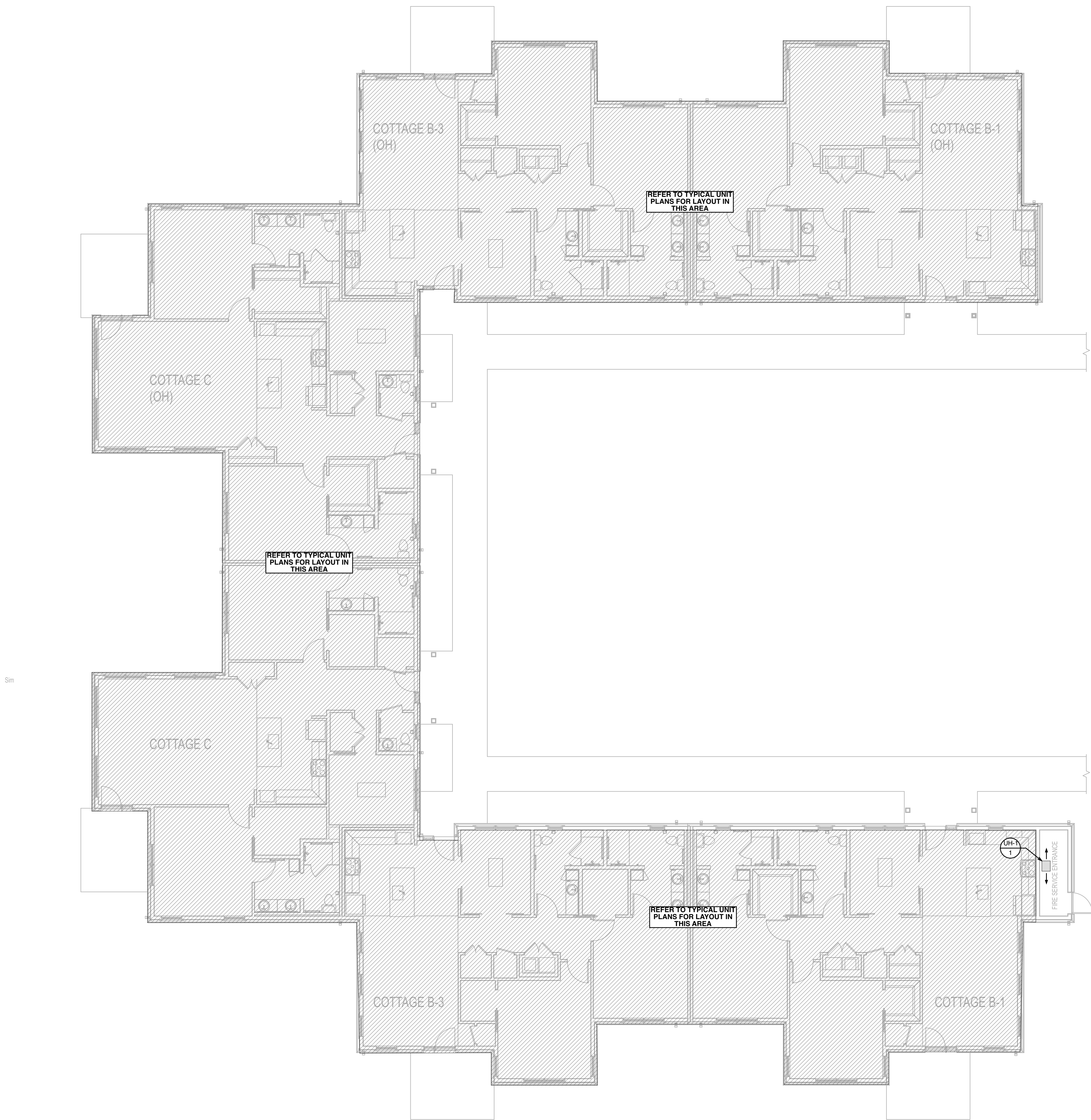
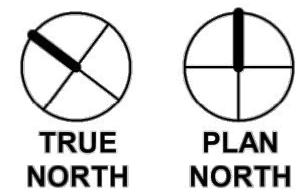


APPROVAL STAMPS



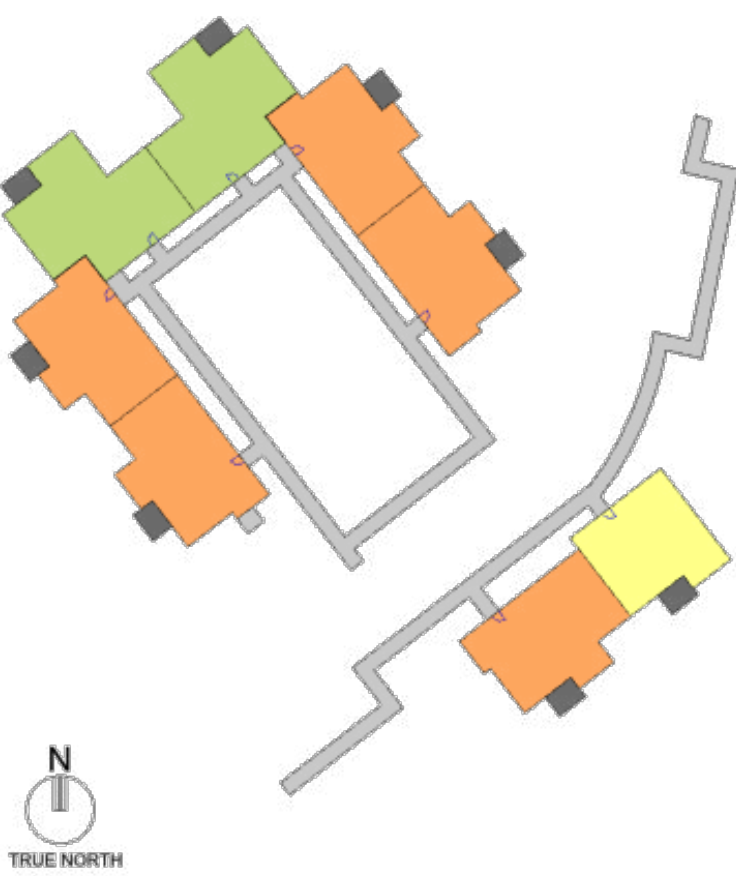
1 CEDAR CROSSING MECHANICAL PLAN
SCALE: 1/8" = 1' - 0"



GENERAL NOTES

1. ALL EXHAUST AIR AND INTAKE AIR TERMINATIONS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS, 201 INTERNATIONAL MECHANICAL CODE AND LOCAL AUTHORITIES HAVING JURISDICTION. FINAL LOCATION OF ALL TERMINATIONS SHALL BE FIELD COORDINATED AND SHALL TERMINATE A MINIMUM OF 3 FEET FROM PROPERTY LINES, 3 FEET FROM OPERABLE OPENINGS INTO BUILDINGS AND 10 FEET FROM MECHANICAL AIR INTAKES UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL PROVIDE A FIRE DAMPER AND ACCESS PANEL AT ALL FIRE RATED CEILING AND WALL PENETRATIONS. ALL REQUIRED CEILING EXHAUSTION DAMPERS SHALL BE WITH APPROVED UL RATING. COORDINATE ALL LOCATIONS WITH ARCHITECT.
3. MECHANICAL CONTRACTOR SHALL COORDINATE THE FINAL LOCATION OF ALL MECHANICAL EQUIPMENT TO ENSURE THAT THE EQUIPMENT IS FULLY ACCESSIBLE FOR SERVICE AND EVENTUAL REPLACEMENT. INSTALL ALL MECHANICAL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
4. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND INSTALLATION MANUALS FOR ALL MECHANICAL EQUIPMENT EARLY IN THE PROJECT FOR ENGINEER AND ARCHITECT'S REVIEW.
5. CONTRACTOR SHALL PROVIDE A SET OF FULLY COORDINATED SHOP DRAWINGS, INCLUDING ALL DUCTWORK AND HANG PIPING (E.G. CONDENSATE, REFRIGERANT PIPING, ETC.), FOR REVIEW AND APPROVAL. COORDINATE ALL MECHANICAL WORK WITH PLUMBING WORK, ELECTRICAL WORK, STRUCTURE, FIRE SUPPRESSION WORK AND ALL OTHER TRADES PRIOR TO SUBMITTAL FOR REVIEW.
6. CONTRACTOR SHALL PROVIDE ALL REQUIRED COMPONENTS FOR A COMPLETE AND FULLY OPERATIONAL MECHANICAL SYSTEM.
7. ALL DUCTWORK SIZES ARE SHOWN WITH CLEAR INSIDE DIMENSIONS. DUCTWORK SHALL BE INSULATED AS INDICATED IN THE 'MATERIAL AND INSULATION SCHEDULE'.
8. FINAL LOCATION, ELEVATION, COLOR AND FINISH OF ALL LOUVERS SHALL BE FULLY COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION. REFER TO ARCHITECTURAL ELEVATIONS FOR FINAL LOCATIONS, ELEVATIONS AND ALIGNMENT OF ALL VENTS ON EXTERIOR WALLS.
9. ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS SHALL BE SEALED WITH RCD #8 LOW-VOC MASTIC. ALL DUCTWORK SHALL BE IN ACCORDANCE WITH SMACNA'S SEAL CLASS 'B'.
10. ALL SUPPLY AIR DUCTWORK SHALL BE WRAPPED WITH A MINIMUM OF R-6 INSULATION. ALL RETURN AIR DUCTWORK SHALL BE WRAPPED WITH A MINIMUM OF R-6 INSULATION. ALL SUPPLY AIR AND RETURN AIR DUCTWORK THAT IS INSTALLED IN JOIST SPACE ON THE TOP FLOOR IS WITHIN THE THERMAL ENVELOPE AND SHALL BE INSULATED SIMILARLY. INSULATION WORK SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. REFER TO 'MATERIAL AND INSULATION SCHEDULE' FOR FURTHER INFORMATION.
11. ALL BRANCH DUCTWORK IN COMMON AREAS, CORRIDORS AND AMENITY SPACES SHALL HAVE FULLY ACCESSIBLE BALANCING DAMPERS. IF BALANCING DAMPERS ARE LOCATED ABOVE AN INACCESSIBLE SPACE, CONTRACTOR SHALL PROVIDE ACCESS PANEL (MIN. 18" x 18") FOR ACCESS. COORDINATE FINAL LOCATION OF ALL ACCESS PANELS WITH ARCHITECT PRIOR TO INSTALLATION.
12. COORDINATE FINAL LOCATION OF ALL SUPPLY, RETURN AND EXHAUST AIR DEVICES WITH LIGHTING PLANS, FIRE ALARM DEVICE LOCATIONS, SPRINKLER HEAD LOCATIONS AND ARCHITECTURAL REFLECTED CEILING PLANS.
13. ALL DUCTWORK CHASE/SHAFT FINAL LOCATIONS, SIZES AND ALL SHAFT REQUIREMENTS SHALL BE FULLY COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION.
14. DUCTWORK SHALL BE INSTALLED AS TIGHT AS POSSIBLE TO THE STRUCTURAL FRAMING AND DECK. THE INTENT IS TO MAINTAIN CEILING HEIGHTS AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS, WHEN POSSIBLE.
15. DRAWING PLANS, SCHEMATIC AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF DUCT SYSTEMS. INDICATED DUCT LOCATION, CONFIGURATIONS AND ARRANGEMENTS ARE FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE TO PROVIDE A COMPLETE SET OF COORDINATION DRAWINGS INCLUDING ALL DUCT ELEVATIONS, CHANGES A DIRECTION TRANSITION AND ELEVATION CHANGES REQUIRED FOR A COMPLETELY COORDINATED INSTALLATION. COORDINATION DRAWINGS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
16. ALL INDICATED DOOR UNDERCUTS SHALL BE MINIMUM OF 3/4" HIGH. COORDINATE ALL DOOR UNDERCUTS WITH ARCHITECT.
17. CONTRACTOR SHALL PROVIDE REQUIRED DUCT PLANNING AND TRANSITION SO THAT ALL TERMINATIONS TO GRILLES, REGISTERS, AND DIFFUSERS ARE SEALED. CONTRACTOR SHALL ENSURE THAT ALL AIR DEVICES ARE NOT SCREWED OR FASTENED DIRECTLY TO THE DRYWALL.
18. FIRE SERVICE ROOMS TO BE PROVIDED WITH ELECTRIC UNIT HEATERS. REFER TO M-3.0 FOR UNIT HEATER SCHEDULE. REFER TO ARCHITECTURAL SITE PLAN FOR LOCATIONS OF ALL FIRE SERVICE ROOMS OF EACH BUILDING TYPE.

KEYPLAN



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Seal



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 43252, Expiration Date: 01/15/2027.

PROJECT TITLE
Collington
A KENDAL AFFILIATE
**INDEPENDENT LIVING
CONSTRUCTION DOCUMENTS**

SFCS | Architecture
Engineering
Planning
Interiors
SFCS Inc. • 305 South Jefferson Street
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540.344.6664 • Fax 540.343.6925
www.sfcs.com

DESIGNER : DES	DRAWN : DRW
ARCHITECT : ARC	CHECKED : CHK
ENGINEER : EPI, JB	APPROVED : APR

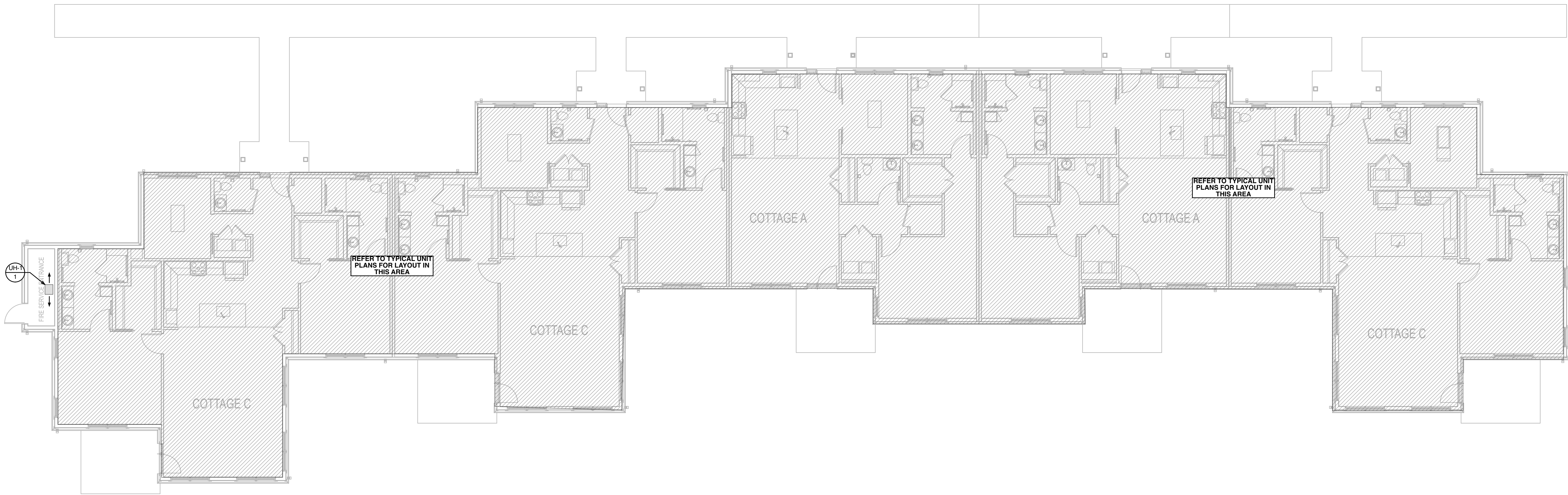
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
**CEDAR CROSSING
MECHANICAL PLAN**

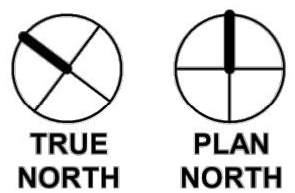
DATE:	MAY 26, 2026
COMM. NO.	18135.00

DRAWING
M-0.0

APPROVAL STAMPS



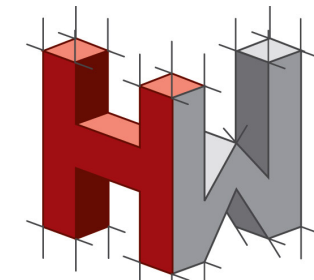
1 HAWTHORN PLACE
MECHANICAL PLAN
SCALE: 1/8" = 1' - 0"



GENERAL NOTES

1. ALL EXHAUST AIR AND INTAKE AIR TERMINATIONS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. 201 INTERNATIONAL MECHANICAL CODE AND LOCAL AUTHORITIES HAVING JURISDICTION. FINAL LOCATION OF ALL EXHAUST TERMINATIONS SHALL BE FIELD COORDINATED AND SHALL TERMINATE A MINIMUM OF 5 FEET FROM PROPERTY LINES, 5 FEET FROM OPERABLE OPENINGS INTO BUILDINGS AND 10 FEET FROM MECHANICAL AIR INTAKES UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL PROVIDE A FIRE DAMPER AND ACCESS PANEL AT ALL FIRE RATED CEILING AND WALL PENETRATIONS. ALL REQUIRED CEILING RADIATION DAMPERS SHALL BE WITH APPROVED UL RATING. COORDINATE ALL LOCATIONS WITH ARCHITECT.
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9. ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS SHALL BE SEALED WITH RCD #8 LOW-VOC MASTIC. ALL DUCTWORK SHALL BE IN ACCORDANCE WITH SMACNA'S SEAL CLASS 'B'.
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12. COORDINATE FINAL LOCATION OF ALL SUPPLY, RETURN AND EXHAUST AIR DEVICES WITH LIGHTING PLANS, FIRE ALARM DEVICE LOCATIONS, SPRINKLER HEAD LOCATIONS AND ARCHITECTURAL REFLECTED CEILING PLANS.
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14. DUCTWORK SHALL BE INSTALLED AS TIGHT AS POSSIBLE TO THE STRUCTURAL FRAMING AND DECK. THE INTENT IS TO MAINTAIN CEILING HEIGHTS AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS, WHEN POSSIBLE.
15. DRAWING PLANS, SCHEMATIC AND DIAGRAMMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF DUCT SYSTEMS. INDICATED DUCT LOCATION, CONFIGURATIONS AND ARRANGEMENTS ARE FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE TO PROVIDE A COMPLETE SET OF COORDINATION DRAWINGS INCLUDING ALL DUCT ELEVATIONS, CHANGES IN DIRECTION, TRANSITIONS AND ELEVATION CHANGES REQUIRED FOR A COMPLETELY COORDINATED INSTALLATION. COORDINATION DRAWINGS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
16. ALL INDICATED DOOR UNDERCUTS SHALL BE MINIMUM OF 3/4" HIGH. COORDINATE ALL DOOR UNDERCUTS WITH ARCHITECT.
17. CONTRACTOR SHALL PROVIDE REQUIRED DUCT PLANNERS AND TRANSITION SO THAT ALL TERMINATIONS TO GRILLES, REGISTERS, AND DIFFUSERS ARE SEALED. CONTRACTOR SHALL ENSURE THAT ALL AIR DEVICES ARE NOT SCREWED OR FASTENED DIRECTLY TO THE DRYWALL.
18. FIRE SERVICE ROOMS TO BE PROVIDED WITH ELECTRIC UNIT HEATERS. REFER TO M-3.0 FOR UNIT HEATER SCHEDULE. REFER TO ARCHITECTURAL SITE PLAN FOR LOCATIONS OF ALL FIRE SERVICE ROOMS OF EACH BUILDING TYPE.

KEYPLAN



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Seal



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 43552, Expiration Date: 01/15/2027.

PROJECT TITLE

Collington
A KENDRA AFFILIATE
INDEPENDENT LIVING
CONSTRUCTION DOCUMENTS

SFCS | Architecture
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www.sfcs.com

DESIGNER : DES	DRAWN : DRW
ARCHITECT : ARC	CHECKED : CHK
ENGINEER : EPI, JB	APPROVED : APR

NO.	REVISION DESCRIPTION	DATE
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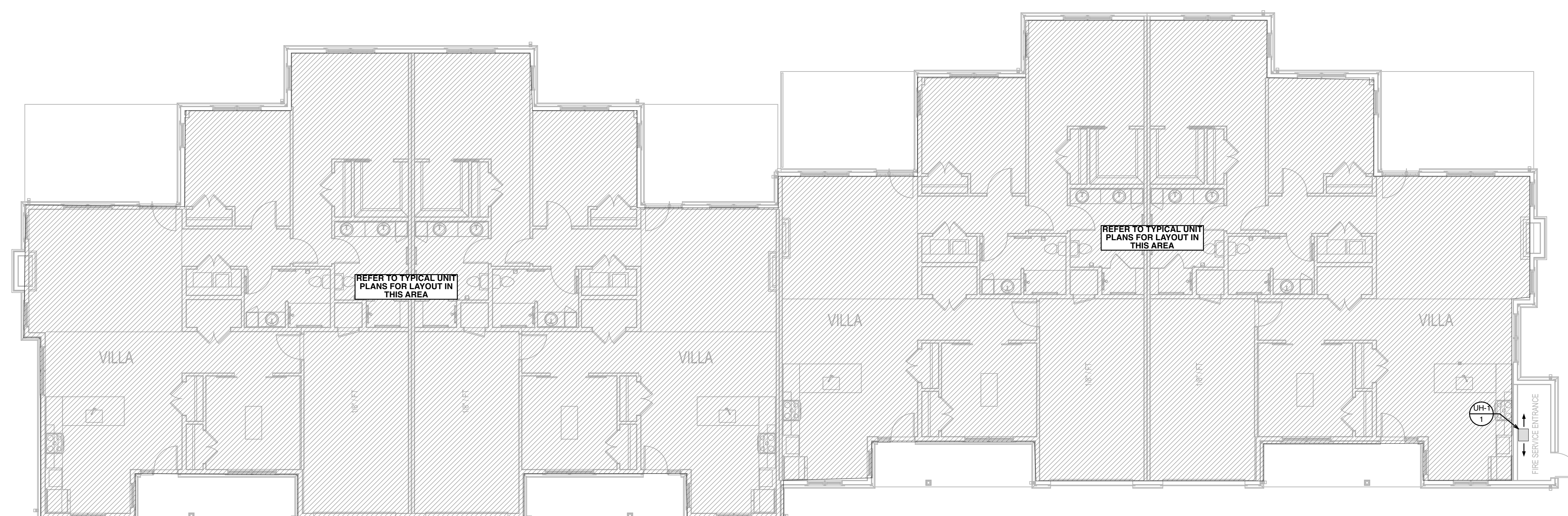
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HAWTHORN PLACE
MECHANICAL PLAN

DATE:	MAY 26, 2026
COMM. NO.	18135.00

M-0.1

APPROVAL STAMPS

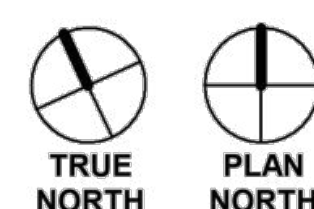


REFER TO TYPICAL UNIT
PLANS FOR LAYOUT IN
THIS AREA

REFER TO TYPICAL UNIT
PLANS FOR LAYOUT IN
THIS AREA

UH-1

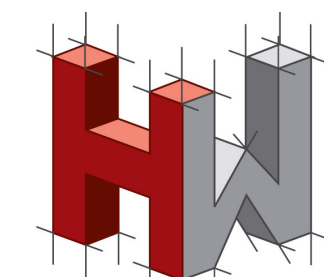
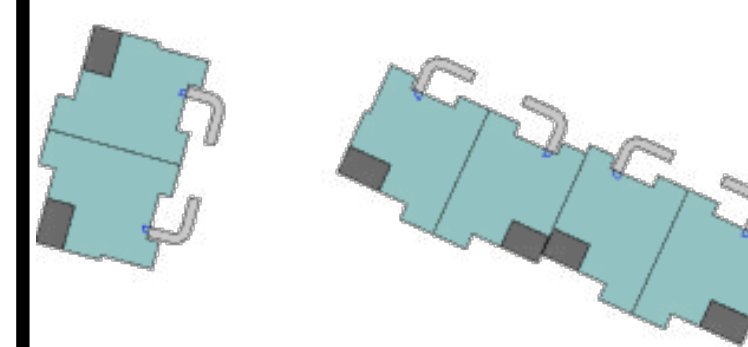
1 VILLA (QUAD) MECHANICAL PLAN
SCALE: 1/8" = 1' - 0"



GENERAL NOTES

- [illegible]

KEYPLAN



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PROJECT TITLE

Collington

A KENDAL AFFILIATE

**INDEPENDENT LIVING
CONSTRUCTION DOCUMENT**

S F C S | Architecture
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Planning
Interiors

SFCS Inc. ■ 305 South Jefferson Street
Roanoke, Virginia 24011.2003
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DESIGNER : DES	DRAWN : DRW	
ARCHITECT : ARC	CHECKED : CHK	
ENGINEER : EP JB	APPROVED : APR	
NO	REVISION DESCRIPTION	DATE

DRAWING TITLE

VILLA (QUAD) MECHANICAL PLAN

DATE: MAY 26, 2026
COMM. NO. 18135.00

M-0.2

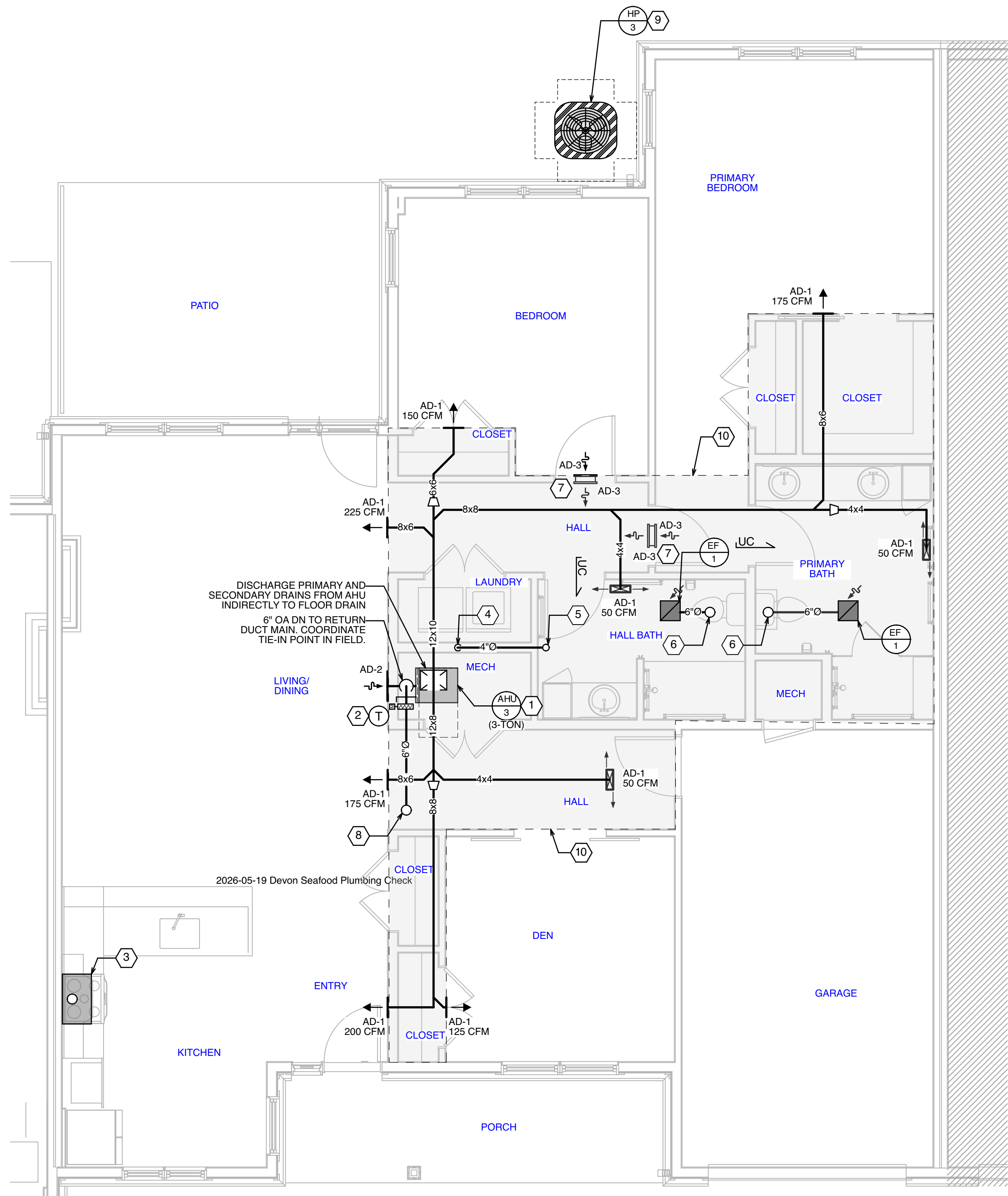
APPROVAL STAMPS

SHEET NOTES

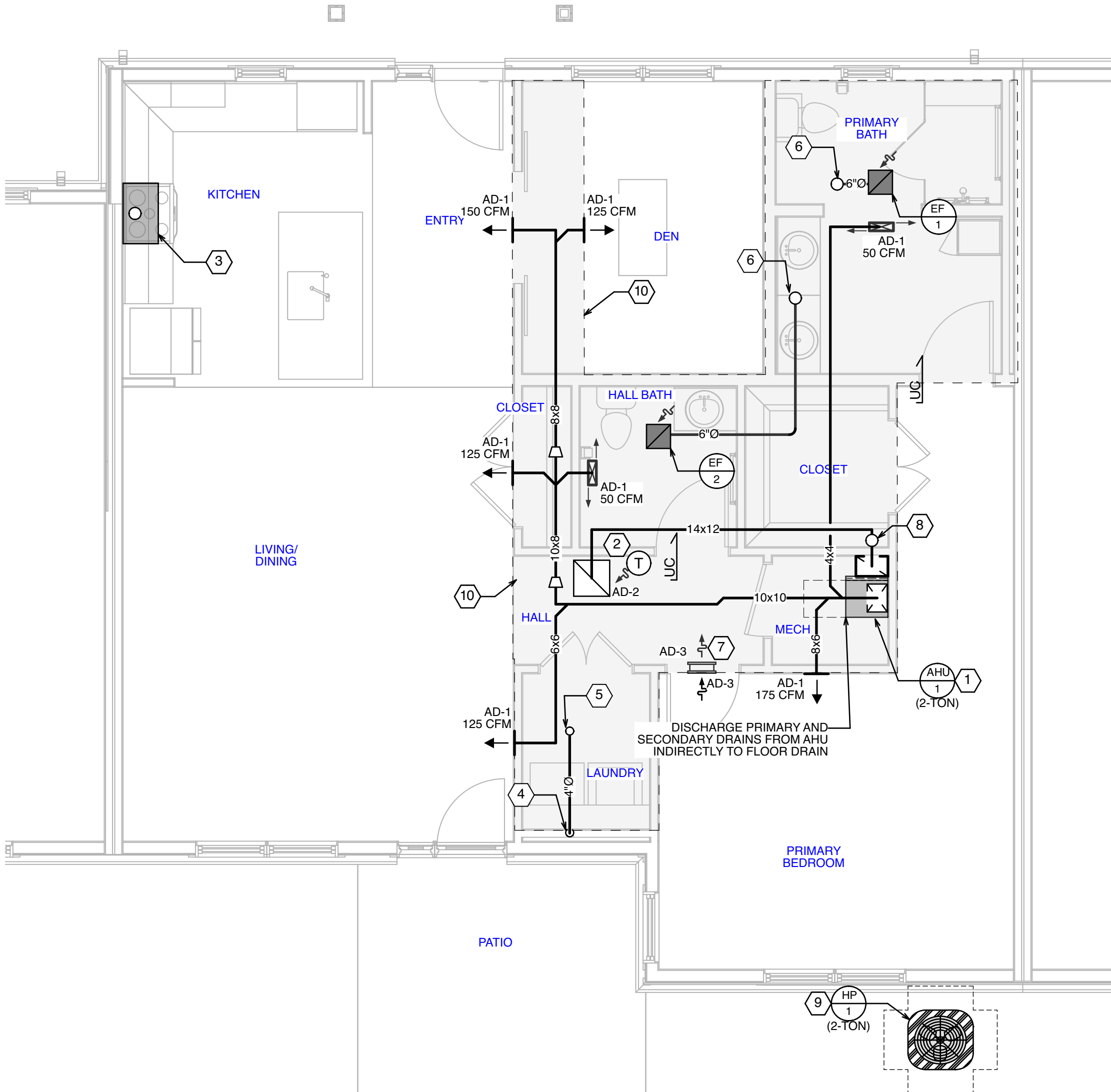
1. REFER TO THE FOLLOWING NOTES FOR EACH AHU:
 - RUN REFRIGERANT PIPING FROM OUTDOOR UNIT TO CORRESPONDING OUTDOOR UNIT SIZE.
 - REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE ALL RUNS WITH ARCHITECT.
 - CONDENSATE TO DRAIN TO FLOOR DRAIN IN MECHANICAL CLOSET. PROVIDE CONDENSATE PUMP IF REQUIRED. COORDINATE ALL ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
 - COORDINATE THE FINAL LOCATION OF AHU W/ ARCHITECT. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL REQUIRED MAINTENANCE CLEARANCES.
2. PROVIDE NEW ENERGY STAR COMPLIANT 247 PROGRAMMABLE THERMOSTAT TO CORRESPONDING UNIT. COORDINATE FINAL LOCATION AND MOUNTING HEIGHT W/ ARCHITECT.
3. KITCHEN RANGE HOOD SHALL BE DUCTED-TYPE W/ GREASE FILTERS. PROVIDE ADA WIRING KIT, WHERE APPLICABLE. COORDINATE FINISH W/ ARCHITECT. REFER TO ARCHITECTURAL PLANS FOR FURTHER INFORMATION. DUCT ROUTING TO BE THROUGH MANUFACTURER'S RECOMMENDED ROOF CAP.
4. PROVIDE FLUSH-MOUNTED DRYER BOX (DRYER BOX MAX. 48" H). COORDINATE FINAL DRYER LOCATION WITH ARCHITECT PRIOR TO INSTALLATION. SIZE AND INSTALL ROOF SMOOTH WALL DUCT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. COORDINATE FINAL ROUTING OF EXHAUST DUCTWORK WITH ALL TRADES.
5. PROVIDE DRYER MANUFACTURER'S RECOMMENDED ROOF CAP TERMINATION. COORDINATE EXACT LOCATION AND FINISH WITH ARCHITECT PRIOR TO INSTALLATION.
6. PROVIDE 6"Ø EXHAUST AIR THROUGH ROOF. TERMINATE WITH GOOSENECK. REFER TO DETAIL FOR FURTHER INFORMATION.
7. PROVIDE AIR TRANSFER GRILLES ABOVE DOORWAY.
8. 6"Ø OA UP THROUGH ROOF. TERMINATE W/ GOOSENECK AND BIRDSCREEN. CONTRACTOR SHALL ENSURE 100" SEPARATION FROM ANY EXHAUST AIR TERMINATIONS. PROVIDE AMERICAN ALDES CONSTANT VOLUME AIR REGULATOR MIN. CARDS THE CFM SHALL BE SET TO THE OUTSIDE AIRFLOW INDICATED FOR THE CORRESPONDING AIR HANDLER. REFER TO DUCTED AIR HANDLER SYSTEM SCHEDULE ON M-3.0 FOR C.A. QUANTITY. IN ADDITION PROVIDE A MANUAL BLADE DAMPER IN THE OUTSIDE AIR DUCT LOCATE DAMPERS IN A FULLY ACCESSIBLE AREA OR CLOSET CEILING. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
9. REFER TO THE NOTES BELOW FOR EACH HP:
 - RUN REFRIGERANT PIPING FROM OUTDOOR UNIT TO CORRESPONDING INDOOR UNIT. SIZE ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE CONCRETE HOUSEKEEPING PAD FOR INDICATED HP.
 - COORDINATE FINAL LOCATION OF OUTDOOR UNIT WITH ARCHITECT. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL REQUIRED MAINTENANCE AND SERVICE CLEARANCES.
10. DASHED LINE INDICATES AREA OF LOWERED CEILING/ SOFFIT FOR MECHANICAL DUCTWORK. COORDINATE LOCATIONS AND SIZES WITH ARCHITECT.

GENERAL NOTES

1. ALL EXHAUST AIR AND INTAKE AIR TERMINATIONS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. 201 INTERNATIONAL MECHANICAL CODE AND LOCAL AUTHORITIES HAVING JURISDICTION. FINAL LOCATION OF ALL TERMINATIONS SHALL BE FIELD COORDINATED AND SHALL TERMINATE A MINIMUM OF 3 FEET FROM PROPERTY LINES, 3 FEET FROM OPERABLE OPENINGS INTO BUILDINGS AND 10 FEET FROM MECHANICAL AIR INTAKES UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL PROVIDE A FIRE DAMPER AND ACCESS PANEL AT ALL FIRE RATED CEILING AND WALL PENETRATIONS. ALL REQUIRED CEILING HATCH DAMPERS SHALL BE WITH APPROVED UL RATING. COORDINATE ALL LOCATIONS WITH ARCHITECT.
3. MECHANICAL CONTRACTOR SHALL COORDINATE THE FINAL LOCATION OF ALL MECHANICAL EQUIPMENT TO ENSURE THAT THE EQUIPMENT IS FULLY ACCESSIBLE FOR SERVICE AND EVENTUAL REPLACEMENT. INSTALL ALL MECHANICAL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
4. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND INSTALLATION MANUALS FOR ALL MECHANICAL EQUIPMENT EARLY IN THE PROJECT FOR ENGINEER AND ARCHITECT'S REVIEW.
5. CONTRACTOR SHALL PROVIDE A SET OF FULLY COORDINATED SHOP DRAWINGS, INCLUDING ALL DUCTWORK AND HANG PIPING. COORDINATE REFRIGERANT PIPING, ETC. FOR REVIEW AND APPROVAL. COORDINATE ALL MECHANICAL WORK WITH PLUMBING WORK, ELECTRICAL WORK, STRUCTURE, FIRE SUPPRESSION WORK AND ALL OTHER TRADES PRIOR TO SUBMITTAL FOR REVIEW.
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8. FINAL LOCATION, ELEVATION, COLOR AND FINISH OF ALL LOUVERS SHALL BE FULLY COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION. REFER TO ARCHITECTURAL ELEVATIONS FOR FINAL LOCATION, ELEVATIONS AND ALIGNMENT OF ALL VENTS ON EXTERIOR WALLS.
9. ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS SHALL BE SEALED WITH RCD #8 LOW-VOC MASTIC. ALL DUCTWORK SHALL BE IN ACCORDANCE WITH SMACNA'S SEAL CLASS 1B.
10. ALL SUPPLY AIR DUCTWORK SHALL BE WRAPPED WITH A MINIMUM OF R-4 INSULATION. ALL RETURN AIR DUCTWORK SHALL BE WRAPPED WITH A MINIMUM OF R-6 INSULATION. ALL SUPPLY AIR AND RETURN AIR DUCTWORK THAT IS INSTALLED IN JUST SPACE ON THE TOP FLOOR IS WITHIN THE THERMAL ENVELOPE AND SHALL BE INSULATED SIMILARLY. INSULATION WORK SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. REFER TO "MATERIAL AND INSULATION SCHEDULE" FOR FURTHER INFORMATION.
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12. COORDINATE FINAL LOCATION OF ALL SUPPLY, RETURN AND EXHAUST AIR DEVICES WITH LIGHTING PLANS, FIRE ALARM DEVICE LOCATIONS, SPRINKLER HEAD LOCATIONS AND ARCHITECTURAL REFLECTED CEILING PLANS.
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1 VILLA MECHANICAL PLAN
SCALE: 1/4" = 1' - 0"



2 COTTAGE A MECHANICAL PLAN
SCALE: 1/4" = 1' - 0"



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Seal



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 43562, Expiration Date: 01/15/2027.

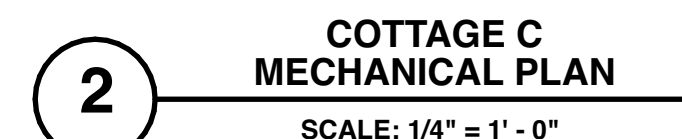
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DESIGNER : DES	DRAWN : DRW	
ARCHITECT : ARC	CHECKED : CHK	
ENGINEER : EP JB	APPROVED : APR	
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
**TYPICAL UNITS
VILLA & COTTAGE A
MECHANICAL PLAN**

DATE: MAY 26, 2026
COMM. NO. 18135.00
DRAWING
M-1.0

APPROVAL STAMPS

[illegible][illegible]

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 43262. Expiration Date: 01/13/2027

PROJECT TITLE
Collington
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INDEPENDENT LIVING
CONSTRUCTION DOCUMENTS

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DESIGNER : DES	DRAWN : DRW	
ARCHITECT : ARC	CHECKED : CHK	
ENGINEER : EP JB	APPROVED : APR	
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

TYPICAL UNITS
COTTAGE B & C
MECHANICAL PLAN

DATE:	MAY 26, 2026	DRAWING	M-2.0
COMM. NO.	18135.00		

MATERIAL AND INSULATION SCHEDULE						
	Material		Insulation			Remarks
	Basic of Design	Class of Design	Type	Wall (in.)	Vapor Barrier	
Ductwork, Supply & O.A.	Galvanized Steel	Certainited	Duct Wrap	---	Integral	ASHRAE 2" Pressure class, Seal Class 1P, R-5 Duct Insulation Wrap.
Ductwork, Supply & O.A. (Unconditioned)	Galvanized Steel	Certainited	Duct Wrap	---	Integral	ASHRAE 2" Pressure class, Seal Class 1P, R-5 Duct Insulation Wrap.
Ductwork, Exhaust	Galvanized Steel	Certainited	Duct Wrap	---	Integral	ASHRAE 2" Pressure class, Seal Class 1P, R-5 Duct Insulation Wrap.
Refrigerant Piping	"ACR" Copper	Armaulift	Armaulift	1-1/2	Integral	Insulate per manufacturer's recommendation.
Condensate Piping - A/C	Type "L" Copper	Certainited	300" Snap-On	---	Integral	Min. insulation 1" Rubulux R-180FS, Provide UV Protection where exposed to sunlight

[illegible]

Air Device Notes:

1. Unless otherwise indicated, provide duct connection the full size of duct shown on drawing.
2. Provide air device frames to suit wall and ceiling construction.
3. Color and finish of all grilles, registers and diffusers shall match adjacent finishes, coordinate with Architect.
4. Paint return air plenums behind/above return and transfer grilles black.
5. Contractor shall provide required duct flanges and transitions so that all terminations to grilles, registers, and diffusers are sealed. Contractor shall ensure that all air devices are not screwed or fastened directly to the drywall.

	Basis of Design Model Number Airflow (CFM) External Static Pressure (in. w.c.) Dimensions (L x W x H) Weight (lbs) Location Quantity	BWH BHEED80 80 12.5 x 14.5 x 34.8 16 Refer to Plans Refer to Plans	Panasonic FV-0114MSZ 80 13.1 12.5 Refer to Plans Refer to Plans
Electrical	Power Consumption (W) Maximum Current (Amps)	1338 12 120 / 10 / 60 120 / 10 / 60	- - 120 / 10 / 60 120 / 10 / 60
Accessories	Backdraft Damper Wall Cap Roof Cap Exhaust Grille Ventilation Isolation Kit Non-Fused Combination Switch Heater / Fan / Light	Yes No Yes Yes, Integral Yes Yes Yes	No No Yes Yes, Refer to Plans Yes, Integral Yes No
Control	Speed Controller Switch	Yes Switch	Yes Switch
Notes	1. PROVIDE W/ TIME DELAY SWITCH AS WELL AS DELAYED TIMER FOR HEATER.		

	Basic Design of Model		Thermodynamic Performance	
	Unit	Model Number	Thermodynamic Performance	Thermodynamic Performance
		Model Number	Thermodynamic Performance	Thermodynamic Performance
Basic Design of Model		Model Number	Thermodynamic Performance	Thermodynamic Performance
Unit		Model Number	Thermodynamic Performance	Thermodynamic Performance
Total Airflow (SA) (CFM)		800	1000	1200
Net Airflow (NA) (CFM)		50	23	70
Outside Airflow (OA) (CFM)		50	23	70
Unit Dimensions (H x W x D) (in)		21 1/16 x 12 x 47	21 1/16 x 12 x 52	21 1/16 x 12 x 52
Approximate Weight (lb)		120	145	145
Configuration		Vertical	Vertical	Vertical
Drive Type		Direct	Direct	Direct
Cooling Performance				
Total Net Capacity (MBH)		17.30	27.60	33.40
Net Sensible Capacity (MBH)		23.00	27.50	23.50
EER (BTU/h) / (Watt)		80 / 67	80 / 67	80 / 67
LAT (db) / (Watt)		59.8 / 58.6	59.8 / 58.6	60.1 / 58.0
Heating Performance (Heat Pump)				
247°F Capacity (MBH)		23	26.1	31.8
17°F Capacity (MBH)		15.2	17.7	22.0
LAT (db) / (Watt)		70	70	70
EER (BTU/h) / (Watt)		87.38	86.41	86.9
Accessory Heater		208V / 1PH / 60Hz	208V / 1PH / 60Hz	208V / 1PH / 60Hz
Capacity (kW)		5.77	7.21	7.21
Heater Amps (A)		27.7	34.4	34.4
Electrical (Indoor Unit)		Powered through Heater	Powered through Heater	Powered through Heater

Unit Designation	Unit-1
Basia of Design	Market
Model Number	FIFR103N
Mount	Ceiling - Vertical
Dimensions (D x W x H)(in)	8 1/2 x 14 1/2 x 17 3/4
Approximate Weight (lb)	25
Service	Refer to Plans
Electrical	208 / 120 / 60 Hz
Capacity (kW)	3
Number of Elements	1
Heater Amperage (A)	15.9
Options/Accessories	- Filter Selected by Architect - Mourning Kit Yes - Non-Fused Disconnect Switch Yes - Over Current Protection Yes - Automatic Reset Thermal Limit Yes - Automatic Fan Delay Circuit No - Dust Shield Yes - Fan Guard Yes
Control	Unit Mounted Thermostat, Yes, Tamperproof
General Notes	Entire installation shall conform to manufacturer's recommendations. Final finish shall be coordinated with architect. Provide spring vibration isolation hangers with unistrut supports. Mechanical Contractor shall furnish all disconnect switches and Electrical Contractor shall install all disconnect switches. Contractor shall make and label unit with unit designation, date, and company who installed equipment.

Outdoor Unit Designation	HP-1 STWRC00A1	HP-2 STWRC00A1	HP-3 STWRC00A1
Nominal Tonnage	2	2.5	3
Unit Dimensions (L x W x H) in	29 3/4 x 32 5/8 x 32 3/4	29 3/4 x 32 5/8 x 32 3/4	34 1/4 x 37 5/8 x 33 1/8
Approximate Weight (lbs)	210	260	360
System Sizing / EER	15.2 / 12.0	16.0 / 12.0	18.0 / 12.0
CO ₂ @ 47°F	4.0	4.0	4.0
CO ₂ @ 47°F	2.0	2.0	2.0
Electrical (Outdoor Unit)	208V / 1PH / 60Hz	208V / 1PH / 60Hz	208V / 1PH / 60Hz
Flan FLA (A)	0.64	0.64	0.64
Compressor FLA (A)	59 / 0.1	71 / 0.4	72 / 0.3
MCA (A)	16	19	16
MOCF (A)	20	25	20
Options/Accessories			
R-454B Refrigerant	Yes	Yes	Yes
Refrigerant Service	Yes	Yes	Yes
Programmable Heat/Cool Thermostat	Yes	Yes	Yes
Parts Warranty	Yes	Yes	Yes
Compressor Warranty	Yes	Yes	Yes
Indoor/Outdoor Disconnect Switches	Yes	Yes	Yes
Filter	Yes	Yes	Yes
Soft Compressor	Yes	Yes	Yes
Low Pressure Switch	Yes	Yes	Yes
High Pressure Switch	Yes	Yes	Yes
Refrigerant Piping	Yes	Yes	Yes
Flexible Duct Connections	Yes	Yes	Yes
Indoor Unit Vibration Isolation	Yes	Yes	Yes
Outdoor Unit Vibration Isolation similar to Mason MN, NO	Yes	Yes	Yes
General Notes			
1. [Entire installation shall conform to manufacturer's recommendations.			
2. Provide piping vibration isolation hangers with snub-damp supports.			
3. Provide emergency drain pan with a water sensing device to shut down unit if water is detected in the pan.			

	EQUIPMENT DESIGNATION TAG		FLEXIBLE DUCTWORK	(E)	EXISTING MECHANICAL WORK TO REMAIN
	SUPPLY AIR DIFFUSER (CEILING)		DUCT W/ ACOUSTICAL LINING	(F)	EXISTING MECHANICAL WORK TO BE DEMOLISHED AND REMOVED
	SUPPLY AIR DIFFUSER (SIDEWALL)		RETURN/EXHAUST AIR DUCT UP	(RE)	EXISTING MECHANICAL WORK TO BE RELOCATED AS SHOWN
	SUPPLY AIR DIFFUSER (LINEAR, CEILING)		SUPPLY/MAKE-UP AIR DUCT UP	(N)	NEW MECHANICAL WORK
	SUPPLY AIR DIFFUSER (LINEAR, WALL)		SUPPLY/MAKE-UP AIR DUCT DN		EXISTING MECHANICAL WORK TO REMAIN
	RETURN AIR DIFFUSER (CEILING)		MOTORIZED DAMPER	---	EXISTING MECHANICAL WORK TO BE DEMOLISHED AND REMOVED
	EXHAUST AIR DIFFUSER (CEILING)		CONDENSATE DRAIN	---	NEW MECHANICAL WORK
	RETURN/EXHAUST AIR DIFFUSER (SIDEWALL)		DIRECTION OF FLOW		POINT OF DEMOLITION, CUT AND CAP BACK TO POINT OF CONNECTION
	BRANCH DAMPER		PIPE TURNING DOWN		POINT OF CONNECTION, EXTEND AND CONNECT TO EXISTING WHERE INDICATED
	VOLUME DAMPER		PIPE TURNING UP		
	2" DOOR UNDERCUT		CAPPED FLANGE		
	THERMOSTAT	AD	AIR DEVICE		
	DUCT MOUNTED SMOKE DETECTOR	A.F.F.	ABOVE FINISHED FLOOR		
	DUCT SIZE TRANSITION	C.F.F.	CUBIC FEET OF AIR PER MINUTE		
	EXHAUST FAN	DN	DOWN		
		EA	EXHAUST AIR		
		EF	EXHAUST FAN		
		FF	FAN FORCED HEATER		
		M.F.D.	MOTORIZED DAMPER		
		OA	OUTSIDE AIR		
		RTU	ROOFTOP UNIT		
		SA	SUPPLY AIR		
		UC	UNDERCUT		

1. ALL DUTKWORK SHALL BE SIZED USING A STANDARD DUCTULATOR. THE FOLLOWING CRITERIA SHALL BE USED TO CALCULATE DUTKWORK SIZES:

- a. SUPPLY DUCTS SHALL BE NO MORE THAN 0.1 IN. PER 100 FEET OF PRESSURE DROP.
- b. RETURN AND EXHAUST DUCTS SHALL BE NO MORE THAN 0.05 IN. PER 100 FEET OF PRESSURE DROP.
- c. VENTILATION DUCTS SHALL BE NO MORE THAN 0.02 IN. PER 100 FEET OF PRESSURE DROP.

2. CONDENSATE SHALL BE COLLECTED AND RUN WITH ADEQUATE PITCH TO THE CLOSEST SAFE WASTE. CONDENSATE PIPING SHALL BE SIZED TO THE FOLLOWING CAPACITIES TO BE ACHIEVED: CONDENSATE PIPING SHALL BE SIZED AS FOLLOWS:

CONDENSATE PIPE SIZING CHART	
TONS	SIZE
0-20	3/4"
20-40	1"
40-60	1 1/4"
60-80	1 1/2"
80-100	1 3/4"
100-125	2"

3. ALL CONDENSATE DRAINS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

4. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE THE LOCATIONS OF SUPPLY AND RETURN PIPING WITH THE ELECTRICAL CONTRACTOR. DUTKWORK SHALL NOT BE INSTALLED WHERE THE DEDICATED EQUIPMENT SPACE REQUIRED FOR EXISTING OR NEW ELECTRICAL EQUIPMENT IS REQUIRED.

5. COORDINATION OF DUTKWORK LOCATIONS SHALL BE SOLELY THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. APPROVAL OF SELECTED MECHANICAL DRAWINGS DOES NOT RELEASE THE CONTRACTOR FROM THE RESPONSIBILITY OF COORDINATION. COORDINATION SHALL OCCUR IN FIELD WITH THE ELECTRICAL CONTRACTOR. COORDINATION WITH THIS REQUIREMENT MAY RESULT IN THE LOCATION OF SUPPLY AND RETURN PIPING AT CONTRACTOR'S EXPENSE.

6. PER NYS DECARTS (112.06.2), DEDICATED EQUIPMENT SPACE SHALL BE PROVIDED FOR SWITCHBOARDS, DISTRIBUTION PANELS, AND MOTOR CONTROL CENTERS. THIS SPACE SHALL BE EQUAL TO THE WIDTH AND DEPTH OF THE EQUIPMENT AND EXTENDING FROM THE FRONT OF THE EQUIPMENT TO THE REAR OF THE EQUIPMENT. A MINIMUM OF 6" ABOVE THE EQUIPMENT OR TO THE STRUCTURAL CEILING, WHICHEVER IS LOWER, SHALL BE MAINTAINED. THERE SHALL BE NO INSTALLATION, NO PIPING, DUTKWORK OR EQUIPMENT IN THE DEDICATED EQUIPMENT SPACE. THE ELECTRICAL INSTALLATION SHALL BE LOCATED IN THIS ZONE.

1. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE THE DUCTWORK LOCATIONS WITH THE ELECTRICAL CONTRACTOR. DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE DEDICATED EQUIPMENT SPACE REQUIRED FOR EXISTING OR NEW EQUIPMENT, ETC.
2. COORDINATION OF DUCTWORK LOCATIONS SHALL BE SOLELY THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. APPROVAL OF ANY MECHANICAL METAL SUBSTITUTIONS OR CHANGES NOT RELEASED BY THE CONTRACTOR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COORDINATION SHALL OCCUR IN FIELD WITH ELECTRICAL CONTRACTOR. CONTRACTOR SHALL REVIEW WITH THIS REQUIREMENT MAY RESULT IN THE ELECTRICAL SUPERVISION SYSTEM PIPING AT CONTRACTOR'S EXPENSE.
3. PER PER 70.10 ARTICLE 10.20 (F): DEDICATED EQUIPMENT SPACE SHALL BE PROVIDED FOR ALL SWITCHBOARDS, DISTRIBUTION PANELS AND MOTORS. THE SPACE SHALL BE EQUAL TO THE WIDTH AND DEPTH OF THE EQUIPMENT AND SHALL BE FREE FROM ALL OBSTACLES OF 6" ABOVE THE EQUIPMENT OR TO THE STRUCTURAL STEEL OR CONCRETE FLOOR. INSTALLATION, NO PIPING, DUCTS, LACS, OR OTHER MECHANICAL EQUIPMENT, SHALL BE FOREIGN TO THE ELECTRICAL INSTALLATION SHALL BE LOCATED IN THIS ZONE.

Seal

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 43252, Expiration Date: 01/13/2027

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DESIGNER : DES	DRAWN : DRW
ARCHITECT : ARC	CHECKED : CHK
ENGINEER : EP JB	APPROVED : APR
NO.	REVISION DESCRIPTION
	DATE

DRAWING TITLE

MECHANICAL SCHEDULES & DETAILS

DATE: MAY 26, 2026	DRAWING M-3.0
COMM. NO. 18135.00	

M-3.0