PROVIDE A COMPLETE GAS PIPING SYSTEM IF APPLICABLE. REFER TO PLANS TO DETERMINE IF A GAS SYSTEM IS REQUIRED.
2. GAS LINES SHALL BE BLACK STEEL, SCHEDULE 40, ASTM A-120, WITH MALLEABLE THREADED FITTINGS FOR 2" AND SMALLER, AND WITH WELDED JOINTS FOR 2 1/2" AND LARGER.
3. PROVIDE A GAS COCK, DIRT LEG, AND UNION CONNECTION TO EACH PIECE OF EQUIPMENT.
4. PITCH PIPING AT A UNIFORM GRADE OF 1/4" IN 15 FEET UPWARD IN DIRECTION OF FLOOR. SUPPORT PIPING EVERY 5 FEET. SUPPORT AS REQUIRED BY LANDLORD CRITERIA, AS DETAILED ON DRAWINGS, OR BY STANDARD INDUSTRY PRACTICE, WHICHEVER IS MORE STRINGENT.
5. GAS PIPING EXPOSED ON ROOF MUST BE PAINTED WITH RUST-INHIBITING PAINT.
6. GAS PIPING INSTALLED IN RETURN AIR PLENUMS SHALL BE SLEEVED AND VENTED OR WELDED IN ACCORDANCE WITH THE LOCAL GAS COMPANY, LOCAL CODE AND APPLICABLE NFPA 54 CODES.
7. TESTING AND PURGING OF GAS PIPING SHALL BE DONE PER THE REQUIREMENTS OF THE LOCAL GAS COMPANY, LOCAL CODES AND APPLICABLE NFPA 54 CODES.
8. CONTACT AND COORDINATION GAS SERVICE AND METER REQUIREMENTS WITH THE LOCAL GAS COMPANY AND THE MALL'S OPERATIONS MANAGER PRIOR TO BID. INCLUDE INSTALLATION OF GAS METER COSTS IN BID.

MECHANICAL SPECIFICATIONS

SECTION 15-C – HEATING, VENTILATION, AIR CONDITIONING

15C-01 GENERAL:

A. ALL WORK SHALL CONFORM TO THE LANDLORD'S CRITERIA, THE STATE, COUNTY, CITY CODES AND ORDINANCES, SAFETY AND HEALTH CODES NFPA CODES, ENERGY CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. INCORPORATE ALL REQUIREMENTS INTO THIS WORK, WHETHER SPECIFICALLY INDICATED ON PLANS OR NOT. ADVISE ARCHITECT IF REQUIREMENTS CONTRADICT THESE PLANS. IT IS INTENDED THAT THE CONTRACTOR SHALL PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.

B. THIS CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS, INSPECTIONS, AND FEES REQUIRED OR RELATED TO HIS WORK.

C. ALL MATERIALS SHALL BE NEW AND SHALL FIT THE SPACE AVAILABLE. VERIFY ALL DIMENSIONS AT THE SITE.

D. ALL VALVES, DAMPERS, ETC., SHALL BE SO LOCATED AND INSTALLED TO PERMIT ACCESS FOR SERVICE WITHOUT DAMAGE TO BUILDING OR FINISHED MATERIALS.

E. ALL EQUIPMENT AND WORK SHALL BE GUARANTEED FOR ONE YEAR AFTER FINAL ACCEPTANCE BY LANDLORD AND TENANT.

F. LABEL ALL RTUS WITH RTU# AND TENANT'S NAME.

G. BRING EXISTING HVAC UNITS TO LIKE NEW OPERATING AND PERFORMANCE CONDITIONS. COMB OUT FINS, CHANGE BELTS, BRING TO FACTORY SPEC REFRIGERANT LEVELS.

15C-02 MATERIALS:

A. REFER TO PLANS FOR SCHEDULES OF EQUIPMENT. ALL EQUIPMENT SHALL BE COMPLETE IN EVERY RESPECT WITH ALL DEVICES, APPURTENANCES, AND ACCESSORIES PROVIDED TO MEET THE DESIGN INTENT AND OPERATION OF THE SYSTEMS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ALL AIR CONDITIONING EQUIPMENT MUST BE TRAPPED IN ACCORDANCE WITH MANUFACTURERS DATA.

B. BASE BID SHALL BE FOR FIBERGLASS DUCTBOARD, PROVIDE ALTERNATE BID FOR METAL DUCTWORK.
1. FABRICATE AND INSTALL RECTANGULAR AND ROUND DUCTWORK IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS" OF THE LATEST EDITION.
2. INSTALL TURNING VANES IN ALL RIGHT ANGLE ELBOWS OF 1200 CFM OR MORE.
3. INSTALL RIGID ROUND AND RECTANGULAR WITH SUPPORT SYSTEMS INDICATED IN SMACNA STANDARDS. PROVIDE SWAY AND SEISMIC BRACING AS REQUIRED BY STATE AND LOCAL CODES OR BY LANDLORD.
4. ALL JOINTS AND SEAMS SHALL BE SEALED. TOTAL LEAKAGE SHALL NOT EXCEED 5% FOR THE SYSTEM.
5. ALL DUCTWORK SHALL BE INSTALLED WITH INSIDE CLEAR DIMENSIONS AS NOTED ON DRAWINGS. WHERE DUCTWORK SIZE IN LARGER THAN CONNECTED DEVICE SMOOTH DUCT TRANSITIONS ARE TO TAKE PLACE JUST PRIOR TO DEVICE CONNECTIONS.

C. FLEXIBLE COLLARS AT EQUIPMENT SHALL BE PROVIDED IN ALL CONNECTIONS BETWEEN VIBRATING EQUIPMENT AND DUCTS OR CASINGS. FLEXIBLE CONNECTIONS SHALL BE CONSTRUCTED OF NEOPRENE-COATED FLAMEPROOF FABRIC. PROVIDE ADEQUATE JOINT FLEXIBILITY TO ALLOW FOR MOVEMENT AND PREVENT THE TRANSMISSION OF VIBRATION.

D. CALIFORNIA PROHIBITS FLEXIBLE DUCTWORK IN COMMERCIAL APPLICATIONS. ELSEWHERE FLEXIBLE AIR DUCT AT AIR DEVICES SHALL BE 1" INSULATED CLASS 1 AND RATED FOR THE OPERATING PRESSURE OF THE SYSTEM. DUCT CONSTRUCTION MATERIAL MUST ADHERE TO LOCAL CODES AND LANDLORD'S REQUIREMENTS.

E. PROVIDE MANUAL LOCKING QUADRANT VOLUME CONTROL DAMPERS WITH HANDLE OPERATORS IN EACH BRANCH DUCT AND AS SHOWN ON PLANS TO FACILITATE AIR BALANCING. ALL RECTANGULAR DAMPERS IN OUTSIDE AIR, RELIEF AIR, EXHAUST OR RETURN AIR DUCTS ARE TO BE OF OPPOSED BLADE TYPE.

F. PROVIDE PRIMARY FIRE DAMPERS WHERE INDICATED OR REQUIRED BY CODES. FIRE DAMPERS SHALL BE UL LABELED. FIRE DAMPERS SHALL HAVE THE BLADES OUT OF THE AIRSTREAM AND A 165°F FUSIBLE LINK, TYPE B, AS MINIMUM.

G. DUCTWORK INSULATION
1. INSTALL INSULATION PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES. INSULATION MUST COMPLY WITH NFPA 90A.
2. DUCT SIZES SHOWN ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS. ALL SUPPLY AND RETURN AIR RECTANGULAR DUCTWORK SHALL BE INTERNALLY INSULATED WITH 1" THICK, 1 1/2" LB. DENSITY LINER (C=0.28 @ 75°F.). LINER IS TO HAVE A COATED SURFACE EXPOSED TO AIRSTREAM TO PREVENT EROSION. APPLY ADHESIVES AND MECHANICAL FASTENERS AS RECOMMENDED BY SMACNA AND THE MANUFACTURER TO PREVENT LINER SEPARATION FROM THE DUCT. ALL TRANSVERSE EDGES TO BE COATED WITH ADHESIVE.
3. ALL ROUND, OUTSIDE AIR DUCTWORK, AND DRYER VENT PIPE SHALL BE EXTERNALLY INSULATED WITH A MINIMUM OF 1 ½" THICK, #1 DENSITY (R=5,6) DUCT WRAP WITH VAPOR BARRIER. VAPOR BARRIER IS TO BE MAINTAINED THROUGHOUT DUCT SYSTEM. ALL JOINTS MUST BE TAPED TO THAT NO INSULATION FIBER IS VISIBLE. EXTEND DUCTWORK INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS, AND SIMILAR PENETRATIONS.
4. ALL INSULATION SHALL HAVE A FLAME SPREAD RATING OF NO MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NO HIGHER THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM C 411, OR AS REQUIRED BY LOCAL CODES.

H. TESTING, ADJUSTING AND BALANCING:
1. TESTING, ADJUSTING AND BALANCING OF ALL WORK SHALL BE MADE BY AN INDEPENDENT CONTRACTOR WHO IS CURRENTLY LICENSED ASSOCIATED AIR BALANCING COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCE BUREAU (NEBB) BALANCING CONTRACTOR. ALL BALANCING WORK MUST BE COMPLETE AND DONE IN ACCORDANCE WITH THE MOST RECENT STANDARDS OF THEIR SOCIETY. PAYMENT OF ALL COSTS FOR TESTING AND BALANCING SHALL BE INCLUDED IN THE BID.
2. BALANCE AIR AND WATER QUANTITIES TO WITHIN +/– 5% OF THAT INDICATED ON THE DRAWINGS. ANY REQUIRED CHANGES IN SHEAVES, BELTS, PULLEYS OR THE ADDITION OF DAMPERS REQUIRED TO ACHIEVE SPECIFIED FLOW RATES SHALL BE PERFORMED BY THE HVAC CONTRACTOR WITH NO ADDITIONAL COST TO THE TENANT.
3. FOUR COPIES OF THE BALANCE REPORT SHALL BE SUBMITTED TO TENANT AND LANDLORD FOR APPROVAL.

I. RECORD DRAWINGS:
1. AT THE END OF THE PROJECT THIS CONTRACTOR SHALL SUBMIT 4 COPIES OF RECORD DRAWINGS SHOWING EXACT LOCATIONS OF UNITS, DUCTS, DIFFUSERS, ETC.

J. ECOMONIZER:
1. GENERALLY, AN ECONOMIZER IS REQUIRED BY THE LATEST VERSIONS OF IECC IN ALL JURISDICTIONS EXCEPT SOUTH FLORIDA (CLIMATE ZONE 1). THE MECHANICAL CONTRACTOR SHALL ORDER ALL NEW ROOF-TOP HVAC UNITS WITH ECONOMIZERS, THE MECHANICAL CONTRACTOR SHALL ORDER ALL SPLIT SYSTEMS, FAN COIL UNITS, WATER SOURCE HEAT PUMPS, OR OTHER MECHANICAL UNITS THAT ARE TO BE OPERATED MORE THAN 20 HOURS PER WEEK WITH ECONOMIZERS, FACTORY INSTALLED WHERE POSSIBLE OR WITH CAPABILITY FOR ECONOMIZER WHERE CONTROLS ARE TO BE FIELD INSTALLED, AND TO INSTALL ALL COMPONENTS – SUCH AS OUTSIDE AIR DUCTS AND DUAL ENTHALPY SENSORS, CONTROLS, ETC. ON SPLIT SYSTEMS AS NECESSARY TO MEET LOCAL CODE. THE CONTRACTOR SHALL VERIFY WITH THE LOCAL INSPECTOR WHAT VERSION OF ENERGY CODE IS ENFORCED IN THE JURISDICTION OF THE PROJECT AND FOR UNITS OTHER THAN PACKAGED ROOFTOP UNITS MAY OMIT THE ECONOMIZER PACKAGE WHERE THE AHJ DOES NOT REQUIRE IT.

ROOFTOP UNIT SEQUENCE OF OPERATION – CO_2 SENSOR & ECONOMIZER

FAN CONTROL:
THE SUPPLY FAN IS TO RUN CONTINUOUSLY DURING THE OCCUPIED MODE AND CYCLE ON AND OFF DURING THE UNOCCUPIED MODE BASED ON A CALL FOR HEATING OR COOLING. THE UNOCCUPIED SET POINT FOR COOLING WILL BE 85° FAHRENHEIT AND 60° FAHRENHEIT FOR HEATING.

THERMOSTAT:
THE ADJUSTABLE ROOM THERMOSTAT WITH AUTOMATIC HEATING/COOLING CHANGEOVER SHALL CONTROL THE SPACE TEMPERATURE BASED ON SET POINT. THE CONTROL OF THE OCCUPIED/UNOCCUPIED SETBACK MODE SHALL BE THROUGH THE LIGHT SENSING FUNCTION OF THE THERMOSTAT. PROVIDE 24/7 CONTROLLABLE TYPE. THERMOSTATS SHALL HAVE AUTOMATIC CHANGEOVER, 5 DEGREE DEADBAND (TEMPERATURE SET-POINT OVERLAP RESTRICTIONS) AND SHALL ALLOW AUTOMATIC RESTART AND TEMPORARY OPERATION AS REQUIRED FOR MAINTENANCE, PER ENERGY CODE.

SAFETIES:
THE UNIT SHALL BE TOTALLY DISABLED WHEN THE DUCT MOUNTED SMOKE DETECTOR IS ACTIVATED. PROVIDE REMOTE TEST STATION/ALARM WHEN REQUIRED BY CODE. PROVIDE LANDLORD REQUIRED SEQUENCE OR INTERFACE AS REQUIRED.

COOLING CONTROL:
UPON A CALL FOR COOLING, THE FIRST STAGE OF COOLING WILL BE ENABLED AND WILL OPERATE UNTIL THE SPACE TEMPERATURE IS SATISFIED. IF THE SPACE TEMPERATURE CONTINUES TO INCREASE THEN THE SECOND STAGE OF COOLING WILL BE ENABLED (IF APPLICABLE.)

HEATING CONTROL:
UPON A CALL FOR HEATING, THE FIRST STAGE OF HEATING WILL BE ENABLED AND WILL OPERATE UNTIL THE SPACE TEMPERATURE IS SATISFIED. IF THE SPACE TEMPERATURE CONTINUES TO DECREASE THEN THE SECOND STAGE OF HEATING WILL BE ENABLED (IF APPLICABLE.)

VENTILATION/ECONOMIZER CONTROL:
(WHERE REQUIRED BY A.H.J, OR WHERE CALLED FOR ELSEWHERE IN THE DRAWING SET):

THE OUTSIDE AIR DAMPER SHALL BE OPEN DURING THE OCCUPIED HEATING AND COOLING MODES FOR CODE REQUIRED MINIMUM OUTSIDE AIR VENTILATION AND SHALL REMAIN CLOSED DURING THE UNOCCUPIED MODE. IN THE OCCUPIED MODE THE CO_2 SENSOR SHALL MODULATE THE OUTSIDE AIR DAMPER WHEN THE UNIT OPERATING IN THE MINIMUM OUTSIDE AIR MODE.

THE ECONOMIZER MODE IS ENTHALPY CONTROLLED AND WILL BE OPERATIONAL WHENEVER COOLING IS REQUIRED AND THE OUTSIDE AIR ENTHALPY IS AT OR BELOW THE RETURN AIR ENTHALPY. THE POWER EXHAUST WILL OPERATE WHENEVER THE OUTSIDE AIR DAMPER IS OPEN MORE THAN 60%.

FIRE PROTECTION SYSTEM

1. SPRINKLER SYSTEM TO BE NFPA 13 AND SPRINKLER MONITORED WITH OCCUPANCY NOTIFICATION COMPLYING WITH H.C. AMENDMENTS – 903.4.
2. FIRE SPRINKLER AND FIRE ALARM WORK SHALL BE DONE UNDER A SEPARATE PERMIT (DESIGN/BUILD) BY LICENSED FIRE SPRINKLER AND FIRE ALARM CONTRACTORS.

16270 FIRE ALARM SYSTEM

1.1 FURNISH AND INSTALL FIRE ALARM POWER BOOSTER TO EXISTING BUILDING FIRE ALARM PANEL AS INDICATED ON DRAWINGS. THE FIRE ALARM SYSTEM NEW DEVICES SHALL BE FORMALLY PLANNED BY A LICENSED FIRE ALARM CONTRACTOR WHO SHALL SUBMIT SIGNED AND SEALED DRAWINGS, IF REQUIRED FOR PERMIT, AND SHALL SUPERVISE AND CERTIFY THE INSTALLATION. FIRE ALARM SYSTEM CONTRACTOR SHALL REVIEW THE MECHANICAL DRAWINGS AND PROVIDE AND INSTALL DUCT SMOKE DETECTORS AS REQUIRED IN THE STANDARD MECHANICAL CODE AND BY THE LOCAL FIRE MARSHALL. DESIGN SHALL COMPLY WITH NFPA 72. PROVIDE VOCE EVACUATION MODULES WITH ALL NECESSARY APPURTENANCES.

1.2 REMOTE ANNUNCIATOR
PROVIDE AN ALPHANUMERIC ANNUNCIATOR WITH INTEGRAL ALPHANUMERIC DISPLAY, SYSTEM CONTROL/TEST SWITCHES, KEY OPERATED ENABLED SWITCH AND BACK BOX. COORDINATE LOCATION WITH AUTHORITY HAVING JURISDICTION PRIOR TO ROUGH-IN.

1.3 MANUAL STATIONS
PROVIDE ANALOG ADDRESSABLE MANUAL STATIONS WITH PROTECTIVE COVERS (WITH INTEGRAL HORN AND 9V BATTERY) AS SHOWN ON THE PLANS.

1.4 SYSTEM SMOKE DETECTORS
PROVIDE ANALOG ADDRESSABLE PHOTOELECTRIC SMOKE DETECTORS WITH BASES AS SHOWN.

1.5 DUCT MOUNTED SMOKE DETECTORS
PROVIDE DUCT MOUNTED ANALOG ADDRESSABLE PHOTOELECTRIC SMOKE DETECTORS WITH SAMPLING TUBES AND ADDRESSABLE CONTROL RELAYS AS SHOWN ON THE PLANS AND AS REQUIRED TO COMPLY WITH THE MECHANICAL CODE. WHERE -N-DUCT SMOKE DETECTORS ARE INSTALLED IN CONCEALED LOCATIONS MORE THEN 10 FEET ABOVE THE FINISHED FLOOR OR N ARRANGEMENT WHERE THE DETECTORS ALARM OR SUPERVISORY INDICATOR IS NOT VISIBLE TO RESPONDING PERSONNEL, THE DETECTOR SHALL BE PROVIDED WITH REMOTE ALARM OR SUPERVISORY INDICATION IN A LOCATION ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. ADDITIONALLY, LABEL REMOTE ALARMS TO INDICATE BOTH THEIR FUNCTION AND THE AIR HANDLING UNITS(S) ASSOCIATED WITH EACH DETECTOR.

1.6 ADDRESSABLE MONITOR MODULES
PROVIDE ADDRESSABLE MONITOR MODULES AS SHOWN ON THE PLANS TO MONITOR SPRINKLER FLOW SWITCHES, SPRINKLER VALVES, SUPERVISORY SWITCHES AND SPRINKLER FIRE PUMP (AS REQUIRED)

1.7 ADDRESSABLE CONTROL MODULES
PROVIDE ADDRESSABLE CONTROL MODULES AS REQUIRED FOR INTERFACE WITH THE ELEVATOR CONTROLS, ELEVATOR POWER CONTROLS AND HVAC CONTROLS (AS REQUIRED)

1.8 ALARM SIGNALS
PROVIDE 15/75-WW SPEAKER/STROBE ALARM SIGNALS AS SHOWN ON THE PLANS FOR ALL PUBLIC AREAS. PROVIDE 15/75-WW STROBE VISUAL ALARM SIGNALS FOR ALL STROBE ONLY LOCATIONS AS SHOWN ON THE PLANS, 110 CANDELA.

1.9 WIRING
WIRING SHALL BE CONCEALED IN CONDUIT. PROVIDE WIRING AND CONDUIT AS DIRECTED BY THE MANUFACTURER'S AUTHORIZED DISTRIBUTOR.

1.10 APPLICABLE CODES AND STANDARDS
ALL EQUIPMENT SHALL BE UL LISTED FOR ITS INTENDED USE.

ALL RACEWAYS AND WIRING SHALL BE INSTALLED IN COMPLIANCE WITH NFPA STANDARD 70 (NATIONAL ELECTRIC CODE)

NFPA STANDS 71 AND 72

NFPA 101 (LIFE SAFETY CODE)

AMERICANS WITH DISABILITIES ACT (ADA)

STANDARD BUILDING CODE (SBC)

APPLICABLE LOCAL AND NATIONAL CODES AND AUTHORITIES HAVING JURISDICTION

1.11 SYSTEM OPERATION
ACTUATION OF ANY FIRE ALARM INITIATING DEVICE SHALL IMMEDIATELY CAUSE THE FOLLOWING ACTIONS TO BE INITIATED
a. IDENTIFY THE TYPE OF ALARM, SPECIFIC DEVICE AND LOCATION ON THE BACK LIT LCD DISPLAY AT THE BUILDING FIRE ALARM CONTROL PANEL AND AT THE REMOTE ANNUNCIATORS
b. CAUSE THE SYSTEM ALARM LED TO FLASH AT THE FIRE ALARM CONTROL PANEL
c. CAUSE ALL SYSTEM HORNS TO SOUND
d. CAUSE ALL VISUAL ALARMS SIGNALS TO FLASH
e. ACTIVATE THE DIGITAL COMMUNICATOR TO REPORT THE TYPE OF ALARM AND LOCATION TO THE REMOTE CENTRAL MONITORING STATION. COORDINATE CONNECTIONS WITH OWNER'S REPRESENTATIVE.
f. ACTIVATE SIGNALS TO THE BUILDING DOOR LOCK CONTROLS TO DEACTIVATE LOCKS
g. ACTIVATE SIGNALS TO THE HVAC CONTROLS TO INITIATE SHUT DOWN OR REROUTING OF AIR HANDLING SYSTEMS

1.12 ACTIVATION OF ANY SPRINKLER VALVE SUPERVISORY SWITCH SHALL AUTOMATICALLY
a. CAUSE THE SYSTEM SUPERVISORY LED TO FLASH AND AN AUDIBLE INDICATOR TO SOUND AT THE CONTROL PANEL AND REMOTE ANNUNCIATOR.
b. IDENTIFY THE SUPERVISORY CONDITION, SPECIFIC DEVICE AND LOCATION ON THE BACK LIT LCD DISPLAY AT THE SYSTEM CONTROL PANEL AND THE REMOTE ANNUNCIATOR.

ADDITIONAL FIRE PROTECTION NOTES:

CENTERVILLE, OH NOTE

THIS BUILDING IS SPRINKLERED AND HAS A FIRE ALARM SYSTEM. FIRE PROTECTION DRAWINGS TO MODIFY EXISTING SYSTEMS WILL BE SUBMITTED SEPARATELY FOR SEPARATE PERMIT BY LICENSED FIRE SPRINKLER/FIRE ALARM CONTRACTOR.

DRAWING INFORMATION IS DISTRIBUTED THROUGHOUT THE DOCUMENT SET. CONTRACTORS SHALL THOROUGHLY REVIEW ALL SHEETS AND SHALL NOTIFY CONSTRUCTION MANAGER FOR DIRECTION IF DISCREPANCIES ARE FOUND.

REQUIRED CONTRACTORS:

VERIFY WITH LANDLORD IF ANY SUBCONTRACTORS ARE REQUIRED.

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ISSUE RECORD

DATE	DESCRIPTION

REVISION RECORD

PROFESSIONAL SEAL

STATE OF OHIO
PETER ADAM LEPTUCH
E-75787
REGISTERED
PROFESSIONAL ENGINEER
04/22/25

REMODEL

PROJECT NAME

BODYBAR

THE VILLAGE AT CORNERSTONE SHOPPES IV

CENTERVILLE OHIO

5268 CORNERSTONE NORTH BLVD CENTERVILLE, OH 45440

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PROJECT NUMBER
25-0030

SPECIFICATIONS

SHEET NUMBER

MEP2.0