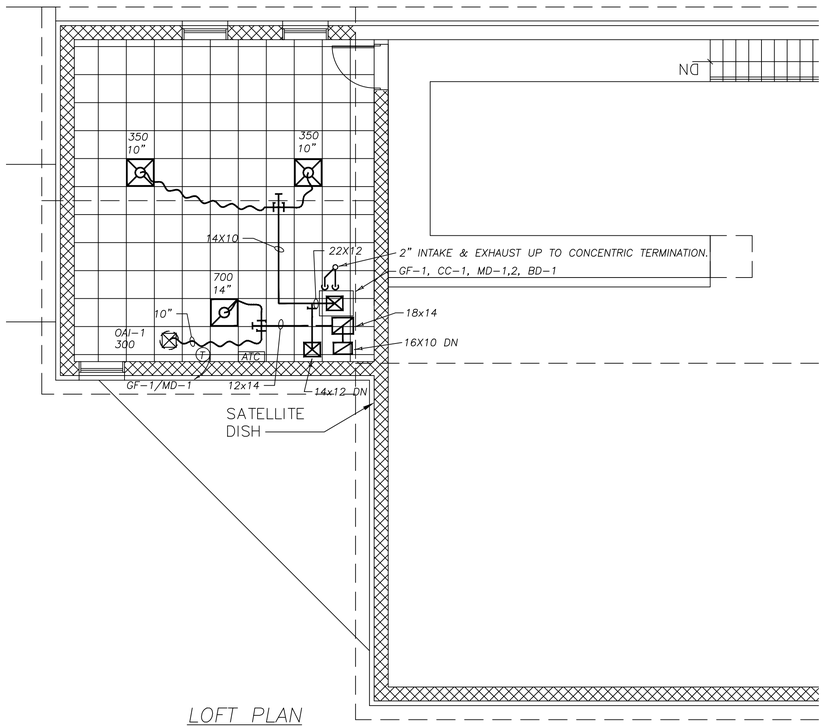

LOFT PLAN

DUCTLESS HEAT PUMP EQUIPMENT SCHEDULE

DESIGNATION	MANUFACTURER	MODEL NUMBER	AIR HANDLING CFM	COOLING MBH	HEATING MBH	HEATING SEER	ELECTRICAL VOLT/ø	ELECTRICAL MCA	ELECTRICAL MOCP	WEIGHT LBS.	NOTES	REMARKS
AC-A	DAIKIN	FTXN18KVJU	480	18,000	21,600	14.5	208/1	0.2	---	26.5	1,4	
CU-A	DAIKIN	RX18KEVJU	---	18,000	21,600	14.5	208/1	10.6	20	93	2,3	

1. PROGRAMMABLE THERMOSTAT.
2. 0° F LOW AMBIENT CONTROL, WIND BAFFLE.
3. REFRIGERATION LINE SET.
4. INTERNAL CONDENSATE PUMP.

GAS RADIANT HEATER SCHEDULE

DESIGNATION	MANUFACTURER	MODEL NUMBER	MBH INPUT	VOLTS/ø	FLA	VENT SIZE	WEIGHT LBS.	NOTES	REMARKS
RH-1	REZNOR	VR-125-40	125	115/1	1.1	4"	200	1-4	
RH-2	REZNOR	VR-75-20	75	115/1	1.1	4"	154	1-4	

1. 24 VOLT THERMOSTAT WITH GUARD.
2. THERMOSTAT RADIATION SHILED.
3. OUTDOOR AIR COMBUSTION AIR INLET KIT.
4. FLEXIBLE GAS CONNECTOR.

ELECTRIC HEATING UNIT SCHEDULE

DESIGNATION	MANUFACTURER	MODEL NUMBER	KW	VOLTS/ø	NOTES	REMARKS
EH-1,2	BERKO	FRC1512	1.5	120/1	1	WALL MOUNTED
EH-3,4	BERKO	HUH524TA	2.5	208/1	1,2	
EH-5	BERKO	HUH524TA	3.75	208/1	1,2	

1. BUILT-IN TAMPERPROOF THERMOSTAT.
2. HANGING BRACKET.

INTAKE SCHEDULE

DESIGNATION	MANUFACTURER	MODEL NUMBER	CFM	S.P.	NOTES	REMARKS
OAI-1	GREENHECK	GRS-10	300	0.06	1,2,3	
OAI-2						

1. ALUMINUM CONSTRUCTION.
2. BIRD SCREEN.
3. PITCHED ROOF CURB-10" MINIMUM HEIGHT.

EXHAUST FAN SCHEDULE

DESIGNATION	MANUFACTURER	MODEL NUMBER	CFM	S.P.	ELECTRICAL VOLT/ø	HP	AMPS	NOTES	REMARKS
EF-2,3,4	GREENHECK	SP-A125	100	0.250	115/1	---	0.7	2	
EF-1	GREENHECK	GB 141-5	2000	0.25	115/1	1/2		2	
CF-1,2	LEADING EDGE	6001-1	---	---	120/1	---	1.4	2	UPBLAST

1. VARIABLE SPEED CONTROL.
2. WC WALL CAP-ROUND CONNECTION.
3. PITCHED ROOF CURB.
4. BIRD SCREEN.
5. GRAVITY DAMPER.

MECHANICAL SPECIFICATIONS

DESCRIPTION OF WORK – THE H.V.A.C. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, RIGGING, TOOLS AND ACCESSORIES REQUIRED FOR PROVIDING, INSTALLING, CONNECTING AND TESTING ALL HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS AND ASSOCIATED EQUIPMENT IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE APPLICABLE DRAWINGS. IN GENERAL, THE WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING: H.V.A.C. EQUIPMENT, AIR DISTRIBUTION SYSTEMS, PIPING SYSTEMS, INSULATION, TEMPERATURE CONTROLS, CONTROL WIRING, START-UP, TESTING AND BALANCING.

EXAMINATION REQUIREMENTS – THE H.V.A.C. CONTRACTOR SHALL CAREFULLY EXAMINE THE SITE, ALL PERTINENT DRAWINGS AND SPECIFICATIONS TO DETERMINE THE COMPLETE SCOPE OF WORK AND BE INFORMED OF THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID PROPOSAL. THE H.V.A.C. CONTRACTOR WILL NOT BE ENTITLED TO EXTRA MONETARY COMPENSATION RESULTING FROM THEIR ERRORS OR OVERSIGHTS DURING THEIR EXAMINATION.

DRAWINGS – THE DRAWINGS ARE INTENDED TO SHOW THE GENERAL ARRANGEMENT AND THE EXTENT OF THE WORK TO BE DONE. HOWEVER, THE EXACT LOCATION AND ARRANGEMENT OF ALL COMPONENTS SHALL BE DETERMINED AS WORK PROGRESSES. BECAUSE OF THE SMALL SCALE USED FOR THE DRAWINGS, ALL REQUIRED OFFSETS, MODIFICATIONS, ETC. AS MAY BE REQUIRED TO CLEAR STRUCTURAL WORK, WORK OF OTHER CONTRACTORS, OR OTHER OBSTRUCTIONS, MAY NOT BE SHOWN. THE H.V.A.C. CONTRACTOR, HOWEVER, SHALL PROVIDE ALL NECESSARY OFFSETS, MODIFICATIONS, ETC. AS REQUIRED TO COMPLETE THE INSTALLATION AT NO ADDITIONAL COST. THE H.V.A.C. CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL ALL ITEMS, ACCESSORIES, AUXILIARY SYSTEMS, ETC. CALLED FOR IN THESE SPECIFICATIONS WHETHER OR NOT SHOWN AS DETAILS ON THE DRAWINGS. ALL ITEMS NOT SPECIFICALLY MENTIONED IN THE SPECIFICATIONS OR NOTED ON THE DRAWINGS, BUT WHICH ARE NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE INCLUDED.

DIMENSIONS – NO WORK SHALL BE EXECUTED FROM DIMENSIONS OBTAINED BY SCALING ANY DRAWINGS. EXACT DIMENSIONS, WHERE NEEDED, SHALL BE OBTAINED FROM ACTUAL FIGURES ON THE ARCHITECTURAL DRAWINGS AND SHALL BE SUPPLEMENTED BY VERIFICATION OF MEASUREMENTS AT THE SITE. THE H.V.A.C. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND FIELD CONDITIONS BEFORE STARTING WORK AND SHALL NOTIFY THE ARCHITECT, ENGINEER OR OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES. IF NO DISCREPANCIES ARE BROUGHT TO THEIR ATTENTION PRIOR TO STARTING WORK, THE H.V.A.C. CONTRACTOR ASSUMES FULL RESPONSIBILITY.

DEFINITIONS – WHERE THE WORDS "FURNISH", "SUPPLY", "PROVIDE" OR "INSTALL" ARE MENTIONED INDIVIDUALLY OR IN COMBINATION, THEY SHALL BE INTERPRETED TO MEAN "FURNISH AND INSTALL", "SUPPLY AND INSTALL" OR "PROVIDE AND INSTALL" UNLESS OTHERWISE NOTED.

CODES – THE INSTALLATION OF WORK UNDER THIS CONTRACT SHALL BE DONE IN FULL ACCORDANCE WITH REQUIREMENTS OF ALL AGENCIES AND AUTHORITIES HAVING JURISDICTION; ALL APPLICABLE CODES INCLUDING BUT NOT LIMITED TO THE LATEST ADOPTED EDITIONS OF THE NEW JERSEY STATE UNIFORM CONSTRUCTION CODE AND NEW JERSEY UNIFORM FIRE CODE, NATIONAL ELECTRIC CODE 2014, INTERNATIONAL MECHANICAL CODE 2015, INTERNATIONAL BUILDING CODE 2015, ASHRAE/IESNA 90.1-2013 ENERGY CONSERVATION CODE, NATIONAL STANDARD PLUMBING CODE 2009, INTERNATIONAL FUEL GAS CODE 2015, APPLICABLE NATIONAL FIRE PROTECTION ASSOCIATION CODES, BARRIER FREE REQUIREMENTS, O.S.H.A. AND THE LOCAL UTILITY COMPANIES' REQUIREMENTS.

PERMITS – THE H.V.A.C. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS, ETC. ALL WORK SHALL BE INSPECTED AND APPROVED BY THE AUTHORIZED INSPECTION OFFICIAL BEFORE THE SYSTEMS ARE PUT INTO SERVICE. A CERTIFICATE OF APPROVAL SHALL BE DELIVERED TO THE OWNER'S REPRESENTATIVE UPON COMPLETION OF THE WORK.

SHOP DRAWINGS – FURNISH SHOP DRAWINGS FOR ITEMS INCLUDING BUT NOT LIMITED TO H.V.A.C. EQUIPMENT, DUCTWORK, AIR DISTRIBUTION COMPONENTS, AUTOMATIC TEMPERATURE CONTROLS, INSULATION AND PIPING SYSTEM COMPONENTS. NOTE THAT THE DUCTWORK SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR BASED ON THE MECHANICAL, ARCHITECTURAL AND STRUCTURAL DRAWINGS AND HIS FIELD VERIFICATION OF ALL EXISTING CONDITIONS. THE DRAWINGS SHALL BE DONE AT AN APPROPRIATE SCALE WITH DOUBLE LINE DUCTWORK AND SHALL INCLUDE MOUNTING HEIGHTS, DETAILS FOR ALL FITTINGS, HANGERS AND CONNECTIONS TO EQUIPMENT. IF THE H.V.A.C. CONTRACTOR FAILS TO SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL, THE H.V.A.C. CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR THE PROPER FIT, FUNCTION, ETC., FOR ALL ITEMS EVEN IF THEY ARE THE TYPES SPECIFIED.

ACCESSIBILITY – THE H.V.A.C. CONTRACTOR SHALL LOCATE ALL ITEMS WHICH MUST BE SERVICED, OPERATED, OR MAINTAINED IN FULLY ACCESSIBLE POSITIONS. IF REQUIRED FOR BETTER ACCESSIBILITY, PROVIDE ACCESS DOORS FOR THIS PURPOSE. WHERE WORK IS CONCEALED, THE H.V.A.C. CONTRACTOR SHALL BE RESPONSIBLE FOR ITS PROPER INSTALLATION TO ASSURE THAT IT DOES NOT PROJECT BEYOND FINISHED LINES OF FLOORS, CEILINGS OR WALLS.

COORDINATION – COORDINATE FINAL LOCATIONS OF ALL H.V.A.C. SYSTEM ITEMS WITH THE ARCHITECTURAL DRAWINGS, THE OWNER'S REQUIREMENTS AND AS DIRECTED BY THE ARCHITECT, ENGINEER OR OWNER'S REPRESENTATIVE AT THE JOB SITE DURING CONSTRUCTION. ARRANGE PIPING, DUCTWORK AND EQUIPMENT FOR THE H.V.A.C. SYSTEMS TO CLEAR ALL OTHER PIPING, ELECTRICAL CONDUIT, ETC. AND COOPERATE WITH OTHER TRADES FOR SPACE UTILIZATION WHERE MULTIPLE SERVICES OCCUR. THE H.V.A.C. CONTRACTOR SHALL GIVE FULL COOPERATION TO OTHER TRADES AND SHALL FURNISH INFORMATION NECESSARY TO PERMIT THE WORK OF ALL TRADES TO BE INSTALLED SATISFACTORILY AND WITH THE LEAST POSSIBLE INTERFERENCE OR DELAY.

ELECTRICAL – THE H.V.A.C. CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR TO VERIFY THE CORRECT ELECTRICAL CHARACTERISTICS AND LOAD REQUIREMENTS FOR ALL H.V.A.C. EQUIPMENT PRIOR TO ORDERING THE EQUIPMENT. THE H.V.A.C. CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY CONTROL WIRING UNLESS OTHERWISE NOTED. ALL ELECTRICAL EQUIPMENT AND MATERIAL SHALL BE APPROVED AND LABELED BY UNDERWRITERS' LABORATORIES, INC.

AUTOMATIC TEMPERATURE CONTROLS – FURNISH AND INSTALL ALL AUTOMATIC TEMPERATURE CONTROLS FOR THE H.V.A.C. INSTALLATION INCLUDING BUT NOT LIMITED TO THERMOSTATS, TEMPERATURE SENSORS, CONTROL PANELS, LOCKING COVERS, PROGRAMMING AND CONTROL WIRING. MOUNT ALL THERMOSTATS AND OTHER MECHANICAL CONTROLS AT HEIGHTS LESS THAN 48" ABOVE FINISHED FLOOR (AS PER BARRIER FREE REQUIREMENTS). INCLUDE ALL START-UP, TESTING AND ADJUSTING. ALL WIRING SHALL BE INSTALLED IN CONDUIT OR APPROVED CABLING SYSTEM (PLENUM RATED WHERE REQUIRED) APPROVED BY THE ENGINEER.

SEISMIC RESTRAINTS – PROVIDE ALL NECESSARY BRACING, SUPPORTS, VIBRATION ISOLATORS AND APPURTENANCES REQUIRED FOR INSTALLATION OF EQUIPMENT, PIPING AND DUCTWORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE 2009.

MECHANICAL EQUIPMENT – REFER TO THE EQUIPMENT SCHEDULES ON THE DRAWINGS FOR ALL MECHANICAL EQUIPMENT. ALL EQUIPMENT SHALL BE TESTED AND LABELED BY AN APPROVED AGENCY. ALL ACCESSORIES REQUIRED BY CODE SHALL BE PROVIDED. CHECK, TEST AND START-UP FOR ALL EQUIPMENT SHALL BE PERFORMED BY THE MANUFACTURER'S AUTHORIZED FACTORY TRAINED TECHNICIAN.

DUCTWORK – FURNISH AND INSTALL DUCTWORK WHERE SHOWN ON THE DRAWINGS AND AS REQUIRED IN ACCORDANCE WITH THE REQUIREMENTS OF THE INTERNATIONAL MECHANICAL CODE 2009, CHAPTER 6, DUCT SYSTEMS AND THE LATEST SMACNA DUCT CONSTRUCTION STANDARDS. THE H.V.A.C. CONTRACTOR SHALL CONSULT WITH ALL OTHER INVOLVED CONTRACTORS AND SHALL, IN CONJUNCTION WITH THEM, ESTABLISH THE NECESSARY SPACE REQUIREMENTS FOR EACH TRADE AND SHALL PROVIDE COORDINATION DRAWINGS. THE SHEET METAL DUCTWORK SHALL, WHETHER INDICATED OR NOT, RISE AND/OR DROP AND/OR CHANGE IN SHAPE TO CLEAR ANY AND ALL CONDUITS, LIGHTING FIXTURES, PIPING, STRUCTURAL COMPONENTS OR OTHER OBSTRUCTIONS TO MAINTAIN THE REQUIRED CLEARANCES AND CEILING HEIGHTS. ALL RECTANGULAR DUCTWORK, UNLESS OTHERWISE NOTED, SHALL BE BUILT FROM HEAVILY GALVANIZED SHEET STEEL. ALL DUCTS LARGER THAN 18" SHALL BE CROSS BROKEN. ALL RADIUS ELBOWS SHALL HAVE A MINIMUM CENTERLINE RADIUS OF 1-1/2 TIMES THE WIDTH OF THE DUCT; ALL SQUARE ELBOWS AND TEES SHALL HAVE TURNING VANES. ALL ROUND TAKE-OFF COLLARS SHALL HAVE MANUAL VOLUME DAMPERS; ALL SQUARE AND RECTANGULAR TAKE-OFFS SHALL HAVE 45 DEGREE TAKE-OFF FITTINGS WITH MANUAL VOLUME DAMPERS IN THE BRANCH DUCT. WHERE INTERNAL DUCT LINING IS SPECIFIED, THE DIMENSIONS SHOWN ON THE DRAWINGS ARE FINISHED CLEAR DIMENSIONS INSIDE THE DUCTWORK. LOW PRESSURE FLEXIBLE DUCTWORK SHALL CONFORM TO THE REQUIREMENT OF UL 181 AND SHALL BE PROPERLY SUPPORTED WITHOUT BENDS THAT RESTRICT THE FULL INSIDE CROSS SECTIONAL AREA. SEAL ALL DUCTWORK WITH DESIGN POLYMERICS DP1010 DUCT SEALANT OR APPROVED EQUAL OR APPROVED CLOSURE SYSTEM LISTED AND LABELED IN ACCORDANCE WITH UL181A.

DUCT INSULATION – PROVIDE 2" THICK SCHULLER MICROLITE TYPE 100 FIBERGLASS DUCT WRAP (INSTALLED "R" VALUE OF 6.0) WITH FOIL FACED VAPOR BARRIER, OR APPROVED EQUAL, ON ALL SUPPLY, RETURN, AND OUTSIDE AIR INTAKE DUCTWORK. ALSO PROVIDE 1/2" THICK SCHULLER LINACOUSTIC ACOUSTIC LINING, OR APPROVED EQUAL, IN THE FIRST 15 FEET OF SUPPLY AND RETURN DUCTWORK ON EACH H.V.A.C. UNIT. ALL INSULATION AND ACCESSORIES SHALL HAVE FIRE AND SMOKE HAZARD RATINGS AS TESTED UNDER PROCEDURE ASTM E-84, NOT EXCEEDING FLAME SPREAD INDEX 25, SMOKE DEVELOPED INDEX 50 AND HOT SURFACE PERFORMANCE TESTS IN ACCORDANCE WITH ASTM C411 WITH 250F MINIMUM TEST TEMPERATURE. INSULATION SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, ON CLEAN, DRY SURFACES ONLY AFTER ALL REQUIRED TESTS AND APPROVALS HAVE BEEN COMPLETED.

DIFFUSERS, REGISTERS AND GRILLES – PROVIDE DIFFUSERS, REGISTERS AND GRILLES AS NOTED ON THE DRAWINGS AND AS REQUIRED. ALL REGISTERS SHALL BE PROVIDED WITH INTEGRAL BALANCING DAMPERS AND SHALL BE DOUBLE DEFLECTION. ALL DIFFUSERS, REGISTERS AND GRILLES SHALL HAVE AN OFF-WHITE BAKED ENAMEL FINISH UNLESS OTHERWISE NOTED.

LOUVERS – PROVIDE LOUVERS AS NOTED ON THE DRAWINGS AND AS REQUIRED. ALL LOUVERS SHALL BE WEATHERPROOF AND SHALL HAVE BIRD SCREENS AND AN ANODIZED ALUMINUM FINISH IN A COLOR AS SELECTED BY THE OWNER'S REPRESENTATIVE.

FLEXIBLE DUCTWORK CONNECTORS – AT THE INLET AND DISCHARGE OF ALL AIR HANDLING EQUIPMENT FURNISH AND INSTALL A FLEXIBLE VIBRATION ISOLATOR DUCTWORK CONNECTOR CONSISTING OF A 30 OZ. PER SQ. YD., WOVEN NEOPRENE COATED FABRIC. THE DUCTWORK CONNECTORS SHALL CONFORM TO THE REQUIREMENTS OF UL181.

FLUE PIPING, GAS – PROVIDE METALBESTOS MODEL "RV" AND "QC", OR APPROVED EQUAL TYPE "B" FLUE PIPING FOR ALL ATMOSPHERIC GAS FIRED HEATING UNITS AND APPLIANCES, AND METALBESTOS MODEL "PS", OR APPROVED EQUAL FLUE PIPING FOR PRESSURE FIRED GAS HEATING UNITS AND APPLIANCES. INCLUDE ALL FLASHINGS, COLLARS, TOPS, DOUBLE WALL PIPE, DRAFT HOODS, GUY WIRES AND ANCHORS, ETC., REQUIRED FOR A COMPLETE VENTING SYSTEM FROM THE UNIT OR APPLIANCE TO THE EXTERIOR.

FLUE PIPING, GAS (HIGH EFFICIENCY-LOW TEMPERATURE) – PROVIDE PVC PIPE AND FITTINGS, ASTM D2665-82, FOR COMBUSTION AIR INLET AND CPVC PIPE AND FITTINGS, ASTM D2665-82 FOR LOW TEMPERATURE FLUE EXHAUST. SIZING, MAXIMUM NUMBER OF FITTINGS, TOTAL LENGTH OF RUN AND TERMINATION ARRANGEMENT SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODE REQUIREMENTS.

FRAMING AND STRUCTURAL SUPPORTS – THE MECHANICAL CONTRACTOR SHALL COORDINATE REQUIREMENTS FOR ALL FRAMED OPENINGS AND STRUCTURAL SUPPORTS FOR MECHANICAL EQUIPMENT AND SYSTEM COMPONENTS WITH THE GENERAL CONTRACTOR.

REFRIGERATION PIPING – INSTALL AND SIZE REFRIGERATION PIPING IN ACCORDANCE WITH THE REFRIGERATION EQUIPMENT MANUFACTURER'S RECOMMENDATIONS, AND THE REQUIREMENTS OF THE INTERNATIONAL MECHANICAL CODE 2009, CHAPTER 11. PIPING SHALL BE TYPE "ACR" SEAMLESS COPPER TUBING ASTM B280 WITH WROUGHT COPPER FITTINGS ANSI B16.22-1980; ALL ELBOWS SHALL BE LONG RADIUS TYPE; ALL JOINTS SHALL BE BRAZED WITH J.W. HARRIS CO. "STA-SILV 15" BRAZING RODS OR EQUAL. PROVIDE NITROGEN PURGE WHILE BRAZING. PROVIDE ALL NECESSARY TRAPS, SERVICE VALVES, LIQUID LINE SOLENOID VALVES, SIGHT GLASSES, FILTER-DRIERS, ETC. REQUIRED. PROVIDE LOCKING-TYPE TAMPER RESISTANT CAPS

ON REFRIGERATION CIRCUIT ACCESS PORTS LOCATED OUTDOORS. INSULATE ALL SUCTION LINES WITH 1/2" THICK ELASTOMERIC PIPE INSULATION. ALL REFRIGERANT SHALL BE HANDLED IN STRICT COMPLIANCE WITH ALL APPLICABLE REGULATIONS INCLUDING THE CURRENT STANDARDS OF THE CLEAN AIR ACT. TESTING, EVACUATION AND CHARGING OF THE REFRIGERATION PIPING SHALL BE DONE IN STRICT ACCORDANCE WITH THE H.V.A.C. EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.

CONDENSATE DRAIN PIPING – PIPING SHALL BE PVC PIPE AND FITTINGS ASTM D2665-82; IF IN AIR HANDLING PLENUMS, PIPING SHALL BE COPPER DWV TUBING ASTM B306-83 WITH THE CAST COPPER FITTINGS ANSI B16.23-1984. CONDENSATE DRAIN PIPING SHALL BE A MINIMUM OF 1" PIPE SIZE. INSULATE ALL DRAIN PIPING WITH 1/2" THICK ELASTOMERIC PIPE INSULATION. WHERE AIR-HANDLING UNITS ARE LOCATED ABOVE CEILINGS OR IN ATTIC SPACES, PROVIDE AUXILIARY DRAIN PANS BENEATH THE UNITS AND INSTALL AN AUXILIARY DRAIN PAN OVERFLOW SHUT OFF SWITCH, LITTLE GIANT MODEL 599123 ACS-2 OR EQUAL, WIRED TO THE CONTROL CIRCUIT. WHERE SITE CONDITIONS DO NOT ALLOW FOR GRAVITY DRAINAGE, PROVIDE A CONDENSATE PUMP KIT AND ASSOCIATED PIPING.

HANGERS – SECURELY SUPPORT ALL PIPING AND EQUIPMENT ON HANGERS, BRACKETS, SUPPORTS, ETC. AS BEST SUITED TO THE INSTALLATION CONDITIONS. DO NOT HANG WITH BAND IRON, CHAINS, OR FROM ANY OTHER PIPING. ALL HANGERS AND SUPPORTS SHALL BE CAPABLE OF SCREW ADJUSTMENT AFTER PIPING IS ERECTED. HANGERS SHALL BE THE SAME MATERIAL AS THE PIPING SERVED; NO DISSIMILAR METALS SHALL BE IN CONTACT. IN GENERAL, HANGERS SHALL BE SPACED NOT MORE THAN 10'-0" APART FOR PIPING 1-1/2" AND LARGER AND NOT MORE THAN 6'-0" APART FOR PIPING LESS THAN 1-1/2"; HANGERS FOR THERMOPLASTIC PIPING SHALL NOT BE SPACED GREATER THAN 4'-0" APART. ALL SUPPORTING COMPONENTS SHALL BE PROPERLY FASTENED TO BUILDING STRUCTURAL MEMBERS.

CLEANING – ALL SYSTEMS SHALL BE COMPLETELY CLEANED PRIOR TO TESTING AND PLACING THE SYSTEMS IN OPERATION. ALL DEBRIS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF. ALL WORK AREAS SHALL BE LEFT IN A CLEAN CONDITION ACCEPTABLE TO THE ARCHITECT, ENGINEER AND OWNER'S REPRESENTATIVE.

TESTING – ALL WORK SHALL BE TESTED BY THE H.V.A.C. CONTRACTOR AS REQUIRED BY APPLICABLE SECTIONS OF THE INTERNATIONAL MECHANICAL CODE 2015. ALL MECHANICAL EQUIPMENT SHALL BE INSPECTED AND RUN IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S START-UP AND TESTING PROCEDURES. ALL MATERIAL, LABOR, AND EQUIPMENT SHALL BE FURNISHED TO ACCOMPLISH ALL TESTING REQUIRED BY THE ARCHITECT, ENGINEER, OWNER'S REPRESENTATIVE OR ANY OTHER AUTHORITY HAVING JURISDICTION.

AIR BALANCING – ALL AIR HANDLING EQUIPMENT, AIR OUTLETS AND AIR INLETS SHALL BE BALANCED TO PROVIDE THE AIR QUANTITIES SHOWN ON THE DRAWINGS. TESTING AND BALANCING SHALL BE PERFORMED BY AN AABC OR NEBB CERTIFIED AIR BALANCING CONTRACTOR IN COMPLETE ACCORDANCE WITH THE LATEST APPLICABLE STANDARDS FOR FIELD MEASUREMENT AND INSTRUMENTATION, AS PUBLISHED BY THE RESPECTIVE ASSOCIATION. THE REQUIRED ITEMS SHALL INCLUDE BUT NOT BE LIMITED TO: MINIMUM QUANTITY OF OUTDOOR AIR REQUIRED BY CODE, MINIMUM QUANTITY OF OUTDOOR AIR SPECIFIED IN THE DESIGN, ACTUAL MEASURED OUTDOOR AIR, ACTUAL RECYCLED TOTAL AIR FLOW, AIR PRESSURES, MOTOR RPM, MOTOR RUNNING LOAD AMPERAGES, INLET AND OUTLET TEMPERATURES ACROSS ALL HEAT TRANSFER APPARATUS AND TABULATION OF ALL DESIGN AND ACTUAL DATA. AIR BALANCING REPORTS SHALL BE SUBMITTED TO THE APPROPRIATE SUB-CODE OFFICIAL AND THE ENGINEER FOR APPROVAL UPON COMPLETION OF THE WORK.

SERVICE – THE H.V.A.C. CONTRACTOR SHALL PROVIDE SERVICE ON THE ENTIRE SYSTEM FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THE SYSTEM BY THE ENGINEER AND OWNER'S REPRESENTATIVE. THIS SERVICE SHALL INCLUDE ALL ITEMS OF LABOR AND MATERIAL REQUIRED, INCLUDING REFRIGERANT AND OIL, AND SHALL INCLUDE ROUTINE MAINTENANCE SUCH AS LUBRICATION, FILTER CHANGES, ETC.

MAINTENANCE AND OPERATION INSTRUCTIONS – PROVIDE FOR EACH ITEM OF EQUIPMENT OR APPARATUS FURNISHED, THREE COMPLETE SETS OF PRINTED INSTRUCTIONS OBTAINED FROM THE MANUFACTURER COVERING PROPER OPERATION, CLEANING, SERVICING, SPECIAL SAFETY INSTRUCTIONS AND AS-BUILT CONTROL WIRING DIAGRAMS. EACH CONTRACTOR SHALL DEMONSTRATE THE OPERATION OF EACH SYSTEM AND EACH ITEM OF EQUIPMENT FURNISHED UNDER HIS CONTRACT TO THE OWNER'S REPRESENTATIVE. A MINIMUM OF ONE (1) HOUR TRAINING SESSION SHALL BE GIVEN BY THE CONTRACTOR TO THE OWNER'S MAINTENANCE PERSONNEL.

GUARANTEE – UPON COMPLETION OF THE WORK AND BEFORE APPLYING FOR FINAL ACCEPTANCE, FURNISH A WRITTEN GUARANTEE, STATING THAT THE WORK COMPLIES WITH THE PROVISIONS OF ALL APPLICABLE CODES, AGENCIES AND AUTHORITIES HAVING JURISDICTION; AND THAT IT WILL BE FREE FROM DEFECTS OF MATERIAL AND WORKMANSHIP FOR ONE YEAR FROM DATE OF ACCEPTANCE BY THE OWNERS. THE GUARANTEE SHALL FURTHER STATE THAT THE H.V.A.C. CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPAIR AND/OR REPLACE ANY OF HIS MATERIAL AND WORK WHICH MAY BECOME DEFECTIVE DURING THE TIME OF THE GUARANTEE TOGETHER WITH OTHER WORK DAMAGED AS A CONSEQUENCE OF SUCH DEFECTS. AN ITEM BECOMES "DEFECTIVE" WHEN IT CEASES TO PERFORM OR CONFORM TO THE CONTRACT DOCUMENTS AND SPECIFICATIONS. REFRIGERATION COMPRESSORS AND HEAT EXCHANGERS SHALL HAVE A MINIMUM OF 4 YEAR EXTENDED WARRANTIES FOR REPLACEMENT PARTS.

REVISIONS

NO.	BY	DESCRIPTION	DATE

GATES ARCHITECTURAL DESIGN INC.

P.O. BOX 8533
132 LANDING ROAD
LANDING
NEW JERSEY 07850

(973) 398 - 4860
(732) 793 - 8600

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PROJECT

SOCIETY HILL AT PISCATAWAY

NEW MAINTENANCE BUILDING AT

SOCIETY HILL

550 CHESTERFIELD DRIVE
PISCATAWAY, NEW JERSEY

DATE:	9-26-15
SCALE:	3/16"=1'-0"
DRAWN BY:	DAB
CHECKED:	JAG

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JOSEPH A. GATES, N.J. LICENSE NO. 12124
JOSEPH A. GATES, PA. LICENSE NO. RA-014263-B

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DRAWING TITLE

MECHANICAL LOFT PLAN AND SPECS

PRO-ENERGY DESIGN
257 North Main Street
MANVILLE, NJ 08835
OFFICE # (908) 231-8679 FAX # (908) 429-9421

DRAWN BY: APS
CHECKED BY: PAL
PROJECT NO. 15057

Philip A. LaBue, Jr., P.E.
NJ PROFESSIONAL ENGINEER 26265
NJ C.O.A. 24GA28157800

CDN 12033101

12033
PROJECT NO.

SHEET M-2 OF