

AIR-COOLED SPLIT SYSTEM CHILLER SCHEDULE	
DESIGNATION	CH-1
LOCATION	BASEMENT
MANUFACTURER	ARCTIC HILL
MODEL	TPACRMV0150D-MM
WEIGHT (LBS.)	2,000
TYPE	SPLIT DX
EER / COP	10.3/3.01

EVAPORATOR:	
DESIGN CAPACITY (TONS)	15
DESIGN FLOWRATE (GPM)	36.57
E.W.T./L.W.T. (°F)	55/45
W.P.D. (FT H <sub>2</sub> O)	1.76
REFRIGERATION SYSTEM:	
No. OF REFRIGERANT CIRCUITS	2
REFRIGERANT TYPE	R-410A
COMPRESSOR TYPE	DIGITAL SCROLL
No. OF COMPRESSORS ON CIRCUIT 1	2
No. OF COMPRESSORS ON CIRCUIT 2	2
ELECTRICAL DATA (INDOOR):	
VOLTS/ø/Hz	240/1/60
FLA (AMPS)	69.2
MCA (AMPS)	74
MOCP (AMPS)	90

CONDENSER (OUTDOOR UNIT):	
DESIGNATION	ACC-1
LOCATION	REAR YARD
MANUFACTURER	ARCTIC HILL
MODEL	PACVC00150D2
WEIGHT (LBS.)	320
AMBIENT TEMP. (°F)	95
FANS:	
QUANTITY	4
H.P. (E.A.)	¾
ELECTRICAL DATA:	
VOLTS/ø/Hz	240/1/60
INPUT POWER (kW)	—
FLA (AMPS)	16.8
MCA (AMPS)	18
MOCP (AMPS)	20

NOTES:

1. PROVIDE THE FOLLOWING OPTIONS:
  - LOW SOUND ACOUSTICALLY LINED COMPRESSOR ENCLOSURE.
  - WIRE MESH SECURITY GRILLES ON CONDENSER.
  - 1-1/2" MIN. INSULATION ON EVAPORATOR.
  - FLOW SWITCH.
  - BUILDING AUTOMATION SYSTEM INTERFACE.
  - SERVICE SUCTION ISOLATION VALVE FOR EACH REFRIGERANT CIRCUIT.
  - PRESSURE RELIEF SERVICE VALVE KIT.
  - MOUNT CHILLER ON HEAVY DUTY NEOPRENE VIBRATION ISOLATION PADS
  - MICROPROCESSOR CONTROLS.
2. PROVIDE THE FOLLOWING OPTIONS:
  - SINGLE POINT EXTERNAL POWER CONNECTION AT UNIT, WITH FACTORY INSTALLED, UNIT-MOUNTED, NON-FUSED DISCONNECT SWITCH.

# EQUIPMENT NOTES

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20) RETURN GRILLES: TITUS MODEL 275RS, ALUMINUM CONSTRUCTION, FIXED BLADE. SIZE AND CFM AS INDICATED ON PLAN. 30° DEFLECTION. FRAME SUITABLE FOR LAY IN OR SURFACE MOUNT AS REQUIRED. COLOR SHALL BE WHITE BAKED ENAMEL.

21) CONDENSATE PUMP (CP-1): SHALL BE LITTLE GIANT MODEL VCM-45LS, RATED AT 380 GPH @ 15' HEAD, WITH 1 GALLON TANK, 3/8" DISCHARGE CONNECTION, & SHUT-OFF AT 45' HEAD. MOTOR SHALL 1/5 HP, 185 WATTS, 115V/1φ/60HZ, 3.5 AMPS. INCLUDE THE FOLLOWING OPTIONS: SAFETY SWITCH, 6' POWER CORD, THERMAL OVERLOAD PROTECTOR, NYLON SUMP PAN, POLYPROPYLENE CONTROL FLOAT, BUILT-IN CHECK VALVE, FILTER SCREEN, STAINLESS STEEL SHAFT.

22) BAR GRILLES: SHALL BE TITUS MODEL CT-PP-0, ALUMINUM CONSTRUCTION, WITH 7/32" THICK FIXED BARS, 7/16" SPACING, 0° FIXED DEFLECTION, SIZE AND CFM AS NOTED ON PLANS. FINISH SHALL BE ANODIZED. SUBMIT COLOR CHART FOR ARCHITECTURAL APPROVAL. COORDINATE BORDER AND FRAMING REQUIREMENTS WITH ARCH PLANS.

# EQUIPMENT NOTES

- 14) SQUARE CEILING DIFFUSERS: SHALL BE TITUS MODEL TDC, STEEL CONSTRUCTION, WITH ROUND NECK, OPPOSED BLADE VOLUME DAMPER IN NECK, MODULE SIZE, NECK SIZE, AND CFM AS NOTED ON PLANS. FINISH SHALL BE BAKED ON ENAMEL. SUBMIT COLOR CHART FOR APPROVAL. FRAME SHALL BE SUITABLE FOR LAY-IN OR SURFACE MOUNTING AS REQUIRED. COORDINATE WITH ARCH PLANS.
- 15) CEILING AND SIDEWALL SUPPLY AIR REGISTERS: SHALL BE TITUS MODEL 300FL, ALUMINUM CONSTRUCTION, WITH 3/4" SPACING, DOUBLE DEFLECTION AIRFOIL BLADES, OPPOSED BLADE VOLUME DAMPER IN NECK, SIZE AND CFM AS NOTED ON PLANS. FINISH SHALL BE BAKED ON ENAMEL. SUBMIT COLOR CHART FOR APPROVAL. FRAME SHALL BE SUITABLE FOR LAY-IN OR SURFACE MOUNTING AS REQUIRED. COORDINATE WITH ARCH PLANS.
- 16) AIR SEPARATOR: SHALL BE ARMSTRONG SERIES VA, 375°F MAXIMUM WORKING TEMPERATURE, 160 PSIG MAXIMUM WORKING PRESSURE, LINE SIZE INLET & OUTLET CONNECTIONS. 3/4" NPT AIR OUTLET, 3/4" NPT DRAIN. UNIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ASME CODE.
- 17) CHILLED WATER EXPANSION TANK: SHALL BE ARMSTRONG MODEL AX-15, 12" DIAMETER, 19" HIGH, 7.2 GALLONS TOTAL, WITH 1/2" SYSTEM CONNECTION. UNIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ASME CODE. FURNISH GAGE GLASS AND TMA TANK FITTING.
- 18) HOT WATER EXPANSION TANK: SHALL BE ARMSTRONG MODEL AX-80, 16" DIAMETER, 55" HIGH, 44.4 GALLONS TOTAL, 22.2 GALLON ACCEPTANCE, WITH 1/2" SYSTEM CONNECTION. UNIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ASME CODE. FURNISH GAGE GLASS AND TMA TANK FITTING.
- 19) VARIABLE FREQUENCY DRIVES: SHALL BE GRAHAM SERIES VLT 6000C17, NEMA 1 ENCLOSURE, WITH H-O-A, FACTORY START-UP, PRESSURE TO ELECTRICAL TRANSDUCERS, OUTPUT LOAD REACTORS, INPUT LOAD REACTORS.

# EQUIPMENT NOTES

- 11) CONV-B: SHALL BE VULCAN ELECTRIC PEDESTAL MOUNTED RADIATOR MODEL COVP WITH 2" PEDESTAL, 8" HIGH ENCLOSURE, EXTRUDED ALUMINUM DISCHARGE GRILLE, 16 GAGE PANELS, ZINC PLATED STEEL POWDER COATED. RATED AT 150W/LF (512 BTU/LF) - 3'-0" LF. VERIFY EXACT LENGTH IN FIELD. FURNISH ALL REQUIRED ENCLOSURE SUPPORTS, BRACKETS, FASTENERS, END CAPS, ETC. SUBMIT CUSTOM COLOR CHART FOR APPROVAL.
- 12) HOT WATER PUMPS: (HWP-1 & 2): SHALL BE ARMSTRONG SERIES 4380, MOTOR MOUNTED SIZE  $1\frac{1}{2} \times 1\frac{1}{2} \times 8$ , RATED FOR 45 GPM, 55' TDH,  $\frac{1}{2}$  HP, 1800 RPM, 230V/1/60. PUMPS SHALL BE CAST IRON BODY, BRONZE FITTED, BRONZE IMPELLER. REFER TO SPECIFICATION FOR PUMP CONSTRUCTION. PREMIUM EFFICIENCY MOTORS, MOTOR STARTERS AND DISCONNECT SWITCHES SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. FURNISH COMBINATION STARTER DISCONNECT WITH HOA.
- 13) CHILLED WATER PUMPS: (CHWP-1 & 2): SHALL BE ARMSTRONG SERIES 4380, MOTOR MOUNTED SIZE  $1\frac{1}{2} \times 1\frac{1}{2} \times 8$ , RATED FOR 36 GPM, 50' TDH,  $1\frac{1}{2}$  HP, 1800 RPM, 230V/1/60 WITH VFD. PUMPS SHALL BE CAST IRON BODY, BRONZE FITTED, BRONZE IMPELLER. REFER TO SPECIFICATION FOR PUMP CONSTRUCTION. PREMIUM EFFICIENCY MOTORS, MOTOR STARTERS AND DISCONNECT SWITCHES SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

# EQUIPMENT NOTES

- 1) HOT WATER UNIT HEATER (UH-A): SHALL BE MODINE HOTDAGW LOW PROFILE MODEL HHD-30, RATED AT 405 CFM, 2 GPM 180F EWT, 150F LWT, 30.9 MBH, 2.2" WPD, 115V/1PH/60Hz,  $\frac{1}{2}$  HP, 2.1 AMPS.
- 2) HOT WATER UNIT HEATER (UH-B): SHALL BE VULCAN MODEL HV-108A, HORIZONTAL DISCHARGE CONFIGURATION, RATED AT 6.8 MBH, 1 GPM, 180F EWT, 160F LWT, 2.2" WPD (FT H<sub>2</sub>O), 210 CFM. MOTOR SHALL BE RATED AT 16 WATTS, 1350 RPM, 0.8 AMPS, 115V/1 $\phi$ /60HZ. PROVIDE WALL THERMOSTAT, FAN GUARD, AND AIR DEFLECTION LOUVER. HANG UNIT FROM BUILDING STRUCTURE WITH VIBRATION ISOLATORS. FURNISH DISCONNECT SWITCH.
- 3) ELECTRIC UNIT HEATER (UH-C): SHALL BE REZNOR ELECTRIC UNIT HEATER MODEL EGB-3, RATED AT 310 CFM, 10 MBH, 240V/1PH/60Hz, 1/50 HP.
- 4) CABINET HEATER (CH-A): SHALL BE VULCAN, MODEL SF-A-424, 24" HIGH, 28" LONG, 4" DEEP. RATED AT 2.5 MBH WITH 65F EAT, 180F AVERAGE WATER TEMPERATURE. CABIN TYPE SFA FREE STANDING SLOPE TOP ENCLOSURE WITH KNOB DAMPER AND LOUVERED INLET.
- 5) AUTOMATIC AIR VENTS: SHALL BE ARMSTRONG MODEL AAET50, WITH 250F MAXIMUM OPERATING TEMPERATURE, 2-133 PSIG AIR PRESSURE OPERATING RANGE, 100% SPRING ACTION POSITIVE SHUTOFF, 3/4" NPT SYSTEM CONNECTION.
- 6) MOTORIZED DAMPERS: SHALL BE RUSKIN MODEL CD40, 4" DEEP EXTRUDED ALUMINUM AIRFOIL DAMPER. DAMPER SHALL HAVE OPPOSED BLADES, MOTOR AND LINKAGE. DAMPERS SHALL BE 120V/1 $\phi$ /60Hz, 3 AMPS MAX. FURNISH DISCONNECT SWITCH.
- 7) FIRE DAMPERS: SHALL BE RUSKIN MODEL DIBD-2, 1-1/2 HOUR UL555 RATED, SUITABLE FOR INSTALLATION IN WALL AND FLOOR PARTITIONS WITH FIRE RATINGS OF LESS THAN 3 HOURS. DAMPER SHALL BE A COMPLETE FACTORY PACKAGE INCLUDING U.L. APPROVED ANGLES, WALL SLEEVE, AND BREAKAWAY CONNECTIONS. DAMPER SHALL BE RATED FOR DYNAMIC AIRFLOW CONDITIONS OF 2,000 FPM AND 4.0" SP.
- 8) LOUVERS: SHALL BE RUSKIN MODEL ELF375DX, 4" DEEP, WITH 54% FREE AREA, 6063T5 EXTRUDED ALUMINUM DRAINABLE BLADES AT 37.5" AND 5-3/32" SPACING, 4" DEEP 6063T5 EXTRUDED ALUMINUM FRAME, AND 1/2" GALVANIZED STEEL BIRD SCREEN. MINIMUM LOUVER SIZE 12"x12". ANODIZED CUSTOM COLOR TO BE SELECTED BY ARCHITECT. COORDINATE WITH ARCHITECTURAL PLANS.
- 9) VOLUME CONTROL DAMPERS: FOR ALL ROUND & RECTANGULAR VOLUME CONTROL DAMPERS THAT ARE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE Y-CABLE OPERATED DAMPERS. ROUND DAMPERS SHALL BE YOUNG BOWDEN MODEL 5020-CC. RECTANGULAR DAMPERS SHALL BE MODEL 830-CC. CABLE CONTROLS SHALL BE MODEL 270-275 FOR CONCEALED LOCATIONS & MODEL 270-896C FOR LOCATIONS WHERE CABLES TERMINATE IN FINISHED SPACES. COORDINATE LOCATIONS IN THE FIELD.
- 10) CONV-A: SHALL BE PANEL RADIATOR INC MODEL PRZF-3, 3 TUBES, 8.5" HIGH X 2" DEEP X 30" LONG @ 1463 BTU/LF, 3657 BTU TOTAL, 0.5 GPM @ 180F WATER WITH 20"AT. PROVIDE ANGLE THERMOSTATIC VALVES WITH MATCHING SHUTOFFS FOR SELF-REGULATION OF ROOM TEMPERATURE, CHROME FINISH (COORDINATE WITH ARCHITECT). MOUNT ON WALL - COORDINATE MOUNTING HEIGHT WITH ARCHITECT AND MANUFACTURER'S RECOMMENDATIONS. PROVIDE END CAP TRIM AT BOTH ENDS OF RADIATOR. COORDINATE COLOR AND FINISH WITH ARCHITECT. VERIFY EXACT LENGTH IN FIELD.

[illegible]

NOTES:

PROVIDE THE FOLLOWING FEATURES & OPTIONS FOR EACH UNIT:

- COORDINATE RIGHT-HAND/LEFT-HAND COIL CONNECTIONS IN THE FIELD.
- KEY LOCK ACCESS DOORS.
- N.C. 2 WAY MODULATING CONTROL VALVE FOR EACH COIL, WITH PIPING PACKAGE AS PER DETAIL ON DRAWING M7.2. 5 PSI MAX AT CONTROL VALVE
- WALL MOUNTED THERMOSTAT.
- DELUXE PIPING PACKAGE WITH BALL VALVE SHUT OFFS AND CIRCUIT SETTER.
- FACTORY FURNISHED LOCAL DISCONNECT SWITCH.
- COIL AIR VENT.
- (2) SETS OF SPARE FILTERS FOR EACH UNIT.
- FINISH ON EXPOSED UNITS SHALL BE CUSTOM ENAMEL - SUBMIT COLOR CHART FOR APPROVAL.


PROVIDE THE FOLLOWING FOR UNIT CONCEALED WITHIN MILLWORK:

- TITUS MODEL CT-PP-0, ALUMINUM PENCIL PROOF LINEAR BAR DIFFUSER AT AIR OUTLET IN TOP OF MILLWORK. COORDINATE EXACT SIZE WITH EXISTING SILL AND ARCHITECTURAL PLANS.

FAN SCHEDULE			
DESIGNATION	EX-1	EX-2	CAF-1
LOCATION	GARAGE	ROOF	BOILER ROOM
AREA SERVED	GARAGE	KITCHEN HOOD	BOILER ROOM
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK
MODEL	S2-16-430-A5	CUBE-140HP-7	SE1-12-432-VG
WEIGHT (LBS)	40	60	20
DAMPER SIZE (IN)	22x22	16x16	18x18
FAN TYPE	PROPELLER	UPBLAST	PROPELLER
DRIVE TYPE	DIRECT	BELT	DIRECT
CFM	2303	900	450
BHP	0.56	0.69	0.14
HP	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{4}$
RPM	1750	2035	1405
SP (IN H <sub>2</sub> O)	0.5	2.25	0.5
VOLTS/ø/Hz	120/1/60	120/1/60	120/1/60
STARTER TYPE	HOA	HOA	HOA
STARTER LOCATION	GARAGE	KITCHEN	BOILER ROOM
DISCONNECT SWITCH MOUNTED AT UNIT?	YES	YES	YES
INTERLOCK	-	FCU-D08, HOOD HEAT SENSOR	BOILER

**NOTES:**

1. ALL MOTORS 1 HP OR GREATER SHALL BE PREMIUM EFFICIENCY.
2. ALL MOTORS FURNISHED WITH VARIABLE FREQUENCY DRIVES SHALL BE INVERTER DUTY RATED & APPROVED FOR VARIABLE SPEED AND TORQUE APPLICATIONS.
3. FURNISH RUBBER IN SHEAR OR SPRING VIBRATION ISOLATORS AS PER THE SPECIFICATION.
4. FURNISH WALL MOUNTED SPEED CONTROLLER OR THERMOSTAT AS INDICATED ON PLAN.
5. FURNISH MOTOR AND BELT GUARDS FOR ALL EXTERNAL MOTOR DRIVES.
6. FURNISH 12" HIGH ROOF CURB FOR ALL ROOFTOP FANS.
6. FURNISH BAROMETRIC BACKDRAFT DAMPER FOR FANS EX-1 AND CAF-1.
6. MOTOR STARTER AND DISCONNECT SWITCH FOR EACH FAN SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. EACH ROOFTOP FAN SHALL BE FURNISHED WITH WEATHERPROOF UNIT-MOUNTED LOCAL DISCONNECT SWITCH.
7. FAN EX-2 SERVING KITCHEN EXHAUST HOOD:
  - PROVIDE WIRE MESH BIRD GUARD, INSULATED HEAT BAFFLE, NEMA 3R DISCONNECT SWITCH
  - CUSTOM VENTED ROOF CURB. COORDINATE HEIGHT SO FAN DISCHARGE IS 40" ABOVE ROOF. CURB SHALL BE CUSTOM FOR ROOF PITCH.
  - SHALL BE UL 705 AND 762 LISTED & LABELED.
  - SHALL MEET ALL THE REQUIREMENTS OF NFPA 96 FOR KITCHEN EXHAUST APPLICATION, INCLUDING HINGED ACCESS DOOR, DRAIN CONNECTION WITH STAINLESS STEEL GREASE CUP, WEATHER HOOD, MOTOR AND WIRING OUT OF AIRSTREAM, AND UPBLAST DISCHARGE.
  - SHALL BE INTERLOCKED TO RUN WHEN THE KITCHEN EXHAUST HOOD IS ACTIVATED, IN CONJUNCTION WITH FCU-D08.
  - DO NOT FURNISH A BACKDRAFT DAMPER IN THE ROOF CURB.

	LA ROCCA GREENE ARCHITECTS, LLC 22 PURCHASE STREET RYE, NEW YORK 10580		OLA CONSULTING ENGINEERS 50 BROADWAY 2ND FLOOR HAWTHORNE, NY 10532	
	ENVIRONMENTAL MAINTENANCE CONTRACTORS 5 ANDERSON LANE GOLDEN BRIDGE, NY 10526		WATSKY ASSOCIATES ROOF CONSULTANTS 20 MADISON AVENUE VALHALLA, NY 10595	
	11/6/20		100% SUBMISSION	
REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION
<b>RECORD DRAWING CERTIFICATION</b>				
<input type="checkbox"/> AS BUILT – CHANGES AS NOTED <input type="checkbox"/> AS BUILT – NO CHANGES				
<b>CONTRACTOR</b>			<b>PROJECT COORDINATOR</b>	
NAME _____ SIGNATURE _____ TITLE _____ DATE _____			NAME _____ SIGNATURE _____ TITLE _____ DATE _____	
WESTCHESTER COUNTY, NEW YORK DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION DIVISION OF ENGINEERING			CONTRACT NUMBER 16-529	SHEET NUMBER M6.1
LASDON PARK MAIN HOUSE RENOVATIONS MECHANICAL SCHEDULES AND EQUIPMENT NOTES			SHEET NO. 44 OF <b>72</b> SCALE: AS NOTED DATE: 6/5/20 DPW FILE NO. 91-05-M-118-0	
			REV. NO.	